

Abstracts

From premenstrual dysphoria to postpartum depression

S1

Premenstrual mood disorders: an update

D. Carter (Vancouver, CDN)

Premenstrual Dysphoric Disorder (PMDD) affects 3–8% of women. After many debates, PMDD is now acknowledged as a clinical entity in the Appendix of the DSM-IV. For a psychiatrist, the clinical implications of PMDD are important. Studies show that postpartum mood disorders in remission can exhibit an exacerbation of symptoms premenstrually. Similarly, several medical conditions, such as asthma, become worse premenstrually.

This knowledge is important when treating a woman with antidepressant medications during her reproductive life cycle. New research in the pathophysiology of PMDD suggests a link between the serotonergic system and ovarian hormones. Consequently, new approaches to the treatment of PMDD are currently being investigated.

In this presentation, new approaches to the treatment of PMDD will be discussed, including intermittent flexible dosing of the Selective Serotonin Reuptake Inhibitor (SSRI) class of antidepressants in the premenstruum.

S2a

Biochemical correlates of symptoms associated with premenstrual dysphoric disorder (PMDD)

E. Dunn, M. Macdougall, M. Coote, M. Steiner (Hamilton, CDN)

Objectives

The most prevalent psychological symptoms of Premenstrual Dysphoric Disorder (PMDD) are irritability, depressed mood, anxiety and mood swings. The objective of this study was to examine the relationships between the severity of symptoms in the luteal phase and various hormonal and serotonergic parameters. In particular, steroid hormone levels (testosterone, progesterone, estradiol and cortisol) and paroxetine binding parameters (Kd, Bmax) to platelet serotonin receptors were measured and patients were genotyped for long/short polymorphism in the serotonin (5-HT) transporter gene.

Study design

Subjects were women referred to the Women's Health Concerns Clinic at St. Joseph's Hospital. Consenting women between 18 and 45 years of age, with regular menstrual cycles (between 24 and 35 days inclusive) who met DSM-IV criteria for PMDD, but who were otherwise healthy, were asked to complete daily questionnaires concerning the severity of symptoms related to PMDD.

Questionnaires were completed by responding to statements using a six point scale where "1" corresponds to "Not at All" and "6" corresponds to "Severe". The average score for each question was calculated over 5 days of the follicular phase and 5 days of the luteal phase of the cycle for two cycles. Blood was drawn for hormone analysis, genotyping and platelet binding studies.

Results

Analysis of data showed no correlation between the severity of symptoms of PMDD and testosterone, free testosterone, estradiol, progesterone or cortisol (N = 46). Similarly there was no correlation between symptoms and paroxetine binding parameters (Kd, Bmax) (N = 26). There was however a correlation between free testosterone and irritability, but only in patients who reported having severe symptoms (N = 15). Also we observed increase in severity of all symptoms in patients who have the ss polymorphism for the serotonin transporter promoter region (N = 43).

Conclusions

These data suggest that the 5-HT transporter gene may play a role in influencing traits related to PMDD, particularly dysphoria, anxiety and irritability. It also suggests that elevated free testosterone may be a state marker of severe irritability in PMDD.

S3

The use of antipsychotics and mood stabilizers in pregnancy and lactation

K. Sivertz, S. Patton (Vancouver, CDN)

Mood disorders in pregnancy and the postpartum period are a common occurrence. It is estimated that up to 10% of pregnant women meet the DSM-IV criteria for Major Depressive Disorder. The prevalence rate increases to 12–16% in the postpartum period, and up to 30% of these women also have a concomitant anxiety disorder. Postpartum psychosis is rare, with approximately 1 in 800–1000 women being affected. However, this class of mood disorders requires immediate attention and treatment almost always involves antipsychotic medications.

Recent interest and heightened awareness in the area of maternal-infant health has demonstrated that the impact of maternal mental illness has far-reaching consequences for the developing infant. Therefore, treatment of maternal mental illness during the highly vulnerable pregnancy and postpartum periods is essential.

This presentation will focus on the use of antipsychotic and mood stabilizers for the treatment of psychotic disorders associated with childbirth. The risks and benefits of these medications will be outlined, and recommendations will be reviewed for their use in pregnant and postpartum women.

S4**Retraumatization of sexually abused women during pregnancy and postpartum**

A. Cantin, S. Misri (Vancouver, CDN)

Women with histories of sexual abuse are often re-traumatized when they become pregnant. Memories of the abuse may resurface or be triggered by routine medical examinations throughout the pregnancy and, more specifically, during vaginal childbirth. As the postpartum period is a time of heightened sensitivity to depression, it is important to address issues of abuse which may arise during the pregnancy or in the postpartum period in order to ensure that timely intervention and implementation is undertaken.

Understanding how and when to approach sexually abused women for treatment of depression is an important topic that has not been given the proper attention in the literature.

During this presentation, the preliminary findings of an ongoing study will be described. The purpose of this study was to identify whether a history of sexual abuse was correlated with mood during pregnancy and the postpartum period. The audience will be encouraged to provide their opinions and suggestions for implementing the findings of this study into community-based services for women.

S5**The use of SSRIs in pregnant and lactating women**

S. Misri, X. Kostaras (Vancouver, CDN)

This portion of the symposium will address the dilemmas associated with prescribing the Selective Serotonin Reuptake Inhibitors (SSRIs) to treat pregnant and nursing women suffering from depression. Updated research focusing on the use of fluoxetine, paroxetine, sertraline, fluvoxamine, and citalopram will be presented. An interactive discussion on the risks and benefits of SSRI treatment versus non-treatment during pregnancy will also be encouraged.

Evidence pertaining to the biobehavioural effects of teratogenicity in infants exposed to SSRIs *in utero* will be discussed.

All SSRIs studied to date are secreted into the breast milk of nursing mothers. The most current focus of research interest is on the measurement of drug levels in maternal serum, breast milk, and infant serum samples. Current knowledge on this topic will be presented. In addition, there will be a discussion on the transportation of SSRIs through the placental barrier.

Postpartum mood disorders: recent advances**S6****The cost and effectiveness of two alternative approaches to the treatment of postnatal depression**

E. H. Boath, K. Major, J. L. Cox (Stafford, Ayr, Stoke-on-Trent, UK)

Objectives

This prospective cohort study carried out in the UK, assessed the cost-effectiveness of treating 30 women with postnatal depression at a specialised psychiatric Parent and Baby Day Unit (PBDU), compared to 30 women treated using routine primary care (RPC).

Methods

Following recruitment, the 60 women were assessed on three occasions (initially, 3-months and 6-months), using the Clinical Interview Schedule (CIS) to give a diagnosis of depression according to Research Diagnostic Criteria (RDC). Direct and indirect costs to the women (e.g. travel, child care, time) and the

National Health Service (NHS) (e.g. medication, GP contacts) were collated using structured interviews, retrospective analysis of case notes and routinely collated NHS cost data. Sensitivity analysis was carried out.

Results

There was no significant difference between the women in the two groups in terms of their socio-demographic characteristics or depressed status initially. However, at the 3-months, 19 women in the PBDU group fulfilled RDC for a diagnosis of major or minor depressive disorder compared with 26 women in the RPC group [$p = 0.003$]. At 6-months, 9 women in the PBDU group fulfilled RDC for a diagnosis of major or minor depressive disorder compared to 23 women in the RPC group [$p < 0.001$]. The total cost of treatment over the 6 months follow-up was £46,211 for the PBDU group and £18,973 for the RPC group. Moving from RPC to a specialist PBDU would involve an additional expenditure of £27,238 (46,211–18,973), and would deliver 14 (23–9) more positive outcomes. The move from RPC to PBDU would incur an additional cost per successfully treated woman of £1,945 (27,238/14). This compares favourably with the current cost per successfully treated woman in the RPC group of £2,710 (18,937/7). The sensitivity analysis revealed that the results were sensitive to the inclusion of primary care contacts and the costs of medication.

Conclusion

The PBDU is more cost-effective in treating postnatal depression than RPC and should be recommended to health care decision-makers. Issues of user involvement in service design, replication and efficiency will be discussed.

S7**The epidemiology of postpartum depression**

S. Lusskin (New York, USA)

Pregnancy is usually a time of emotional well-being for women. The incidence of mood disturbance, suicide, and psychiatric hospitalizations is low compared to non-pregnant women. Nonetheless, approximately 10% of pregnant women will develop clinically significant antenatal depression, which is often under-diagnosed and under-treated. The milder mood disturbances of postpartum blues, while generally self-limited, affect most women after childbirth and, for some, may herald the onset of the more serious condition of postpartum depression. In contrast to the relative safety of pregnancy, the postpartum period can be a time of tremendous and dramatic vulnerability, in which the risk of psychosis and psychiatric hospitalization is much greater than for non-puerperal women.

The clinical features of antenatal depression, postpartum blues, postpartum depression, and postpartum psychosis will be presented. Discussion will focus on the similarities and differences between these syndromes and non-pregnancy related illnesses.

Studies regarding the epidemiology and clinical course of these disorders will be reviewed. An area of great interest is the prediction of the clinical course in women without prior psychiatric pathology. Another topic of discussion will be whether the development of a pregnancy related condition can influence the course of pre-existing mood disorders. The kindling theory of depression as it may apply to reproductive related depressions will be discussed.

The final topic of discussion will be proposed etiologies of the various disorders. There is considerable debate regarding the influence of hormonal, endocrine, genetic, and psychosocial factors, and more recently, the role of biorhythm disturbances. These theories will be presented in the context of implications for treatment.

S8**Reproductive Mental Health Program: provincial outreach**

D. Bodnar, X. Kostaras (Vancouver, CDN)

In 1999, the province of British Columbia in Canada developed an Outreach Program to educate physicians, service providers, and the public about new advances in the care of women with mental illnesses during pregnancy and the postpartum period. The six goals of this Outreach Program are: raising awareness, networking, forming linkages, education, consultation, and community development. Several focus groups have identified gaps in services to women who are experiencing mental illnesses related to child-bearing. These gaps as well as potential bridges will be explored in this presentation.

In addition, community consultation and heightened awareness about the needs of this specific population have led to the funding of Best Practices Guidelines in the year 2000. These guidelines focus on the principles for early identification, assessment, treatment, and follow-up of women with mental illnesses during pregnancy and the postpartum period. For more information, please visit the website at: www.bcrmh.com

S9**Cognitive behavioural therapy and marital therapy with anxious and depressed mothers**

M. Regev (Vancouver, CDN)

In the past decade, a growing consumer demand has been documented for non-pharmacological treatments for depression and anxiety. At the same time there has been a growing research body indicating the effectiveness of some non-pharmacological therapies.

Cognitive-Behavioral Therapy (CBT) has yielded rates of success as high as some widely used anti-depressants (around 60%), and its long-term effects have been found superior to medication. Moreover, recent studies have shown changes in brain activity following CBT treatment similar to those brought about by successful drug treatments.

Marital Therapy has also been successfully used with depressed clients over the last two decades. Recent studies indicate that Marital Therapy is highly effective in about 60% of depressed clients living with a partner.

This presentation will focus on the use of CBT and Marital Therapy in depressed and anxious women who are either pregnant or postpartum. Specific benefits and concerns pertaining to this population will be outlined and discussed.

S10**Non-pharmacological treatments for postpartum depression: light therapy**

M. Corral (Vancouver, CDN)

Bright light therapy is an effective treatment for Seasonal Affective Disorder and for non-seasonal depression. However, the effectiveness of bright light phototherapy in postpartum depressive illness has only been minimally studied or reported in the literature.

Postpartum depressive illness may be managed with psychological support, education, and psychotherapy, while others may require antidepressant medications. Recent reports indicate that the frequency and duration of breastfeeding has increased. Unfortunately, the literature on the use of the newer antidepressants in the nursing mother and her newborn is limited; thus, postpartum depressed mothers who may benefit from antidepressant use may refuse this type of treatment while breastfeeding because they are concerned about the possible deleterious effects of medication on the developing infant. The effects of untreated

depression have been found to seriously harm the child's development and the maternal-infant bond. Therefore, an effective, alternate source of treatment is necessary to treat women with postpartum depressive illness.

A preliminary investigation of the effectiveness of 10,000 lux phototherapy treatment (a non-pharmacological intervention) in women suffering from postpartum depression was carried out in the Reproductive Mental Health clinics at St. Paul's and BC Women's hospitals in Vancouver, Canada. The preliminary findings of this ongoing study will be described, and the audience will be encouraged to discuss the implications of these findings.

Psychiatric aspects of menopause WPA Section on Women's Mental Health**S12****Hormonal, physical and psychosocial aspects of menopause**

D. E. Stewart (Toronto, CDN)

Women's midlife transition from active reproductive capacity to the completion of menopause (perimenopause) is a fascinating time of hormonal, physical, and psychosocial change. The gradual loss of ovarian follicular activity is accompanied by complex hormonal fluctuations that may result in physical and psychological symptoms. This time of life occurs in the context of aging and may also be accompanied by social events involving the maturing and leaving of children, the aging of parents, and changes in work or health status of the women or her partner. Social perceptions of women at midlife differ around the world, and may also have a positive or negative impact.

This presentation will focus on the hormonal events that occur at midlife and the physical and psychosocial, as well as sexual, changes that may occur simultaneously. The evidence for and against increased depression at midlife will be reviewed and discussed.

S13**Treatment of depression in menopause**

M. Steiner (Hamilton, CDN)

The transition into menopause is a major hormonal event and is associated in many women with both physical and psychological symptoms. The focus of this presentation will be on identifying women in this age group who experience a clinically significant depression, and in particular the characteristics of perimenopausal mood disorders (including major depression, dysthymia and premenstrual dysphoria). The suggested link between changes along the hypothalamic-pituitary-gonadal, -adrenal and -thyroid axes with age in women (but not in men) and mood will be discussed. These changes may directly modulate central nervous system activity and thus play a major role in contributing to a gender-specific mood dysregulation. Of particular relevance are the interactions between these hormonal changes and the serotonergic system. The reciprocity between gonadal hormones and serotonin and the implications for symptoms such as irritability and dysphoria will be reviewed. Finally, the relevance of these interactions to interventions in this age group, including the use of hormone replacement therapies, serotonin reuptake inhibitors, selective estrogen receptor modulators, interpersonal or cognitive-behavioural psychotherapies, and any combination of the above will be discussed.

S14**Psychotherapy of psychiatric disorders in perimenopause**

N. Stotland (Chicago, IL, USA)

Although there is a long Western tradition associating menopause (and other normal female hormonal developments) with psychiatric illness, there is no empirical evidence of such an association. There are, however, many psychodynamic issues that are associated with this stage of women's lives. The issues vary considerably by culture; to generalize, Western cultures value youth in women, while women in Eastern societies gain stature and power as they age. African cultures will not be addressed in this presentation. In the West, menopause tends to be conflated with aging, with a concomitant loss of femininity and sexual attractiveness and fear of impending deterioration and death. These concerns have been exacerbated by the medical profession's as-yet-unverified assumptions that the administration of exogenous hormones can reduce the risk of cardiovascular and other adverse health events. On the other hand, many women experience perimenopause as a liberation from menstruation, fear of pregnancy, childbearing, and childrearing. The psychotherapist can capitalize on and help the patient to appreciate her life experience and maturity. Perimenopause can be an ideal time for psychotherapy.

S15**Cross-cultural perspectives on menopause**

G. Erlick-Robinson (Toronto, CDN)

Cross-cultural studies allow researchers to examine the contribution of physiological, psychological and sociocultural influences to the experience of menopausal symptoms. Such research is complicated by differences between cultures in the definition of menopause, reproductive histories, symptom expression and beliefs about what constitutes status in the community. There are wide variations in the experience of symptoms both between cultures and among women in the same culture. Women's psychological and physical changes at menopause may be afflicted by her expectations of her experience at menopause. These expectations are strongly affected by the attitudes in a particular culture towards fertility, aging and female roles.

S16**Health care expectations of perimenopausal and postmenopausal women**

A. Cullimore, M. Boulter, M. Macdougall, H. Muggah, I. Gold, M. Steiner (Hamilton, CDN)

Objectives

Canadian statistics estimate that by the year 2000, more than four million women will be aged 50 years or older in our country. Little work has been done in the area of health promotion for maturing women, and to date there are only a handful of clinics in Canada whose primary focus is to address the needs of this population. Therefore, the objective of this pilot study is to explore what women would like to see available in a mature women's clinic.

Study design

This study involves gathering information from menopausal and perimenopausal women using group discussions, otherwise known as 'focus groups'. Following a telephone screen for eligibility, interested women will be invited to participate in one of a series of focus groups. Using a semi-structured format, the following questions will be addressed: 1) What are the specific expectations of perimenopausal and post-menopausal women from health care providers? 2) Are the expectations different between these two groups of women? 3) What do menopausal women want from a mature women's clinic? The groups will meet for approximately one hour. Each focus group will be audiotaped and then

transcribed verbatim. After transcription, the text will be examined for salient categories of information. Using the constant comparative approach, the categories will be examined to reach saturation. With the use of open coding, saturation themes will be created. Analysis will be aided through computer generated coding using NVIVO®.

Results

This is a work in progress. Conclusion: The results of this study will be used to develop an interdisciplinary clinic for mature women. This clinic will provide comprehensive care as well as serve as a research and educational centre for perimenopausal and menopausal women.

Maternal depression and child psychopathology**S17****The effects of maternal depression on child cognitive development, behaviour and self-concept**

D. Wolke, S. Kurstjens, R. Oerter (Hatfield, UK; Munich, D)

There are conflicting findings about the longterm consequences of growing up with a mother who suffered maternal depression. This study investigated the effects of onset; chronicity and recency of depression on children's development over the first nine years of life. Of 1329 mothers; 48 (3.3%) were diagnosed as having suffered DSM-IV defined depression in the first postnatal year, a further 48 (3.6%) had depression for the first time between year 2 and 6 and a further 32 mothers (2.4%) between 6 and 8 years in their child's life. Depressed mothers were compared to mothers who never experienced depression in their child's life. Assessments included repeated DQ/IQ assessments, the Child Behavior Checklist (CBCL) and behaviour observations at 6.3 and 8.5 years. Child self-esteem was assessed with the Harter Pictorial Scale of Self Competence.

No significant main effects of severity, onset of depression (postnatal or later) or duration of depressive episodes on the child's cognitive development were found. However, boys of mothers who suffered chronic depression and had experienced neonatal complications had a lower IQ-score at 6 years only. Severity, onset (i.e. postnatal) or chronicity of depression were significantly related to maternal ratings of behaviour problems in the CBCL (>90. percentile), however, few differences were detected in direct observations of children with an independent examiner at 6.3 and 8.5 years of age. Again, boys with other neonatal risk factors had raised behavioural problems rates. No significant main effects of maternal depression on children's self concept or maternal reports of competencies were found. However, both children of depressed mothers and the mothers rated neonatal at risk infants as less physically attractive at 8 years. The correlations between children's self perceptions and mother's ratings were low to moderate.

Overall, the effects of SES or neonatal on cognitive development scores far outstripped the effect sizes attributable to depression. Depression per se may have less severe longterm effects on children's cognitive or early self-concept development than previously hypothesised.

S19**Maternal borderline personality disorder, motherhood and mother-infant interactions**

G. Danon, O. Rosenblum, C. Heroux, D. Tarnopolski, L. Annick (Bourg-la-Reine, F)

Objective

To assess and qualify mother-infant interactions of infants between three and six months of mothers with borderline

personality disorder (BPD). To compare these interactions with mothers with infants of the same age without personality disorder without psychotic disorder (without DSM4 Axis 1 diagnosis).

Methodology

Mothers (36, 18 BDP and 18 without) and infants (aged between 2 and 5 months) were videotaped during first interview of a Parisian south suburb infant psychiatry clinic by an infant psychiatrist and a nursery nurse. Mothers and infants came into the clinic for maternal and infant symptoms (such as sleeping disorder, excessive crying and/or maternal feeling of not coping). Videos were coded with French Interaction Scale by two independent coders (infant psychiatry research assistants) blind to maternal diagnosis. Mothers were also screened for Postnatal Depression (PND).

Results

Maternal characteristics and quantity and quality of mother-infant interactions were compared. Mothers with and without BPD had same levels of depression (11 meeting criteria in each group PND). As was hypothesized mothers with BPD had interactions with more discontinuity and intrusiveness. However, more surprisingly, infants in both groups did not as yet show significant differences in active emotional response whether positive or negative (e.g. crying or smiling) at this early stage.

Discussion

Maternal depression needs to be reconsidered taking into account existence of personality disorder. Mother-infant interactions in these pathological groups need to be explored longitudinally as in PND groups. The small size of sample calls for further research in this field.

S20

The effects of postnatal depression on the development of boys

S. J. Pawlby, D. F. Hay, D. J. Sharp (London, Cardiff, Bristol, UK)

The families studied here are participants in a prospective study of child development in two communities in South London, beginning in pregnancy and interviewed twice in the first postnatal year and again when the child reached 4 and 11 years. 149 women were given psychiatric interviews at 3 months postpartum and 132 of their children (89%) were assessed at 11 years.

The cognitive deficit found in the preschool years among the boys whose mothers suffered from depression at 3 months postpartum remained as they reached the end of their primary schooling. Eleven-year-old boys whose mothers had been ill had a mean IQ of 84 compared with a mean of 103 among boys whose mothers had not been depressed. The IQ difference for girls was in the same direction but was not so marked. The deficit was particularly pronounced in the perceptual domain and was associated with difficulties in reading comprehension and mathematical reasoning. Compared with the children whose mothers had not been depressed, both sons and daughters of mothers who had suffered postnatal depression were seen by their teachers at 11 years as being more restless, inattentive and easily distracted and these difficulties were mirrored by the children's performance on a standardised attention task.

The links between postnatal depression and the children's intellectual problems were not mediated by parental IQ and were not accounted for by measures of social disadvantage or by the mother's experience of recurrent depression. After taking into account maternal IQ, the risk of having an educational statement requiring a multidisciplinary assessment of the child's needs was 12 times higher for the children whose mothers had been depressed postnatally compared with the children whose mothers had not been depressed at 3 months. The findings suggest that early experiences with depressed mothers may interfere with the

regulation of emotion and attention in infancy and continue to exert direct effects on children's lives more than a decade later. It is well known that academic and behavioural problems in middle childhood predict later psychopathology, conduct problems and delinquency, especially for boys.

S21

The treatment and prevention of postpartum depression and associated disturbances in child development

P. J. Cooper, L. Murray (Reading, UK)

Despite a considerable body of research on the treatment of postpartum depression, there has been little research into whether recovery from postpartum depression is of benefit to the mother-child relationship and child developmental progress. A treatment trial we carried out in Cambridge produced some positive findings. Maternal reports of infant problems were reduced by psychological treatment, and a lower rate of child behaviour problems amongst the treated group was reported by mothers at 18 months and by teachers at five years. Although there was no direct impact of treatment on attachment, early remission from maternal depression, itself associated with the intervention, was associated with a raised rate of secure infant attachment. The development of indices for the prediction of postpartum depression enables preventive research to be carried out. We have recently completed such a study in Reading. Primiparous women were screened antenatally and those at high risk for postpartum depression were randomly assigned to routine health visitor care or an index intervention. This intervention was designed to provide emotional support together with advice about infant management. It also included the use of specific items from the Neonatal Behavioural Assessment in order to sensitise mothers to infant capacities and sensitivities. The intervention was delivered by trained health visitors to women in their own homes, with two antenatal sessions and eight to ten postnatal sessions up to eight weeks postpartum. Despite the fact that the women gave much more favourable ratings of the index intervention than those received for routine care, the index intervention did not prevent the occurrence of postnatal depression. When health visitor support was extended beyond eight weeks, however, it significantly shortened the duration of depressive episodes. The index intervention was of some benefit in terms of maternal reports of infant problems (especially crying problems and problems dealing with infant demands). The general failure of the preventive interventions studied to date represents a major challenge to researchers and clinicians in this field.

Chinese women's mental health

S26

Postnatal depression among Chinese women in Shanghai

J. Qiu, Z. Wang, L. Luo, D. Lee (Shanghai, RC; Sha Tin, HK)

Objective

The study aimed to measure the prevalence of postnatal depression, as well as the relevant psychosocial and biological factors.

Methods

A sample of 298 women was prospectively studied in 3-day postpartum and 127 were reassessed at 42-day postpartum. They completed EPDS, some self-designed demographic and psychosocial investigation questionnaires. 50% of the women whose 3-day postpartum EPDS scores were >9 and 10% whose 3-day postpartum EPDS scores ≤ 9 , were then assessed with Structured Clinical Interview for DSM-III-R, non-patient version

(SCID-NP) to establish the psychiatric diagnosis. The levels of estradiol, progesterone and prolactin were assayed at 38 women before the beginning of labor course and at 72-hour postpartum.

Results

23.08% of the women got the EPDS scores >9 at 3-day postpartum, while only 3.1% >9 at 42-day postpartum. The prevalence of postnatal depression at six weeks postpartum was 5.45%. Some psychosocial factors such as support system and the changes of estradiol were significantly related to the postnatal depressive symptoms.

Conclusion

Postnatal depression has its psychosocial and biological causal factors.

Psychiatric services for women

S32

Gender differences in the health status and services use consequences of mental health disorders: a longitudinal study

K.L. Grazier, K. Bucholz (Ann Arbor, MI, St. Louis, MO, USA)

Background

Little is known about the long term consequences of mental illness and substance abuse (MH/SA) on women's general health, functioning and use of health services resources. Through recruitment of respondents from an epidemiological study in the early 1980's, the effects and behaviors associated with MH/SA disorders can be examined among women and men who did and did not seek treatment.

Objectives

To determine gender differences in mental and physical health status and use among community-based individuals with and without a long term history of mental illness and substance abuse disorders.

Methods

This study utilizes a case-control, community-based sample of 711 individuals identified over fifteen years ago as part of the St. Louis Epidemiological Catchment Area (ECA) Survey. Included in the sample are those who met lifetime DSM-III criteria for alcohol abuse or dependence (cases) at both ECA interviews in 1981 and 1983, and two comparison groups. These comparison groups include heavy drinkers and sporadic alcoholics (those who met DSM-III criteria for alcohol abuse/dependence at either interview: Control 1); and those considered unaffected by alcohol use (Control 2). Baseline and two follow-up telephone interviews and abstracted medical records provide sociodemographic, behavioral, diagnostic and disability characteristics. Of the 711 targeted for interview, 411 (N = 133, 143, 135 in cases, controls 1 & 2 respectively) have been interviewed in all three waves (75% of those alive and interviewable).

Findings

Compared with men and with controls, women cases reported poorer recent physical functioning, greater bodily pain, poorer physical and mental health, poorer social functioning and disproportionately more impairment. The prevalence of depressive symptoms was significantly greater in women.

Conclusions

Measurable gender differences in health status, risk factors and behaviors emerged from the study. The study explores the behavioral strategies used to cope with these illnesses and

the potential mechanisms by which risk factors interact with outcomes.

S33

A critical appraisal of a postnatal depression intervention development strategy: facilitator adherence and participant engagement in relation to the reality of women's lives today

S. L. Wheatley, T. S. Brugha, D. A. Shapiro (Leicester, Leeds, UK)

Objectives

Randomised control trial analyses of interventions to prevent postnatal depression, such as 'Preparing for Parenthood' (PFP) 1 have clearly pointed to the need for an extended and systematic approach to intervention development 2. The development of techniques to enhance adherence by those carrying out the interventions and to achieve satisfactory engagement by users need to incorporate the expectations of the women involved in the intervention both as users and facilitators.

Methods

Three studies were completed using quantitative and qualitative methods, each study providing cumulative progress for the critical appraisal of the developing intervention. (1) Alleviating difficulties for the intervention facilitator's in terms of adherence to the manual in a progressive cycle of class-based settings. (2) Combining innovative factors both within the intervention manual to enhance facilitator adherence and between presentation methods to enhance engagement of users (class- v. telephone-based). (3) Another progressive cycle of single contacts but solely carried out over the telephone.

Results

These findings produced a final intervention design with the adherence of the facilitators exceeding a pre-defined 'satisfactory' consistency of 70% and the engagement of the participants excelling from the class-based trial rate of 45% to the telephone-based final rate of 80%.

Conclusions

Implications for this research's impact upon future interventions in the field of mental health promotion in women will be discussed in relation to previous research. For example, many women today have life situations that limit the accessibility of standard supportive services, the potential of the telephone to alter their circumstances can not, as these results imply, be underestimated.

References

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S34

Psychotherapeutic counseling for migrant women- a major issue in the women's health centre F.E.M. Süd, Vienna

H. Wolf, S. Cayiroglu, B. Wimmer-Puchinger (Vienna, AT)

Objectives

The Women's Health Centre F.E.M. Süd is located in a general Hospital in Vienna's 10th municipality, where 15% of the population are migrants, especially from Turkey and former Yugoslavia. In general, F.E.M. Süd tends to be an easily accessible centre for all women to alleviate the barriers they experience

within the health sector and to strengthen their consciousness for their health needs and concerns.

Besides health promotion courses, there is a 'service-telephone' and psychotherapeutic counseling in German, Turkish, Bosnian, Serbian and Croatian. Especially for psychotherapeutic and psychological counseling there is a high request among migrant women, whose main disorders are depression, psychosomatic complaints and PTSD. So far, migrant women have mostly been cut off from psychosocial services due to language barriers and lower income.

Methods

Therefore, an expert group has developed a special psychotherapy concept which guarantees adequate psychotherapeutic treatment. The characteristics of this concept realized in the Women's Health Centre in March 2000 are:

- Psychotherapeutic counseling in mother tongue
- Focus-orientation
- Limited number of sessions (10 as maximum)
- Minimum contribution of the clients in order to maintain compliance
- Low-threshold access

Results

Since the beginning the psychotherapeutic counseling has been well accepted by female clients, most of them suffering from depression, psychosomatic complaints, anxiety disorders. The migrant women are referred to us by physicians, other counseling facilities and after inpatient treatments. Few migrant women come on their own initiative. The motivation to start and maintain the therapy is generally high. Often, these women are referred to a large number of facilities and have been under medication for a long time before they finally get adequate assistance.

Conclusions

The project has turned out to meet the expectations and needs of migrant women. The low threshold access to our facility seems to minimize the existing reservations towards turning to psychosocial institutions. Therefore this service should be continued and enlarged in order to provide help and assistance for women from various ethnic minorities.

Premenstrual symptoms in general practice patients: diversity, treatments and quality of life

S35

Premenstrual syndrome and quality of life: does treatment make life better?

E. W. Freeman (Philadelphia, PA, USA)

Objectives

Severe premenstrual syndrome (PMS) is a common and chronic disorder whose hallmark is the cyclic pattern of symptoms that occur premenstrually and remit after the onset of menses. This report examines the extent to which clinically significant PMS adversely impacts functioning and quality of life and the extent to which quality of life improves with effective medical treatment.

Method

Overview of quality of life assessments in PMS and review of quality of life outcomes in PMS treatment studies.

Results

Quality of life assessments of women with severe PMS show that functional impairment in the premenstrual phase is similar to the impairment of major depression, while there is a relative absence

of impaired functioning in the follicular phase as indicated by quality of life ratings similar to community norms. Review of several quality of life measures consistently shows that the area of greatest disturbance for PMS patients is in social relationships, particularly the partner and family, social functioning and work performance. Results of treatment trials show that women who experience symptom reduction also report improved quality of life in the domains of marital and family relationships, work and social activity. Patient reports of improved functioning occur within several menstrual cycles of treatment.

Conclusion

The negative impact of severe PMS on interpersonal relationships, social functioning and work performance is relieved relatively swiftly with effective treatments that reduce PMS symptoms.

S36

Clinical aspects of PMS: an evidence-based approach

S. O'Brien (Stoke on Trent, UK)

Objectives

Examine evidence for management techniques in PMS

Methods

Analysis of the clinical aspects of PMS including quantification, and research into aetiology and treatment using published material from expert groups, randomised clinical trials and meta-analyses.

Results

Computer-based quantification techniques, which utilise visual analogue scales, health and quality of life questionnaires, appear appropriate and acceptable to patient, clinician and researcher. Treatment is best considered in relation to proposed aetiological theories, namely that ovulation associated with the normal ovarian hormone cycle provides the underlying trigger in women who are abnormally sensitive to the progesterone.

This sensitivity is neuroendocrine – possibly serotonergic.

Treatments may be aimed at suppression of the cycle or modulation of neuroendocrine function.

(a) Suppression of the Hormonal Cycle. Grade A evidence exists for:

GnRH agonists (+/- "add-back"), estradiol implants/patches, danazol.

Grade B evidence exists for abdominal hysterectomy with bilateral salpingo-oophorectomy with oestrogen replacement.

(b) Modulation of neuroendocrine function. Grade A evidence for buspirone, alprazolam, fluoxetine, citalopram, sertraline, paroxetine and psychological interventions such cognitive behavioural therapy. Meta-analyses show that there is insufficient evidence to support the use of pyridoxine (cofactor in neuropeptide synthesis) a great deal of evidence for SSRIs.

Discussion

The detailed, complete meta-analysis of all RCTs of SSRI therapy suggests they should be considered as first line therapy. No evidence supports the use of combined or progestogen-only contraception.

Meta-analysis demonstrates lack of effect of progesterone and progestogens (the most widely prescribed preparations in the USA and UK). Data support hysterectomy and bilateral oophorectomy in a limited group of severely affected patients particularly when other gynaecological problems indicate hysterectomy.

Most gynaecologists or psychiatrists are trained in narrow therapeutic areas and thus the general practitioner is best placed to manage most patients.

S37**Serotonin in PMS**

E. Eriksson (Göteborg, S)

In a large number of recent trials, serotonin reuptake inhibitors (SRIs) (citalopram, clomipramine, fluoxetine, paroxetine, sertraline) have been shown to reduce the symptoms of premenstrual syndrome (PMS) much more effectively than does placebo; in contrast, non-serotonergic antidepressants (maprotiline, bupropione, desipramine) appear to be ineffective. The onset of action of SRIs is much shorter when used for PMS than when used for depression; patients with PMS thus may restrict the medication to the luteal phase of the cycle (so-called intermittent treatment). The short onset of action of SRIs, as well as the lack of effect of non-serotonergic antidepressants, suggests the effect of SRIs in PMS not to be equivalent to the antidepressant effect of these drugs; in contrast, both findings are compatible with the notion that anger and irritability are to be regarded as main target symptoms when SRIs are used for this condition. The observation that SRIs are effective for PMS is of considerable clinical importance, since previously no effective treatment for this common condition – apart from those disrupting ovarian cyclicality – has been available. It is also of theoretical importance, since it lends further support for the hypothesis that a major role for brain serotonergic neurotransmission is to modulate sex steroid-driven behaviour.

S38**Maintenance treatment of PMS: how long is long enough?**

K. Yonkers (New Haven, CT, USA)

Introduction

Premenstrual dysphoric disorder (PMDD) is a common illness affecting approximately 4% of women. PMDD has a deleterious effect on women's interpersonal relationships and productivity. Patients typically experience symptoms for 1–2 weeks nearly every menstrual cycle until menopause, a cumulative time period of 3–8 years that rivals the duration of many other psychiatric illness. Despite the severity and chronicity of PMDD, the existing research has focused almost exclusively on short-term treatment. Given the chronic relapsing course of illness, this leaves critical gaps in the literature.

Method

Women who responded to 3 cycles of acute phase treatment with a serotonin reuptake inhibitor (SRI) were randomized to either continue medication for an additional 3–9 cycles or to take placebo. Rates of recurrence were determined.

Results

33 women were enrolled and 21 women were randomized. 100%, 67% and 60% of women blindly discontinued to placebo after 3, 6 or 9 months, respectively, experienced a worsening of symptoms consistent with full or partial recurrence. Thus, there appears to be a protective effect in that women who are kept on medication for a longer period of time are less likely to develop a recurrence of their symptoms. In contrast, 14% of women who were maintained on medication for 4–6 cycles and 100% (one subject) maintained on medication for at least 10 cycles experienced a recurrence of symptoms.

Conclusion

Longer-term treatment with an SRI appears to protect against PMDD recurrence and may provide some secondary prevention from recurrence after medication is discontinued. The duration of this benefit is not known but future studies are indicated to confirm and extend these findings.

Depression and drugs in pregnancy and postpartum: do they affect the wellbeing of the offspring?**S40****The physical and psychological development of children born to depressed mothers: effects of psychotherapy vs. pharmacotherapy**

R. C. Casper, E. H. Hoyme, B. Fleischer, A. Gilles (Stanford, CA, USA)

The decision whether or not to take antidepressant drugs for a depressive disorder during pregnancy is difficult, since their effects on fetal and postnatal development are not fully known.

Method

The aim of this pilot study was to conduct a follow-up of the offspring of women, who qualified for a diagnosis of major affective disorder during pregnancy. Women were evaluated and treated with supportive psychotherapy (N = 14) or with antidepressant medication (N = 24). Maternal history and delivery records were obtained. The children's physical, genetic and psychological development was assessed using standardized procedures and the outcome for both groups was compared.

Results

Women were similar in age (36.3 vs. 36 years), one woman smoked, any alcohol use was similar in frequency and none used illicit drugs. Serotonin reuptake inhibitors were used by 79.25% of the women, tricyclic and atypical antidepressants each by 9% and lithium by one woman. Gestational ages were similar: 38.7 vs. 38.9 months, respectively. 57% vs. 58% of women experienced postnatal depression. 72% vs. 93% breastfed their children for 11.4 vs. 8.7 months (n.s.). At examination no differences were observed for the children's weights, heights and head circumferences. Frequencies of major and minor anomalies appeared similar in both groups. The Bayley psychological and motor developmental indices were not different. However, children from mothers, who had taken medication during pregnancy had lower behavior (attention, orientation, emotional regulation, motor quality) rating scale scores (p = .008) than children from medication free mothers. The results suggest that further research is warranted to explore the effects of the depressive state and/or antidepressant medication during fetal and postnatal growth on the long term development of the offspring.

S42**Pregnancy outcome following gestational antidepressant use – effects of depression and drugs on child neurodevelopment: a prospective controlled study**

I. Nulman, J. Rovet, D. Stewart, M. Loebstein, J. Wolpin, P. Pace-Asciak, S. Fried, G. Koren (Toronto, CDN)

The objectives of this study were to assess pregnancy outcome, as well as to separate the effects of tricyclic antidepressant drugs (TCA) and fluoxetine taken throughout gestation on measures of child IQ, language, and temperament from the effects of maternal depression and other confounders.

Study design

Prospective, controlled, blinded assessment of mother-child pairs exposed in utero to TCA (n = 46), fluoxetine (n = 40) and an unexposed comparison group (n = 36). The statistical analysis adjusted for independent variables which may affect the outcomes of interest, including duration and severity of maternal depression, duration of pharmacological treatment, number of depression episodes after delivery, maternal IQ, socioeconomic status, nicotine smoking, and alcohol.

Results

There were no differences in the rate of perinatal complications among the three groups. Neither TCA nor fluoxetine affected child global IQ, language development or temperament. In the TCA group lower gestational age was associated with duration of depression. In the same group, lower verbal comprehension was associated with the number of depression episodes after delivery.

Conclusions

Exposure to TCA or fluoxetine in utero does not adversely affect pregnancy outcome or neurodevelopment of preschool and school children.

Gonadal steroids and CRH-serotonergic interactions: vulnerability factors in the development of mood disorders

S43

CRF-serotonergic interaction in the aetiology of depression and anxiety

C. Nemeroff (Atlanta, GA, USA)

The original impetus to study a role for CRF in the pathogenesis of depression arose from an attempt to elucidate the mechanism(s) underlying the hypercortisolemia and other measures of hypothalamic-pituitary-adrenal (HPA) axis hyperactivity in depressed patients. CRF is a hypothalamic releasing factor that stimulates the secretion of ACTH from the anterior pituitary, and therefore controls HPA axis activity. Subsequent study revealed that CRF in extrahypothalamic brain areas is the major physiological regulator of the autonomic, immune and behavioral affects of stress. In view of the fact that stress is known to precipitate depression in vulnerable individuals, and the increased HPA axis hyperactivity in depression, the hypothesis that CRF is hypersecreted in depression was studied using a variety of methods. The results all suggest that CRF is hypersecreted in patients with major depression. These include: (1) increased CSF CRF concentrations in drug-free depressed patients; (2) increased numbers of cells expressing CRF and CRF mRNA in the hypothalamus of depressed patients in postmortem brain tissue; (3) reduced numbers of CRF receptor sites in the frontal cortex of depressed suicide victims compared to controls, presumably due to CRF hypersecretion; (4) a blunted ACTH response to CRF in depressed patients, presumably due to CRF receptor down regulation. In laboratory animals, CRF produces both depressogenic and anxiogenic effects. There are now two studies that have also documented elevations in CSF CRF concentrations in patients with PTSD.

A parallel series of studies have also documented a preeminent role for serotonin (5HT)-containing systems in the pathophysiology of mood disorders, and to a lesser extent, anxiety disorders. In brief, a relative deficiency of 5HT neurotransmission in depression is evidenced by: (1) reductions in CSF concentrations of the major 5HT metabolite, 5HIAA; (2) reductions in 5HT transporter binding both in postmortem tissue and functional brain imaging studies; (3) an increase in postsynaptic 5HT₂ receptor density; and (4) effectiveness of SSRIs in the treatment of mood and anxiety disorders.

Extensive interactions between CRF and 5HT circuits occur in the mammalian CNS. These interactions and the implications both pathophysiologically and psychopharmacologically will be discussed.

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S44

Electrophysiological and neuroendocrine actions of central CRH: Possible relevance to the serotonergic basis of mood and anxiety disorders

C. D. Ingram, S. L. Lightman, C. A. Lowry
(Newcastle-upon-Tyne, Bristol, UK)

CRH plays a dual role both as the principal hypophysiotrophic regulator of the hypothalamo-pituitary-adrenal (HPA) axis, and as a neurotransmitter which can have widespread actions in the brain. In rats, central administration of CRH increases the activity of the HPA axis and has both activating and inhibiting effects on behaviour, depending on context. These actions are mediated through CRH receptors which display discrete distributions in telencephalic, limbic and brainstem nuclei. One target for the actions of CRH is the 5-HT neurones of the midbrain raphe nuclei. A plexus of CRH immunoreactive fibres innervate the raphe and both CRH-R1 and CRH-R2 are expressed in the raphe. Studies using microdialysis or measures of regional brain 5-HT levels indicate that central administration of CRH has modulatory effects on serotonergic neurotransmission, particularly in respect to the innervation of mesolimbocortical regions associated with anxiety and conditioned fear. These effects may be mediated via direct interaction with a sub-set of dorsal raphe serotonergic neurones, since both in vivo (Price et al., 1998; Kirby et al., 2000) and in vitro (Lowry et al., 2000) electrophysiological evidence has shown that CRH has direct, dose-dependent and antagonist-sensitive effects on raphe neurone activity.

In view of the evidence that both increased expression of CRH and changes in 5-HT neurotransmission are associated with the aetiology of mood disorders, it is likely that these interactions between CRH and the raphe will contribute to the pathogenesis of psychiatric disease and alteration in this association may be an important vulnerability factor for the development of mood disorders. In this respect it is important to consider that increased expression of CRH will not only have direct effects upon 5-HT neurones, but will also have indirect actions via the raised levels of glucocorticoids which will affect both tryptophan hydroxylase expression and 5-HT receptor function (McAllister-Williams et al. 1998). Furthermore, since both CRH and CRH-mediated HPA activity are subject to major modulation by both gonadal steroids and reproductive state, it is likely that these factors will contribute to the incidence of depression and mood disorders in women.

S45

Estrogen and serotonin receptor gene expression in the human and rat brain: relevance to affective disorders

Y. Hurd, M. Österlund (Stockholm, S)

Natural fluctuations of serum estrogen levels in women, both over the menstrual cycle and during their lifetime, influence the expression of psychiatric diseases such as affective disorders and schizophrenia. Estrogen's actions are mediated by at least two estrogen receptor (ER) subtypes, ER-alpha and ER-beta. We have now established that in the human brain the two ER subtypes are mainly expressed in limbic-related brain areas, but with distinct expression patterns. The ER-alpha mRNA dominates in the amygdala and hypothalamus, suggesting a main role of ER-alpha in estrogen modulation of autonomic and neuroendocrine functions as well as emotional interpretation and processing. In contrast, the hippocampal formation, entorhinal cortex, and thalamus appear to be ER-beta dominant areas, suggesting a putative role for ER-beta in cognition, non-emotional memory, and motor functions. In addition to differential anatomical localization, estradiol differentially modulates the ER-alpha and ER-beta mRNA expression in limbic brain regions. Estradiol has also been

shown to regulate different components of the serotonin (5-HT) system that has been strongly implicated in the pathophysiology of affective disorders. We have examined the possible link between estrogen and 5-HT in depression by using an experimental genetic animal model of depression, the Flinder sensitive line (FSL) rats. FSL animals show alterations of the 5-HT receptor (5-HT_{1A} and 5-HT_{2A}) mRNA levels in discrete brain regions, many of the abnormalities are reversed by estradiol treatment. Anatomical and functional interactions between the estrogen and 5-HT systems are also apparent in humans.

S46

Ovarian steroid regulation of serotonin neural function in macaques

C. L. Bethea, C. Gundlach, N. Z.-D. Lu, S. J. Mirkes, C. J. Earle (Beaverton, OR, USA)

Background

Serotonin neurons in macaques express estrogen receptor beta (ER beta) and progesterone receptors (PR). Estrogen (E) plus or minus progesterone (P) replacement therapy (HRT) in spayed monkeys increases gene expression for tryptophan hydroxylase (TPH) and decreases expression of the genes that code for the serotonin reuptake transporter (SERT) and the 5HT_{1A} autoreceptor in primates.

Methods

We determined if these changes in gene expression are manifested by changes in the functional proteins using western blot analysis for TPH and ligand binding autoradiography for SERT and the 5HT_{1A} autoreceptor. In addition, we questioned whether NF kappa B could play a role in the action of HRT on SERT and 5HT_{1A} gene expression. NF kappa B-positive nuclei were counted at 3 levels of the dorsal raphe in midbrain sections from spayed monkeys \pm HRT.

Results

TPH protein was increased by E treatment and remained elevated with addition of P in a manner similar to TPH mRNA. Unlike natural P, medroxyprogesterone acetate (MPA) blocked the stimulatory effect of E on TPH protein and tamoxifen reduced TPH protein levels below that observed in spayed monkeys. [³H]8-OH-DPAT binding to the 5HT_{1A} autoreceptor significantly decreased with HRT. Both basal and 8-OH-DPAT-stimulated [³⁵S] GTP γ S binding in the dorsal raphe were significantly decreased by HRT. Together these data indicate that HRT decreased 5HT_{1A} receptor sites, and possibly G_i proteins or function. [³H] citalopram binding to SERT sites in the dorsal raphe was unaffected by HRT. However, the number of cell nuclei in the dorsal raphe that were positively stained for NF kappa B significantly decreased with E and E + P treatment.

Conclusions

The changes in TPH and 5HT_{1A} (but not SERT) gene expression caused by HRT are reflected by changes in the functional proteins in the serotonin cell body region. Moreover, within the dorsal raphe there is less NF kappa B in the cellular nuclei (active form) in the presence of E. The decrease in detectability of nuclear NF kappa B is consistent with a decrease in the expression of the SERT and 5HT_{1A} genes in E treated monkeys. Supported by HD17269, HD18185, RR00163.

S47

Estrogen – serotonin link: effects on mood, mental state and memory

G. Fink (Rehovot, IL)

Clinical observations suggest that sex steroids may exert potent effects on mood, mental state and cognition in the human. In

particular, changes in the concentration of plasma estradiol have been implicated in depressive symptoms experienced by some women at the time of menstruation (premenstrual syndrome), the perimenopause and the puerperium. Estrogen has also been implicated in schizophrenia, and several observations suggest that estrogen may be neuroprotective with respect to Alzheimer's Dementia, age-related cognitive changes and ischemic brain damage including stroke.

Basic studies of the neuroprotective and psychoprotective action of estrogen are currently centered on two complementary themes – (i) estrogen effects on nerve growth and synapse formation, and (ii) estrogen effects on central neurotransmission. Focused on the latter, our studies in female rats show that estradiol, in its positive feedback mode for gonadotropin release in the female rat, increases the expression of the genes for the 5-hydroxytryptamine 2A (5-HT_{2A}) receptor and the serotonin transporter (SERT) in the dorsal raphe nucleus (DRN), the location of serotonergic neurons that innervate the forebrain. This increase in gene expression is associated with an increase in the density of 5-HT_{2A} receptors in the frontal, cingulate and piriform cortex, nucleus accumbens, caudate-striatum and olfactory tubercle, and an increase in SERT density in the basolateral nucleus of the amygdala, lateral septum and the ventromedial nucleus of the hypothalamus [1,2]. Testosterone and estrogen have similar effects on the 5-HT_{2A} receptor and the SERT in the male as estrogen in the female – the action of testosterone is mediated by its conversion to estradiol [3]. Studies in intact male and female rats suggest that the estrogen-induced increase in the density of 5-HT_{2A} receptors in cerebral cortex is dependent on the concentration of estrogen to which the brain is exposed. The similar action of testosterone and estrogen on serotonin mechanisms in higher brain centers contrasts markedly with their opposite actions on the hypothalamic control of gonadotropin release. The effects of estrogen on the 5-HT_{2A} receptor and the SERT are blocked completely by tamoxifen and raloxifene, suggesting that the action is mediated by estrogen receptors, even though they may not necessarily be located in the serotonergic neurons of the DRN or in serotonin target neurons [4].

The detailed mechanism of estrogen action on the 5-HT_{2A} receptor and the SERT waits to be determined. However, since the 5-HT_{2A} receptor has been implicated in depression and psychosis, and the SERT in depression, these experimental data provide a possible rational basis for estrogen effects on mood and mental state. The estrogen-induced increase in density of the 5-HT_{2A} receptor, may alter the rate of amyloid-beta protein deposition, and this may play a role in the apparent reduced incidence of Alzheimer's Dementia in women subjected to hormone replacement therapy.

Supported by the UK Medical Research Council

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Policy issues on women's mental health

S48

Mental health problems in women across the life-cycle

U. Halbreich (Buffalo, NY, USA)

It is quite well documented that affective disorders are twice as prevalent in women as compared to men. This difference is mostly

during women's reproductive age. Gender differences have also been noted in prevalence of panic disorder, general anxiety disorder, very rapid bipolar cyclers, and dementia of the Alzheimer's type. Appearance of schizophrenic symptoms in women is delayed, and they suffer less of extrapyramidal adverse effects. Increase in prevalence of affective symptoms is associated with periods of change in women's life-cycle, mostly adolescence, the premenstrual period, postpartum, and the perimenopause.

During several other periods special considerations in treatment are required. They include pregnancy, use of oral contraceptives, and hormonal replacement therapy. Pharmacokinetics and pharmacodynamics in women deserve special attention, particularly during periods of hormonal change.

The statistical and epidemiologic association among the various reproductive-related problems suggest that their pathophysiology involves individual vulnerability, early and developmental life experiences (negative as well as positive) and a trigger mechanism that might be hormonal or environmental.

S49

The epidemiology of psychiatric disorders in women: a cross national perspective

M. Weissman (New York, USA)

Data from community based epidemiologic studies using similar diagnostic methods from 10 diverse countries will be presented. The results show variation in rates of mood and anxiety disorders across the countries. However, the patterns of rates and particularly the sex differences and ages of onset are remarkably consistent across the countries. Bipolar disorder and OCD show little sex difference in rates across countries. The early age of first onset of these disorders beginning after puberty and increasing through adolescents and young adulthood is consistent across countries. The low rates of first onset after age 50 is consistent across countries. The high comorbidity between mood and anxiety disorders is also consistent across countries.

These findings suggest that the expression of mood and anxiety disorders, that is the rates, may vary culturally but the actual disorder when manifested is similar across cultures.

The need for more extensive epidemiologic data in a broader range of countries and particularly developing countries and the ongoing studies which will provide these data will be discussed.

S50

Transcultural policy issues in women's mental health

D. E. Stewart (Toronto, CDN)

The following 6 international policy issues to improve women's health and mental health will be discussed:

1. Violence against women
2. Poverty and nutrition
3. Reproduction, choice and safety
4. Human rights, discrimination, bias
5. Education
6. Infectious diseases

S51

Problems in developed and developing countries

M. B. Rondón (Lima, PE)

There are striking differences between public health needs in the developed countries and those in developing countries, that have to do not only with the amount of resources allocated to health care, but also with their different distribution and impact. In developed countries, people, women included, are striving for better levels of health care and higher quality of life. In the developing countries, one has to start by defining whose

responsibility it is to provide for health care and whether it should be universally accessible or aimed at a certain group only. The next point is to clarify whether "modernization" has to be "westernization" or whether it can be defined in more culture-relevant terms in each region.

When it comes to women's mental health, universal concerns are related to the recognition of the differences (biological, psychological and social) that account for a different risk for psychological impairment in women. In the developed countries, research is being carried out at sophisticated, biological levels. This body of knowledge will certainly be useful for health professionals and women who have access to "Western" health care in the developing countries. But, for the general population, the priority has to do with recognition of the right of every woman to have access to education and health care, starting at the level of immunization and progressing to free choice regarding conception; attention should be paid to self-esteem, violence, the right to have pleasure and to share the burden of child-care.

The strategic needs of women in terms of mental health in the developing nations have to be defined in terms of 1. enforcement of the equality officially recognized by the states in international treaties and 2. insuring that individual rights and needs will not be ignored in the name of reaching goals set by (authoritarian) governments or international financial organisms.

Round Table Discussion

RT53

Policy issues in women's mental health – overview for a round table

U. Halbreich (Buffalo, NY, USA)

Women's mental health is influenced by biological determinants as well as social and cultural factors. The socio-cultural aspects contribute to discrimination against women, gender differences in treatment-seeking patterns, and treatment availability and its quality. The impediments for improvement of women's mental health are more severe in some developing countries, especially in those where religion and tradition justify and encourage discrimination against women and hold them in an inferior status. Poverty amplifies the problem.

The path to gender-parity in efficacious provision of mental services and improvement of women's mental health leads through: (a) unbiased and bidirectional non-judgmental identification of realities and solvable problems in each specific country and region, (b) development of culture-sensitive solutions, (c) culture-specific and economically-realistic screening, (d) identification procedures and (e) development of cost-effective treatment modalities provided by available personnel. Campaigns to educate influential policy decision-makers, community leaders, and individual men and women should be conducted by local professionals (men and women). These campaigns should emphasize the added benefits to the entire community and the privileged strata of society, as well as their specific gains from advancing disadvantaged women. The gain from mental health parity and efficacious non-discriminatory bio-psychosocial interventions for all should be clearly demonstrated and conveyed.

Normal and disturbed sleep in women

S55

Gender differences in objective and subjective sleep measures

U. Voderholzer, A. Al-Shajlawi, M. Berger, D. Riemann (Freiburg, CH)

Introduction

Insomnia is more common in women than in men, as has been shown by many epidemiological studies (see e.g. Hohagen et al., 1993). There is a wide variety of studies concerning gender differences in healthy subjects considering objective and subjective sleep measures. When it comes to primary insomnia however, research usually focuses either on subjective or objective sleep measures. Up to now, to the best of our knowledge, there is a lack of studies addressing the question of possible gender differences of polysomnographically assessed and subjectively estimated sleep measures in patients with insomnia complaints. Armitage et al. (1997) found gender differences in the accuracy of subjectively estimating sleep measures in depressed patients. Women were more accurate in judging sleep characteristics than men. The aim of the present study was to address the same question in a group of female and male insomniacs.

Methods

We evaluated sleep measures of all insomniac patients diagnosed in our sleep laboratory within the last four years. Patients with insomnia due to organic diseases such as restless legs syndrome or sleep apnea and insomnia due to a psychiatric disorder were excluded. Thus we obtained 45 female (19–63 years, mean: 38 ± 12 years) and 42 male (21–65 years, mean: 42 ± 12 years) insomniac patients (INS), all of them being free of hypnotic drugs for at least one week. 42 male (19–63 years, mean: 38 ± 12 years) and 45 female (21–65 years, mean: 42 ± 12 years) healthy subjects served as controls (CON). All subjects and patients were investigated by polysomnography in two consecutive nights. The Pittsburgh Sleep Quality Index (PSQI) was used for self rating of sleep.

Results

In the controls, no gender differences were present in both subjective and objective sleep measures apart from more shallow sleep (stage I) in males compared with females (9.7%; 7.2%, resp.). Within INS no significant differences were found for sleep period time (SPT), total sleep time (TST), sleep efficiency (SE) or latencies to any of the NonREM-sleep-stages (1–4). We observed a significantly shorter latency to REM-sleep ($p = .02$) for male in comparison to female insomniacs. Interestingly, women showed more arousals during slow-wave-sleep (SWS; $p = .04$) than men. Subjective measures of sleep were not different between men and women (PSQI: 10.4, 9.2, resp.).

Conclusion

Although it is often postulated that women more frequently complain about symptoms of insomnia, our results show that subjective and objective differences in the sleep of females and males (INS and CON) are rather small. However, women showed more arousals during SWS, what might serve as an explanation for the subjective estimation of disrupted and therefore unrestorative sleep. Further psychometric information is necessary to differentially assess subjective and objective estimation of sleep complaints and gender differences.

Postpartum depression

O60

Prevention of postnatal depression: development comes before evaluation?

T. Brugha, S. Wheatley, N. Taub (Leicester, UK)

Background

Risk factors for postnatal depression include previous depression, elevated emotional vulnerability, poor standard of living and low social support [1]. Randomised evaluations of risk reducing preventative interventions have been carried out in the UK, Netherlands, New Zealand and the USA.

Objective

To develop and evaluate risk reducing antenatal prevention interventions.

Methods

106 primiparous women selected at high risk of postnatal depression were randomly allocated to an antenatal intervention to enhance the mother's ability to obtain social support [2], which was evaluated by randomised prevention trial. 106 received routine antenatal care only. Designs of other trials are compared.

Results

Intention to treat analysis on 190 women and on their baby followed up at 12 months after child-birth found an absence of any beneficial effect on postnatal depression and child health at 3 and at 12 months. Importantly, there was also no effect on risk factors. These findings were in accord with the results of other recently conducted trials.

Discussion

This and other similar antenatal psychosocial interventions have been developed without first evaluating and demonstrating a lasting impact on primary risk factors. If risk-reducing interventions had first been fully evaluated in order to systematically developed health promoting methods that most women agree to participate in, more rapid progress might have been achieved.

The first steps in creating an international collaborative research and development programme towards this end will be reported upon.

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O61

Can postpartum depression be prevented?

S. Causey, M. Fairman, D. Nicholson, M. Steiner (Hamilton, CDN)

Objectives

A common theme among our postpartum patients at the Women's Health Concerns Clinic at St. Joseph's Hospital was the identification of a lack of sleep as a major factor in their illness. The clinic has recently introduced a new postpartum program promoting the use of an extended maternity ward stay (5 days), rooming out of newborns at night and the use of private room

accommodations to achieve adequate rest for women identified as being at risk to develop postpartum depression. Risk factors included history of postpartum depression, any previous and/or family history of mood disorder. This protocol grew out of a common theme among our postpartum patients, which identified sleep deprivation as a major factor in their illness. Our objective was to retrospectively assess the effectiveness of these measures in reducing postpartum symptoms.

Study design

Charts of all clinic antepartum patients since 1996 were reviewed to determine the actual utilization of these recommendations. Data on the presence and severity of postpartum depression, use of antidepressant medication and the need for psychiatric postpartum admissions was gathered.

Results

A total of 89 charts were reviewed. Of these 26 had insufficient detail to be analyzed (patients had moved and could not be contacted, declined to be surveyed, etc.). For the remaining 63 women (one with 2 data points for 2 deliveries), 42 followed the recommended measures and 22 did not. Patients with a history of postpartum depression were more likely to follow protocol suggestions. Of the 63 out-patients reviewed only 4 required a psychiatric admission. The average Edinburgh Postpartum Depression Scale score was 11, lower than the cut off usually required to establish the diagnosis of an episode of depression.

Conclusions

Having the knowledge that a support system was in place, the experience of a better sleep in hospital and health teaching to patient and spouse (re: shared night time responsibility for childcare and mother's rest) reduced the incidence as well as the severity of depression in this high-risk population. A randomized controlled study is proposed with greater emphasis on adherence to protocol to further quantify the potential benefits of this program.

O62

Insomnia: a preventable cause of postpartum psychosis?

V. Sharma (London, CDN)

Background

Postpartum psychosis is the rarest, but the most severe, form of childbirth-related psychiatric disorders. Although a controversy remains about its diagnostic status, it is increasingly viewed as belonging to the bipolar spectrum. Given the high rates of associated morbidity and risk of infanticide, it is crucial to identify women at a high risk for developing postpartum psychosis and take appropriate measures to prevent its occurrence.

Method

A treatment strategy consisting of the close monitoring of sleep/wake cycle beginning in the late third trimester, stimulus reduction in the immediate postpartum period, and prophylactic treatment of insomnia was used to prevent postpartum psychosis in two bipolar women including one with a history of a puerperal episode of psychosis.

Results

Both of the women remained free of mood and psychotic symptoms for over one year following childbirth.

Conclusions

Disruption of sleep may be an important trigger of postpartum psychosis. Early recognition and treatment of insomnia may prevent the occurrence of psychosis in women with or without a history of postpartum psychosis.

O63

Neonates characteristics associated with occurrence of blues at day three after delivery and/or postnatal depression at six weeks postpartum

A. L. Sutter-Dallay, E. Glatigny-Dallay, H. Verdoux (Bordeaux, F)

Objective

To assess the link between neonates behavioural characteristics and the occurrence of blues at day 3 after delivery and/or postnatal depression at 6 weeks postpartum.

Methods

594 pregnant women were recruited in the maternity clinics of the university hospital of Bordeaux. The baseline assessment took place at the seventh month of pregnancy. Women and their babies were prospectively followed up over two years. The mental status of the women and the psychomotor development of the child were assessed at day 3 (D3) after delivery, 6 weeks postpartum and 3, 6, 12, 18, 24 months postpartum. In the present study, we explored the link between child characteristics assessed at D3 using the Brazelton Neonates Behaviour Assessment Scale (BNBAS) and the occurrence of a blues at D3 assessed using the Kennerley & Gath Blues Scale, and/or a postnatal depression at 6 weeks postpartum assessed using the Edinburgh Postnatal Depression Scale.

Results

A blues was more frequent in mothers of children with poor regulation of state ($p = 0.004$) and poor autonomic stability ($p = 0.04$). Poor performance at the BNBAS orientation dimension ($P = 0.01$) predicted the occurrence of a maternal postnatal depression at 6 weeks postpartum.

Conclusion

These findings suggest that neonates characteristics are associated with the emotional state of the mother during the postpartum period, and that the neonates behavioural predictors of blues may differ from predictors of postnatal depression.

O64

Sensitivity of dopamine receptors to apomorphine and recurrence of postpartum depression and mania

A. H. G. Vieira, M. N. Marks, S. C. Checkley, I. C. Campbell, A. A. J. Vasconcelos, M. Zugaib, R. Kumar (Sao Paulo, BR; London, UK)

Title

Sensitivity of dopaminergic systems to apomorphine and the recurrence of postpartum depression and mania

Objective

To compare dopamine receptor status in postpartum women with major depression or mania with normal puerperal women as controls.

Method

Women ($n = 37$) were separated from their babies throughout the test. On the fourth day postpartum, an intravenous canula was inserted into a forearm vein at 9 am. After a resting period of one hour 5ml blood samples were collected every 15 minutes from 30 minutes before to 120 minutes after subcutaneous injection of apomorphine (0.005 mg/kg/sc) at 10h30 am. Main outcome measures: serum prolactin (Imunoradiometric test-IRMA), cortisol and growth hormone responses (IRMA) (area under the curve) as an index of the functional state of tubero infundibular dopaminergic receptors.

Results

No differences were found among the hormonal responses of the women who remained well ($n = 23$) and those who became depressed ($n = 6$) or manic ($n = 8$) during the first 3 months after delivery.

Conclusion

The onset of mood disorders after childbirth is not associated with increased sensitivity of this dopaminergic system. A type II error cannot be excluded.

O65

Do thyroid antibodies influence the clinical profile of postpartum depression?

L. Born, D. Nicholson, M. Steiner (Hamilton, CDN)

Objectives

An association between severity of postpartum depression and the presence of thyroid antibodies (AB1) has been found, however, the evidence is equivocal. AB1 status has also been linked with postpartum thyroiditis and persistence of mental and physical symptoms across 12 months following delivery. Two premises were examined: First, that women with AB1 would have, on average, higher baseline depression scale scores and a higher frequency of cognitive complaints on presentation than those without thyroid antibodies. Second, that there would be a difference between those with postpartum depression and AB1 versus those without thyroid antibodies (AB2) in treatment and length of stay in the clinic.

Methods

Cases seen in the past 5 years were reviewed for: baseline depression scale scores; presenting mood and cognitive complaints; thyroid test results, frequency of thyroid consultation and new thyroid medication prescriptions; frequency and type of psychotropic medications utilized; frequency of hospitalization; number of visits to- and number of weeks followed by the clinic. Inclusion criteria: a live birth, depression with onset 5-12 months postpartum. AB1 status was defined as the presence of microsomal or thyroglobulin antibodies, or both. The patients were stratified by low, normal, or high thyroid stimulating hormone (TSH), and AB1 or AB2 status.

Results

78/540 cases met the inclusion criteria. Thyroid antibody status did not seem to influence the nature or severity of postpartum depression presentation, or the clinical interventions. Patients with low TSH / AB1 were seen more often over a longer period of time, despite no clinical signs of postpartum thyroiditis.

Conclusion

The results suggest that AB+ status may be related to the persistence of depressive symptoms under conditions of low TSH, but not to the nature or severity of postpartum depression per se. Further, prospective investigation may pinpoint a specific mood or cognitive profile in women with postpartum depression.

O66

Repeated exposure of high anxiety rats to emotional stress during pregnancy: a model of postpartum depression (PPD)

I. D. Neumann, A. Wigger, E. Frank, F. Ohl, P. Lörscher, M. Zimbelmann, K. Moschke, S. A. Krömer (Munich, D)

Using female rats bred for either high (HAB) or low (LAB) anxiety-related behaviour we aimed to establish an animal model of PPD. Pregnant HAB and LAB rats were daily exposed to psychosocial (maternal defeat, 15min) and emotional (restraint, 45min) stressors between days 5/7 and 20 of pregnancy. Behavioural tests on the elevated plusmaze (EPM, day 3 post partum [p.p.]) and the modified holeboard (day 4 p.p.) revealed a

significantly increased anxiety in lactating HAB compared to LAB rats indicating that the innate level of anxiety persists in lactation. Further, repeated stressor exposure during pregnancy altered the emotionality in lactation, an effect which was partly dependent on the innate level of anxiety. For example, on the EPM, stressed HAB rats were more anxious than control HAB rats as indicated by a reduced number of entries into the open arms, whereas the same treatment exerted the opposite effect in LAB rats. Further, during forced swimming, a test for active versus passive stress coping strategy performed on day 10/11 of lactation, stressed HAB mothers showed more passive coping behaviour compared to control HAB mothers, whereas no difference was detectable between stressed and non-stressed LAB rats.

Moreover, repeated stress in pregnancy potentiated the ACTH secretory response to exposure to an emotional stressor in lactating HAB, but not LAB, rats indicating a differential vulnerability of the HPA axis in dependence of the innate level of anxiety. The data strongly show that rats bred for high levels of anxiety in combination with relevant stress procedures during pregnancy may provide a useful model for further studies on PPD.

O67

An empirical evaluation of a psychoanalytic model of mothering orientation and the antenatal prediction of postnatal depression

H. M. Sharp, R. Bramwell (Liverpool, UK)

Objectives

This study was designed (a) to determine whether women's antenatal expectations of childbirth, their future baby and early motherhood vary in line with Raphael-Leff's (1990; 1993) Facilitator - Reciprocator - Regulator model of mothering orientation, and (b) to determine whether a regulator mothering orientation, unlike either of the other orientations, confers greater relative risk for early postnatal depression.

Methods

A sociodemographically representative sample of 205 primiparous women, enrolled for antenatal care in Leicester, UK, completed a questionnaire measure of maternal orientation and the General Health Questionnaire (GHQ30; Goldberg, 1978) in the third trimester of pregnancy and the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987) at 6 weeks postpartum.

Results

Hierarchical cluster analysis, using squared Euclidean distances for between-groups linkage, was employed to cluster cases on the basis of their antenatal expectations of their future baby and early motherhood. Inspection of the resulting dendrogram suggested a clear three cluster solution. Between-group comparisons of the expectation variables on which the cluster analysis was based, and of other key childbirth and feeding style expectations, suggested the cluster membership corresponded to Facilitator, Regulator and Reciprocator mothering orientations. Finally, in a logistic regression analysis with postnatal depression (defined by an EPDS score above 10) as the dependent variable, regulator group membership conferred a significant independent risk (Odds Ratio 3.01 (1.08-8.44)) over and above that conferred by antenatal depression symptom levels on the GHQ30 (Odds Ratio 3.27 (1.43-7.48)).

Conclusions

Women differ in their antenatal expectations of their future baby and motherhood broadly in line with Facilitator/regulator/reciprocator maternal orientations delineated by Raphael-Leff (1990; 1993). Also in line with theory, women holding a regulator mothering orientation were at increased independent risk for above-threshold postnatal depression symptom levels at 6-8 weeks postpartum, over and above the risk conferred by antenatal depression symptom levels.

Gender and gonadal steroids: effects on HPA axis function and mood

S68

Cortisol response to o-CRH in a model of pregnancy and parturition

M. Bloch, G. Cizza, A. Lotsikas, P. J. Schmidt, G. P. Chrousos, D. R. Rubinow (Haifa, IL; Bethesda, MD, USA)

The third trimester of pregnancy is characterized by a hyperactive hypothalamic-pituitary-adrenal (HPA) axis secondary to both placental CRH secretion and to the dramatic elevation in gonadal steroids (GS). Postpartum blunting of ACTH response to oCRH has been reported to be exaggerated in women with post-partum “blues” compared to non-depressed women suggesting an enhanced modulatory effect of GS on HPA activity in this disorder. We investigated the effect of GS on the hormonal response to oCRH in women (age 22–45) with ($n = 5$) and without ($n = 6$) a past history of postpartum depression (PPD) by creating an endocrine model of pregnancy and the postpartum. This model employed the gonadotropin releasing hormone agonist leuprolide acetate to create a hypogonadal baseline, upon which supra-physiologic doses of estradiol (Estrace) and progesterone (oral micronized) were added blindly for two months (producing levels $>250\text{pg/ml}$ and 40ng/ml , respectively), followed by precipitous withdrawal of hormone replacement, mimicking parturition and the earlypostpartum. oCRH (1ug/kg) stimulation tests were performed in all three phases. Urinary free cortisol (UFC) levels during the oCRH test was significantly increased during the GS supraphysiologic phase by 2 fold compared to baseline. Cortisol area under the curve (AUC) during the oCRH test was also significantly increased ($p < 0.009$) by approximately 30% during the GS supraphysiologic phase compared to baseline. Plasma CBG was significantly higher ($p < 0.035$) during the supra-physiological phase by approximately 36% compared to baseline and withdrawal phases. No significant diagnostic (PPD+ vs PPD-) by phase (baseline, supraphysiologic GS, withdrawal) interaction was seen. However, UFC and net integrated cortisol AUC were significantly greater during the supraphysiological phase compared to baseline in the women with a past history of PPD but not in controls: (UFC: subjects: $p < 0.04$; controls $p < 0.1$), compared to baseline; (integrated cortisol AUC: subjects: $p < 0.01$, controls $p < 0.3$), compared to baseline, despite plasma GS levels that did not differ between groups. In contrast, CBG levels were increased to a similar extent in subjects and in controls during the supraphysiological phase compared to baseline. Despite the small sample size, our data suggest that in humans, as in animals, GS enhance HPA axis activity, with a further amplification of this effect seen in those with a history of PPD.

S69

Gender and gonadal steroid effects on the development and function of the HPA axis

V. Patchev, O. F. X. Almeida (Jena, Munich, D)

Gender-specific differences in basal and stress-induced HPA secretions in the rat are a consequence of perinatal organization of relevant neuroendocrine substrates by gonadal steroids. Like in the hypothalamo-pituitary-gonadal axis, this process determines the subsequent capacity of physiological sex steroid secretions in adulthood to modulate the responses to stress and glucocorticoid feedback in a gender-specific fashion. Estrogens appear to play a

leading role in male-typical “hard-wiring” of control mechanisms of the HPA system; however, this process largely abrogates subsequent responsiveness to estrogens in the male. On the other hand, estrogens profoundly influence the secretory output of the HPA axis under both, basal and stress-associated conditions in the adult female, and the discrimination threshold for glucocorticoid-mediated feedback appears to be a major target of estrogens in the female brain. Further, male and female gonadal secretions differentially interact with corticoid-mediated signaling in the brain, thus potentiating or “buffering” its susceptibility to persistently increased glucocorticoid levels. Apart from “classic” gonadal steroids, we also provide evidence that perinatal treatment with neuroactive steroids can produce profound alterations in several aspects of behavioral and neuroendocrine responsiveness to stress. Finally, determination of gender-specific brain organization by, and responsiveness to, gonadal steroids also involves sex- and structure-related differences in the amplification of steroid hormone signals. Here we demonstrate that the expression of some major nuclear receptor co-activators undergoes gender-specific developmental changes which may ultimately confer differential sensitivity to steroid receptor-mediated signaling in brain areas involved in neuroendocrine regulation and adaptive behavior. Taken together, these data indicate that sex hormone-dependent regulation of brain functions extends beyond control of reproduction and may reveal novel aspects of gender-associated pathogenesis and therapy of mental disorders.

S70

Modulation of sexual steroid levels affect HPA axis responsiveness: an animal model of pregnancy and lactation

C. D. Ingram, S. A. Wood, R. J. Windle, S. L. Lightman (Newcastle, Bristol, Lincoln, UK)

The hypothalamo-pituitary-adrenal (HPA) axis is subject to at least three different regulatory mechanisms which serve to generate the normal patterns of secretion. These include: (i) the dynamic pulsatile (ultradian) periods of secretion, (ii) the diurnal variation in pulse amplitude that underlies the daily peak and trough of secretion, and (iii) the increase in activity in response to physical and psychological stressors. Studies in rats have shown that each of these modes of activity display adaptive changes over the period of pregnancy and lactation. These adaptive changes may be driven by the dynamic changes in gonadal steroid levels that occur towards the end of gestation, and may serve to ensure that the offspring are not exposed to excess glucocorticoids that may affect the programming of the developing nervous system. Towards the end of gestation there is a flattening of the diurnal rhythm of corticosterone secretion, and a loss of the acute response to psychological stress (e.g. loud noise). Studies in steroid-treated female rats indicate that the switch in the estradiol:progesterone ratio that occurs following luteolysis is a potential trigger for these adaptive changes. Furthermore, the suckling stimulus serves as a maintenance signal, since removal of the pups leads to a restoration of diurnal rhythmicity and acute stress responses within 72h. The role of gonadal steroids in orchestrating the dynamic plasticity of the HPA axis during the reproductive cycle will be discussed and related to similar changes that may occur in humans.

S71**HPA-axis and childbirth**

A. Bergant (Innsbruck, AT)

Objective

The aims of this investigation were to measure corticotropin releasing hormone (CRH), corticotropin (ACTH) and cortisol before, during and after delivery searching for endocrine intercorrelation of the hypothalamic-pituitary-adrenal (HPA) axis and to correlate these findings with obstetrical variables.

Methods

Blood was sampled from 50 women at term without uterine contractions, during delivery (after full cervical dilatation) and at fourth postnatal day. Hormones were measured by radio-immunoassay (RIA). The correlation between obstetric variables, sociodemographic and endocrine data were evaluated using Spearman rank coefficient. Group comparisons for continuous variables were calculated by Mann-Whitney U test and Kruskal-Wallis test.

Results

Maternal plasma ACTH and cortisol rose highly significant during labour and declined to the postnatal day four ($p < 0.001$) and showing a significant intercorrelation ($p < 0.01$). Compared to women without uterine contractions CRH rose during labor ($p < 0.05$) and decreased rapidly to the fourth postnatal day ($p < 0.001$). No correlations between CRH and ACTH or cortisol were observed. None of the obstetrical variables (parity, newborn's weight, duration of labor) revealed any significant correlation to ACTH. Analgetic medication (Pethidinhydrochlorid) is not able to influence endocrine response to labour stress.

Conclusions

Stressful experience during childbirth has an impact on endocrine response. However, this is not fully evident along the HPA axis in a simple biological model with monocausal dependencies. This stress reaction is not sensitive enough to detect different childbirth conditions and the hormones in the maternal compartment have partially fetal (placental) origin.

Perinatal programming: chronic consequences of the quality of mothering on the offspring's emotionality and stress coping

S73**Does prenatal stress impair stress coping: from animal to clinical studies**

M. Weinstock (Jerusalem, IL)

Retrospective studies have shown that exposure of pregnant women to adverse life events such as war, severe floods, earthquakes, or marital and family conflict increases the likelihood of behavioural disturbance in their infants and of a higher incidence of schizophrenia, neurotic and depressive symptoms in adulthood. The behaviour patterns in such children includes excessive crying, low frustration threshold, unsociable and inconsiderate behaviour and in adults, a greater tendency for alcoholism. All these are testify a reduced ability to cope with life's demands. Gestational stress in rats and monkeys also causes disturbances in offspring behaviour characterised by heightened anxiety in novel situations and failure to cope with such life-sustaining activities as food seeking and maternal behaviour under stress. Prenatally stressed (PS) rats also show abnormalities in sleep patterns, circadian rhythm, decreased hedonic behaviour (sweet preference), and develop learned helplessness more rapidly than controls, all

consistent with depressive symptomatology. Gestational stress in women and experimental animals increases blood levels of corticotropin-releasing hormone (CRH), ACTH and glucocorticoids and alters the normal relationship between ACTH and beta-endorphin. It also brings about a reduction in hippocampal glucocorticoid receptors in the offspring and decreased feedback inhibition of CRH, leading to increased blood levels of glucocorticoids. The similarities in poor coping behaviour and dysregulation of the hypothalamic pituitary adrenal (HPA) axis in PS animals and in humans with depressive symptoms suggest that gestational stress, at a critical time during development, may increase the propensity to develop depression. Avoidance of the stress-induced hormonal imbalance in the mother by psychosocial support, or adrenalectomy in animals, can reduce or prevent the dysregulation of the HPA axis and may ameliorate the emotional disturbance in the offspring.

S74**Effects of antenatal mood on the development of the fetus**

T. O'Connor, J. Golding, V. Glover (London, Bristol, UK)

Many animal experiments and some human data suggest that maternal stress during pregnancy can have long term effects on the behaviour of the child. The aim of this study was to examine the hypothesis that antenatal maternal anxiety is linked with behavioural problems in early childhood. We used data from the ALSPAC community study which has followed women and the index child prospectively from pregnancy. Maternal anxiety was assessed by the self rating Crown-Crisp questionnaire and child behavioural outcome at 47 months using maternal report with the Strengths and Difficulties questionnaire. Information was also available on smoking, drinking, education, crowding, postnatal anxiety and depression and obstetric outcome. Data were available for 7,447 mother and children pairs. After controlling for all the parameters listed above, antenatal maternal anxiety at 32 weeks was a strong risk factor for hyperactivity/inattention in boys (OR = 1.89 CI 1.30–2.76). It was also a significant risk factor for emotional problems in both boys and girls.

This suggests that there is a direct effect of maternal mood on fetal brain development, which affects the behavioural development of the child.

S75**Longterm consequences of early life stress in non-human primates**

J. D. Coplan, E. L. P. Smith, O. Batuman, C. B. Nemeroff, J. M. Gorman, L. A. Rosenblum (Brooklyn, NYC; Atlanta, GA, USA)

Rosenblum and colleagues developed a primate model of mother-infant rearing disturbance, potentially relevant to humans, termed variable foraging demand rearing (VFD). They hypothesized that offspring raised by mothers undergoing VFD conditions would develop an anxious temperament into adulthood. Control groups were raised under consistent foraging demands, both high and low. Only VFD animals exhibited anxious-like behaviors. VFD subjects would cling excessively to their mothers in novel situations, display less affiliative, autonomous and explorative behaviors, were socially timid and subordinate, and were prone to despair responses upon brief maternal separation. VFD subjects were reported to be behaviorally hyper-responsive to the alpha-2 adrenergic antagonist, yohimbine, and relatively hypo-responsive to the serotonin agonist, meth-chlorophenylpiperazine (m-CPP). Cisternal taps indicated that grown VFD animals had increased cerebrospinal fluid (CSF) corticotropin-releasing factor (CRF) concentrations, and reduced CSF cortisol levels. VFD subjects also displayed elevations of CSF serotonin and dopamine

metabolites and somatostatin – only in VFD was each parameter significantly correlated with CRF. CSF CRF concentrations appear to be significantly stable over a 30 month period, providing support for a trait-like status. Serial elevations of CRF appeared to have an anti-trophic effect, as reflected by an inverse relationship with growth hormone secretion in response to clonidine. In a separate paradigm in which VFD was introduced later in the infant's development corresponding to late weaning, a significantly different profile (low CRF, high cortisol, high serotonin metabolites) was observed. Plasma concentrations of the cytokine, transforming growth factor-beta, were elevated, implicating a shift in immune function. Taken together, the aberrant behavioral, neurochemical, neuroendocrine and immunological alterations observed in the regular VFD and the late exposure mode of VFD rearing suggest that the timing of the stressor on the mother in relation to the infant's development is critical. Relevance to human disorders is discussed.

S76

Stress exposure in early neonatal period: neuroendocrine and behavioural consequences

D. Jezova, M. Dubovicky, I. Skultetyova (Bratislava, SK)

An exposure of animals to stressful stimuli during the neonatal period is known to induce changes leading to long-term modulation of behavioural and neuroendocrine responses. Exploratory behaviour in rodents was found to be gender-dependent, showing higher locomotor activity, lower emotionality and slower habituation in females compared to their male counterparts. However, potential gender-dependent differences related to coping with stress in the new environment in neonatally stressed animals are not fully understood. The stress stimulus applied in our studies included handling and injection of a hypertonic solution (saline or glutamate) every two days during the first 10 days of life. The results showed that the neonatal stress increased the intensity of locomotor activity and slowed down habituation in the open field test in adult male but not female rats. These changes were observed on postnatal day 21 and they persisted until adulthood. Moreover, gender differences in the rapidity of habituation observed in controls disappeared in neonatally stress rats. Stressed males showed a female-characteristic way of habituation. In the attempt to understand the mechanisms involved, hormonal responses to the stress stimulus used were evaluated in neonatal rats. An in situ hybridization study revealed a rise in pituitary proopiomelanocortin (POMC) mRNA levels in both sexes. Stress exposure resulted in a rise in plasma corticosterone in both males and females, but in males this rise failed to be statistically significant. It may be suggested that either males are extremely sensitive and females resistant to stress induced late behavioural changes or the rise in plasma corticosterone may not be involved in this phenomenon.

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S77

Differential vulnerability to pre- and postnatal stress in dependence on the genetically determined level of anxiety

I. Neumann, S. Kroemer, E. Frank, A. Wigger (Munich, D)

Using two rat lines bred for high (HAB) and low (LAB) anxiety-related behaviour, respectively, we have tested the hypothesis that behavioural and neuroendocrine consequences of pre- and postnatal stress depend on the genetically determined level of anxiety-related behaviour. For prenatal stress, pregnant HAB and LAB rats were daily exposed to psychosocial (maternal defeat [1], 15 min) and emotional (restraint, 45 min) stressors between days 5/7 and 20 of pregnancy. For postnatal stress, pups were daily

separated from their mother for 3 hours. At the age of 12 weeks, the emotionality of the offspring was tested in a variety of behavioural tests (elevated plus-maze, modified holeboard, maternal defense test).

Further, the (re) activity of the hypothalamo-pituitary-adrenal axis was tested under basal and stress-induced conditions. Consequences of pre- and postnatal stress on cognitive abilities were monitored in the Morris-water paradigm. Beside the robust differences in emotionality and HPA axis activity between the two rat breeding lines, consequences of perinatal experiences on these parameters depend on the "inborn" level of anxiety indicating differences in the vulnerability to negative environmental factors.

Gender differences in addictions

S78

Problems facing women drug users and their children in the EU

M. Nilson (Lisabon, P)

Women-specific drug issues have not, to date, been systematically examined by EU drug-information systems. However, most Member States do address the needs of drug using women through specialised programmes, although their extent and focus vary.

Although overall drug use is more common among men than women, legal, cultural, educational and geographical factors account for increased prevalence among women. The ratio of female to male drug users in treatment tends to be less than 1:3.

Female drug users commit less property crimes than men and more often support their drug habits through the sex industry – sex work is an established source of income for up to 60% of drug-using women.

Pregnant drug users are seen as requiring a particularly high level of intervention and support. Most EU countries recognise that children born to drug using women may need specific medical care. The extent to which children remain living with drug-using mothers varies widely in the EU.

In some countries, drug-prevention activities are oriented specifically towards very young women and girls. These initiatives often focus on female identity and how to refuse offers of drugs from boyfriends or other male peers.

The limited information available demonstrates how responses to the problem of women, children and drug use appear to be motivated by concerns about the impact of female drug use on others: on children where the users are mothers; and on men where the users are sex workers.

S79

Do differences in ethanol metabolism predispose women to alcohol-related disease?

R. J. Ward (Louvain-la-Neuve, B)

It is well established that females who abuse alcohol, >21 units/week, develop alcohol-related tissue damage e.g. liver fibrosis, at a much faster rate than males. This in part has been attributed to increases in oestrogen production, a larger body fat:water ratio, as well as altered ethanol metabolism. Differences in the rates in which ethanol is metabolised in females is due to a variety of factors which include heterogeneity of ethanol metabolising enzymes, proliferation of the specific P450 class of enzymes P450IIE1, particularly in chronic abusers, and first pass metabolism which is increased 2 fold in female control subjects. Each of these parameters will contribute to determine the circulating concentrations of ethanol and its major metabolite acetaldehyde.

Acetaldehyde is extremely toxic and has been implicated in the proliferation of tissue damage.

A better understanding of each of these parameters will help to elucidate the increased tissue damage which occurs in female subjects who abuse alcohol and the development of palliative measures.

S80

Gender and personality in alcoholism: are women less impulsive than men?

H.-G. Weijers, G. A. Wiesbeck (Würzburg, D)

In an ongoing study on clinical aspects of alcoholism individuals suffering from long lasting primary alcohol dependence are investigated on their personality structure by using Cloninger's Temperament- and Character-Inventory, Eysenck's Impulsiveness-Venturesomeness-Empathy scale and Zuckerman's Sensation Seeking scale.

In a first step gender differences in the development and the course of alcoholism were investigated in $n = 45$ women and $n = 119$ men. These differences were put into relation to gender-specific personality characteristics (especially impulsivity and sensation seeking).

Second, to investigate the relationship between alcoholism and gender we recruited well matched controls and applied a 2 (alcohol dependent subjects vs. controls) \times 2 (gender) factorial design for analysing the interaction between alcoholism and gender. The following questions were addressed:

1. Are there gender differences in clinical characteristics of alcoholism.
2. Are there gender differences in the development of alcohol-related problems prior to the manifestation of dependence.
3. Are gender differences in personality especially impulsivity and sensation seeking related to gender differences in the development and the course of the disease?

Preliminary analyses indicate a later onset of alcohol-associated symptoms like loss of control, for example. Beyond this, there seem to be neither specific gender differences in alcoholism nor specific personality-associated gender differences between primary alcohol dependent and control subjects.

S81

Psychobiological stress dampening effects of alcohol: Differences between gender but not in relation to a family history of alcoholism

R. Olbrich (Mannheim, D)

Subjects who have no personal psychiatric problem but a positive family history (FH+) regarding an alcoholic father have become a prominent target group in alcoholism research, particularly for ethanol challenge studies. When exposed to aversive psychological stimuli in laboratory experiments this group, who is considered to bear a heightened risk for addictive behavior, is much more likely to exploit the autonomic stress response dampening effect of alcohol, when available, than FH- subjects.

While this research approach was as yet limited to adult sons of male alcoholics, we have conducted an alcohol (vs non-alcohol) challenge study (targeting at a 0.7 per mille blood ethanol level), which was extended to adult daughters (and siblings of both sexes) of the patient group. Several challenging paradigms including a mental arithmetic condition were employed in the laboratory experiment. Response assessment included various psychophysiological parameters (heart rate, respiration rate, electrodermal activity).

In the analyses of the data of 105 subjects at risk and 50 normal controls, which will be presented, stress-dampening effects due to

alcohol could be demonstrated. They were mainly observed in the cardiovascular system (i.e. for heart rate) and applied to the mental arithmetic task. Interestingly, dampening phenomena did not emerge in the male group but were displayed in female participants, involving FH+ and FH- subjects.

S82

Assessing and treating alcohol-dependent patients. Do gender differences exist?

L. Segura (Barcelona, E)

Though it is well-established that baseline differences among genders do exist, few studies analyzed possible gender differences in early relapse in alcohol-dependents. In order to know if naltrexone can help females as well as males we studied possible gender differences in baseline and outcome variables among all patients (75% males and 25% females) who entered out-patient treatment with this medication.

The aims of our presentation will be 1) to study gender differences in baseline variables among Spanish alcohol-dependent patients seeking treatment and 2) to study gender differences in outcome variables among alcohol-dependents in out-patient follow-up.

Inclusion criteria were meeting DSM-IV criteria for alcohol-dependence disorder and age 18–60 years. Exclusion criteria were pregnancy or breast feeding in women, severe organic disorders, liver enzymes (AST, ALT) over 150 U/l, severe psychiatric disorders, other current substance abuse or dependence disorder (except for nicotine) that were not in sustained remission, and less than 5 or more than 30 days since the last drink.

Most of our patients received Naltrexone as co-adjunctive medication during 12 weeks after detoxification. All patients received naltrexone 50 mg a day, supportive group therapy and a physician's visit once a week. All subjects came to the unit three times a week for regular assessment. Patients were encouraged to remain abstinent during the treatment protocol.

Weekly outcome assessment focused on relapse, alcohol consumption, craving, adverse events, and use of other drugs or medication. Other variables analyzed were the number of days until the first alcohol consumption, percentage of days abstinent, total alcohol consumption, drinks per drinking day, craving and treatment compliance. Safety and tolerability were evaluated by adverse events, biological markers of heavy drinking (MCV, GGT, CDT) and markers of possible toxicity (AST, ALT and number of thrombocytes). We found statistical differences among baseline variables between alcohol-dependent males and females, but these differences do not seem to have a differential effect on the outcome variables assessed.

Common axis I comorbidities

S83

The epidemiology of comorbid major depression and panic disorder in women

M. Weissman (New York, USA)

The availability of data from large scale epidemiologic studies of psychiatric disorders over the past two decades has focused attention on comorbidity, i.e., the presence of two disorders in individuals either together or in sequence. Numerous population studies from quite diverse countries, using standardized diagnostic assessments, have shown that certain disorders occur together in individuals more frequently than is expected by chance. For women, the most common pattern is major depression and anxiety disorders, particularly panic disorders. Since the treatments for

these disorders are often the same, the question is raised as to whether these are different expressions of the same disorders which increase morbidity. This paper will present the data on comorbidity of major depression and panic in women; and will try to answer these questions. However, future progress on understanding comorbidity will need to include a broader range of disorders including medical non-psychiatric conditions.

S84

Dysthymia in women

M. Steiner (Hamilton, CDN)

Gender differences in the prevalence of mood disorders including dysthymia are well established. More recently attention has shifted to gender differences in comorbid conditions, in the burden of illness and in treatment response. The chronicity of dysthymia, especially the early onset type affects women more seriously than men and is associated with a higher rate of comorbidity with substance use and eating disorders. When untreated dysthymia increases the risk of comorbidity with major depression. These women also report poorer general health status and increased use of health care services. Data from several large scale treatment trials will be presented emphasizing the need to consider both gender and menopausal status when choosing the right intervention for this population.

S85

Sex differences in the clinical course of anxiety disorders

K. Yonkers (New Haven, CT, USA)

Gender differences exist in the prevalence and expression of many psychiatric disorders. For example, alcoholism and antisocial personality disorder are more common among men, while eating disorders and mood disorders are more common among women (Robins et al., 1984). Gender differences occur in assorted anxiety disorders, both in prevalence and the expression of the illness (Robins et al., 1984). While in general, the symptoms experienced by men and women are similar, the clinical course for a number of conditions, including panic disorder and post-traumatic stress disorder, varies. On the other hand, the course of generalized anxiety disorder and social phobia is similar. In this presentation, data regarding differences and similarities in anxiety disorders in men and women will be discussed with a special emphasis on the course of illness.

S86

Comorbidity in eating disorders

T. Pearlstein (Providence, RI, USA)

Comorbid disorders complicate the clinical presentation, the response to treatment and the long-term course of eating disorders. Elevated prevalence rates of major depression, dysthymia, obsessive-compulsive disorder, social phobia, substance abuse, personality disorders, post-traumatic stress disorder and prior sexual abuse are reported in both anorexia nervosa and bulimia nervosa. Recent studies of the comorbidity of eating disorders and obsessive compulsive disorder indicate the persistence of obsessive-compulsive symptoms following improvement of eating disorder symptomatology with treatment, suggesting that obsessive compulsive symptoms are underlying trait phenomena. Avoidant and obsessive-compulsive personality disorders are common in anorexia nervosa and borderline and avoidant personality disorders are common in bulimia nervosa. Binge eating disorder is associated with elevated prevalence rates of depression and personality disorders. Eating disorders can also

complicate concurrent diabetes mellitus or pregnancy. Successful treatment of the eating disorders usually requires concomitant treatment of the comorbid condition.

Trauma: social psychological, psychotherapeutic and psychosomatic aspects

S87

Gender and trauma: social psychological aspects

H. Bilden (Munich, D)

I want to give an introduction to the symposium outlining the social psychological background for the following papers which focus on trauma therapy.

The first point will be on discourses: the public discourse of "trauma" replacing the feminist discourse of "consequences of male violence", with its benefits and losses; and the discourse of "male perpetrator-female victim" with its symbolic and psychological implications.

The second point will be to place traumatic events and women's reactions to them into the social context of gender relations as relations. Prevalence of certain types of traumatic events differs according to gender. A lot of traumatic events – but clearly not all – for women and children are produced by acts of male violence, a lot of it sexualized violence, and (in peace) most of it within family and other close relationships. Sexual and bodily abuse in childhood and youth, the victims of which are more girls than boys, predisposes to re-victimization. In wars and civil wars experiences of life threat, rape, torture, murder of family members and so on may combine to an amount nobody can "cope with successfully". That is the experience of many migrants and refugees. And some of the refugees and raped women (our mothers and grandmothers) of World War II decompensate now when they retire or become old and weak.

For psychiatrists and psychotherapists it is important to know how women's attributions of meaning to events as well as their emotional and coping processes after the traumatic event(s) and the availability and quality of social support are related to gender. Traumatized women are often in a factual and psychological situation of victim, being not able to react in an active and outward oriented manner – this is one of the most unfavorable conditions for coping. "Gender" means not simply being female (or male), but encompasses cultural concepts of femininity or masculinity, positions in the social division of labor, and power relations which are learned by the individuals through socialization processes. What "gender" means differs between cultures, something we have to know and to deal with when treating migrants or refugees.

S88

Gender specific reactions to trauma

M. Gavranidou (Munich, D)

Female and male individuals tend to face different kinds of traumas in the course of their biography and also different amounts of traumatic events (Butollo, Hagl, & Krüssmann, 1999). There is empirical evidence showing higher rates of sexual abuse for girls, and more accidents and physical assaults for boys during childhood and adolescence. The same picture emerges for men and women, with men facing more often physical assaults, violence and accidents, and women dealing more often with rape and sexual assault (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Another gender specific finding in the trauma literature indicates, that the probability for men and women to develop a Posttraumatic Stress Disorder (PTSD) varies with gender and type of trauma. Kessler and colleagues report for example that 0.7% of

the men and 9.2% of the women in their study experienced rape. However, 65% of the men and 46% of the women developed PTSD after rape. This and similar results demand a gender specific view of trauma and the internal and external reactions and adaptive processes following trauma.

In my presentation, I am going to show gender specific reactions to war traumas using data from four studies on children and adolescents carried out during and after war in Bosnia. Many of the children and adolescents can be seen as individuals who have been exposed to prolonged, multiple and repeated traumatization (witnessed terrifying events and acts of cruelty during the war in Bosnia and/or later during their flight). The results of the studies to be presented show gender specific reactions to war traumas: girls and younger children react more often with emotional problems and older children and boys show more often acting out symptoms (Gavranidou, Cehic, Powell, & Basic, 2000). In our retraumatization study we analysed returnee children's stories about their first year in Bosnia. Here again we found girls to express more sadness, feelings of loneliness and depression. Boys on the other hand expressed more frequently anger, shame and boredom (Gavranidou, Bruer, Powell, Cehic, & Butollo, 2000).

These results will be discussed in the context of developmental, psychopathological and social theories.

S89

Treating women with complex traumatization and complex PTSD

L. Reddemann (Bielefeld, D)

Treatment of women with complex PTSD requires a special therapeutic approach. Psychotherapies have to be modified to help the patients to keep control and cope with the overwhelming traumatic material. A therapeutic procedure is presented that uses imaginative work extensively. Thus the patient's tendency to split is used as a resource. The patient creates by herself an inner safe world as a counterpart to the terrifying inner world of trauma. Only after having established the safe inner world trauma confrontation can be done. In this phase imagination is also used in the work with the "inner observer". Regarding women's health this therapeutic method offers a path which eases the suffering through therapeutic interventions that until now appeared to be unavoidable and utilizes broadly the patient's own resources.

S91

Women's experiences of violence and trauma: aspects of psychiatric diagnoses, treatment and avoiding retraumatization

P. Hilsenbeck (Munich, D)

German psychiatry only slowly begins to acknowledge connections between violence, trauma and psychiatric symptoms, like PTSD, dissociative or borderline personality disorder and self mutilation. There are a few inpatient treating units already. What still is not enough appreciated throughout Europe though are findings about the interconnection between traumatic experiences and psychotic, affective and schizophrenic disorders. Public psychiatric treatment and outpatient care moreover does not yet incorporate enough of this knowledge, so consequences for quality standards are yet to be drawn.

The author, psychologist and licensed psychotherapist, working in an outpatient social psychiatric and feminist context and teaching professionals and students alike, is also an activist and speaker of community mental health boards and quality circles. She will share diagnostic findings and their application as well as some of her experience of treating severely traumatized women with disorders mentioned above. Treatment guidelines as well as

values and attitudes are outlined though not in detail, valid for different target groups and settings of short term and long term care. Guidelines are given for avoiding retraumatization in psychiatric, social psychiatric and complementary care.

Quality standards are presented with that, concerning structural, relational and conceptual aspects.

Gonadal steroids and cognition

O93

Memory after menopause: how does estrogen influence functioning

K. Rice, C. Morse (Melbourne, AUS)

Objective

The aim of the current study was to comprehensively examine mid-aged and older women's cognitive abilities in relation to the changing hormonal status occasioned by menopause. Previous research in this field has suggested that older women are at risk for diminishing mental functions due to 'loss' of endogenous estrogen and that 'rescue' with exogenous hormone therapy is required to (i) maintain mental integrity and (ii) protect against longer term advent of dementia changes. However, methodological issues in study design have limited the findings of much of the published research in this field. This unique cross-sectional study aimed to overcome some of those methodological issues and comprehensively investigate cognitive abilities in a non-clinical, community-based Australian population of postmenopausal women.

Methods

Postmenopausal women from Melbourne, Australia were assessed via telephone, mail and face-to-face interview on a wide-range of cognitive functions including general and specific memory, attention and concentration. Psychological functioning (depression, anxiety, and stress) as well as details of menopause symptoms, health status and history, physical measures, and objective hormone levels were also investigated.

Results

Multivariate and regression analysis examined the relationship between cognitive functioning and both hormone use and circulating serum estrogen levels. The analysis also included an examination of the influences of psychological (anxiety, dysphoria, attitudes) and physical states (hormone levels, blood pressure) on cognitive abilities in this population.

Conclusions

No other study of its kind has yet undertaken such a comprehensive examination of the impact of hormone replacement therapy on memory in postmenopausal women. In light of this analysis, the influence of exogenous estrogen on specific aspects of memory are considered and future directions for hormone and cognitive function research in menopausal women are raised.

O94

Estrogen effects on neuropsychological performance in schizophrenic women

N. Bergemann, S. Jaggy, D. Maier, B. Auler, P. Parzer, F. Resch, C. Mundt (Heidelberg, D)

The fact that females have an advantage in some verbal abilities is a well-known phenomenon that has been replicated in various studies and is attributed to the effect of estrogen. In particular, word fluency has been studied as a process of activation or recognition of information in semantic memory. In schizophrenics,

the deficit in word fluency is seen as a result of a deficit of semantic memory activation, while the mental lexicon shows no difference from normal controls. It is postulated that estrogen improves word fluency via a presumed neurolepticlike effect. Concrete thinking (“concretism”) in schizophrenics subsides under neuroleptic medication and is presumed to be reduced in the same way by estrogen. Perceptual-spatial skills should not be affected by estrogen, but by testosterone.

A placebo-controlled, double-blind, three-time cross-over study with a daily dose of 1–2 and/or 1–4 mg 17 β -estradiol (Trisequens $\text{\textcircled{O}}$) as ERT and adjunct therapy to naturalistic neuroleptic relapse prevention was carried out over a period of 8 months. Nineteen schizophrenic women performed a neuropsychological test within the last two verum and/or placebo phases, respectively. Verbal ability was measured by three different tests from the “Leistungsprüfsystem.” (LPS, Ability Test System, Horn 1983: “Verbal Factor,” “Word Fluency Activation/Recognition”), which are partly equivalent to subtests from Thurstone (1962). Concrete thinking was measured by a lexical decision paradigm. The comprehension of an orally presented sentence with a metaphoric content was measured by a subsequent lexical decision between a word and a non-word, assuming that the “semantic priming” of the metaphoric content affects the time course in the various experimental conditions (concrete, metaphoric, non-related words and non-words). Perceptual-spatial skills were also measured by LPS subtests (“Mental Rotation,” “Spatial Visualization”). A regression analysis controlling the time course and/or the learning effect as a covariable was performed.

Significant improvement was seen for the activation of metaphoric meaning after (or during) estrogen treatment ($p = 0.024$); however, no difference was seen for the activation of concrete meaning under this condition and none of the verbal ability tests showed a significant difference between verum and placebo groups. Estrogen had no effect on perceptual-spatial skills, but testosterone showed a significant effect on one of the Spatial Visualization LPS subtests.

O95

Memory performance after exposure to psychosocial stress: are young women protected by their high estradiol levels?

O. T. Wolf, N. C. Schommer, D. H. Hellhammer, C. Kirschbaum (Duesseldorf, Trier, D)

Epidemiological as well as experimental studies in elderly subjects have suggested that postmenopausal women are more susceptible to the memory impairing effects of elevated cortisol levels than men. Little however is known about gender differences in the susceptibility to acute stress in young subjects. In the present study 58 healthy young subjects learned a word list, with recall being tested after a brief distraction task. Twenty two subjects had to learn the list after exposure to a psycho-social stressor (TSST), while the remaining subjects served as controls. Free cortisol was determined via saliva samples. Cortisol levels doubled in response to the stressor with men and women showing a similar increase.

Subjects exposed to the stressor, did not show impaired memory performance, when compared to the control group. However the cortisol increase in response to the stressor was negatively correlated ($r = -.43$, $p < .05$) with the memory performance within the stressed group (i.e. subjects showing a larger cortisol response, recalled less words, than subjects showing only a small cortisol increase). Additional analysis revealed, that this was solely caused by the strong association observed in men ($r = -.82$, $p < .05$), while no such association was observed in the women group (all of whom were in the luteal phase of their

menstrual cycle). Our data indicate, that gender modulates the effects of cortisol on memory after acute psychosocial stress and raises the possibility that estradiol has stress-protective or anti-glucocorticoid effects.

O96

Correlation between serum testosterone levels and peripartal mood states

M. Hohlagschwandtner, P. Husslein, C. Klier, B. Ulm (Vienna, AT)

Background

We conducted a prospective study at the Department of Obstetrics and Gynecology, University Hospital of Vienna to investigate associations between serum testosterone levels and maternal peripartal mood states.

Methods

252 pregnant women at term (38 to 40 weeks' gestation) took part in the study. Blood samples for plasma testosterone levels and other biochemicals were obtained prepartum, and on the 1st and 3rd day postpartum. Mood was assessed with the McNair Profile of Mood States (POMS) at term pregnancy and daily from the first day after delivery until discharge from the hospital.

Results

The final study population consisted of 193 women. Serum testosterone levels correlated significantly with maternal depression scores, both pre- and postpartum (at term $r = 0.148$, $p = 0.04$; 1st day postpartum $r = 0.156$, $p = 0.03$; and 2nd day postpartum $r = 0.186$, $p = 0.02$, respectively). Testosterone concentrations also correlated with anger prepartum ($r = 0.164$, $p = 0.02$) and on the third day after delivery ($r = 0.188$, $p = 0.02$). No significant correlation between testosterone concentration and fatigue and vigor both pre- and post partum, respectively were found.

Conclusion

Serum testosterone levels correlate with depression and anger in the first postpartum days.

O97

Psychiatric disorders and cognition in young women with early onset menopause and estrogen failure

K. A. Leiknes, T. Tanbo, A. A. Dahl, K. Sundet (Oslo, N)

Objective

Little is known as for psychiatric disorders and cognitive function among young women with early onset menopause and estrogen failure.

Design

An observational prospective clinical pilot study of was undertaken at the Department of Psychosomatic and Behavioral Medicine, The National Hospital, Oslo over a one year period, 1999–2000. The participants were seven women, female genotype, age below 35 years referred from the hospital's gynecology department with diagnosed early onset menopause or estrogen failure.

Method

Data was collected by self-administered questionnaires, including General Health Questionnaire, Hamilton Anxiety Depression Rating Scale, Health Locus of Control Scale, Satisfaction of Life Scale, Symptom Check List-90, Eysenck Personality Questionnaire. All patients were interviewed clinically using Structured MINI International Neuropsychiatric Interview, version 5.0.0 and diagnoses set according to DSM-IV criteria. All were tested as for cognitive functioning at our Department's section for neuropsychology.

Results

All patients had either a major depression and/or anxiety disorder, with or without panic attacks. All complained of memory or concentration difficulty of varying degrees. Several patients revealed low scores in the cognitive testing, especially in the area of verbal recall. Many scores on the self-administered questionnaires reflected the patient's clinical condition as for mood and anxiety disorder. The onset of psychiatric disorders and cognitive difficulties showed a substantial relation to the absence of natural menstrual cycles and the onset of low estrogen levels.

Conclusion

Psychiatric disorders and impairment in cognitive functioning affecting young woman in the reproductive age have a great impact as for their whole lifespan. Little is known as for exact causal relation between these ailments and the absence of natural menstrual cycles, including low estrogen levels. This study seeks to find clearer hypothesis for future prospective controlled trials as for this relationship.

O98

The effect of estradiol implant therapy on cognitive functioning in surgically menopausal women

E. W. Thornton, M. E. White (Liverpool, UK)

Introduction

The authors investigated the effect of estradiol implants on menopausal symptoms, psychological affect and subjective reports of cognitive functioning between two successive implants.

Method

The study was an open, longitudinal design over 6 months involving hysterectomised/oophorectomised women ($N = 30$) aged between 34–64 years who were attending a clinic for routine, repeat oestrogen implant. Established questionnaires were used to assess subjective changes over time. The Women's Health Questionnaire (WHQ) and the Menopause Specific Quality of Life Questionnaire (MENQOL) were presented at pre-implant [T0] and re-presented at 1,2,3,5,6 months post-implant [T1–T6]. The nature of women's subjective cognitive problems was identified at pre-implant interview using a structured, qualitative Cognitive Functioning in Daily Life questionnaire/interview (CFIDL).

Results

Physical, psychological and somatic symptoms were more prevalent than vasomotor symptoms. High levels of cognitive dysfunction were reported on the questionnaires (WHQ, MENQOL). The pre-implant WHQ (memory domain) mean score was 0.61 [range 0–1]. The numbers of subjects responding to cognitive items on the two scales were: WHQ memory ($N = 19$), concentration ($N = 18$); MENQOL poor memory ($N = 23$). During the CFIDL, five subjects reported experiences of severe cognitive impairment that produced significant coping difficulty. The WHQ memory domain scores followed a U-shaped trend during the implant cycle. [Means at T0, T1, T2, T3, T5, T6 were 0.68, 0.41, 0.46, 0.45, 0.77, 0.69]. Some women experienced severe cognitive symptoms despite a high serum estradiol level.

WHQ Memory domain scores were significantly ($ps < .05$) correlated with scores on the following domains: anxiety ($r = .42$), depression (0.64), menstrual ($r = .42$), sexual ($r = .36$), sleep ($r = .36$), somatic ($r = .58$), vasomotor ($r = .40$).

Conclusions

For these estrogen implant women, estradiol levels do not predict which women had cognitive problems. However, within subjects, there was some evidence of a relationship of deficit to the times of

implant. It is important that those women experiencing severe cognitive dysfunction should be identified.

O99

Activating effects of sex hormones on functional cerebral organization

M. Hausmann, C. Becker, U. Gather, O. Güntürkün (Bochum, Dortmund, D)

Brain asymmetry is a fundamental principle of functional cerebral organization. The pattern of functional cerebral asymmetries varies not only in direction but also in degree among individuals. Gender seems to be one important variable to explain the individual differences. The majority of the clinical and experimental data shows that lateralization pattern of different verbal and non-verbal processes is more pronounced in males, while it is more symmetrical in women. Moreover, women indicate a larger variation in their asymmetry pattern, supporting the notion of a more heterogeneous functional cerebral organization within females. Several recent studies show that these sex differences are at least in part related to differences in sex hormones between genders.

To analyze the activating effects of sex hormones on functional cerebral asymmetries, we investigated 12 spontaneously cycling women over a period of 6 weeks (15 sessions). During each session lateralization was measured by different visual half-field tasks (lexical decision, figural comparison, face discrimination). Serum levels of progesterone, estradiol, testosterone, and gonadotropins were analyzed with radioimmunoassay.

Correlation statistics revealed a significant linear relationship between progesterone and the degree in asymmetry, especially in figural comparison. In this task the typical right hemisphere advantage was significantly reduced cross-sectionally, during high progesterone levels at midluteal cycle-phase, as well as longitudinally, over a period of 6 weeks. The activating effects of estradiol on lateralization seem to be rather complex. Although estradiol significantly influenced the performance in both hemispheres, the asymmetry patterns were only marginally affected.

We conclude, that progesterone has the most pronounced activating effects on functional cerebral asymmetries due to its effects on glutamate and GABA receptors. The results support the hypothesis of progesterone-mediated interhemispheric decoupling (Hausmann & Güntürkün, *Neuropsychologia* 2000, 38, 1362–74) and emphasize the pharmacological potential of sex hormones on the functional organization of the brain.

Understanding the interaction of stress and gender in the prediction of major depression and treatment response

S100

The interplay of stress, gender and cognitive style in depressive onset

C. M. Mazure (New Haven, CT, USA)

Increasing evidence confirms that life stress contributes directly to the onset of major depression. Case-control data and community sample data will be presented using multivariate models to show that adverse life events are potent predictors of depression (case-control data) and that women are three times more likely than men to experience an episode of major depression in response to stressful life events (community-based data). Findings show that sex differences in response to events are restricted to certain types

of events. Losses or interpersonal problems involving immediate loved ones (death of spouse or child, divorce and marital/love related problems) pose a risk for both women and men; but death of a close friend or relative (including parent) poses a significantly greater risk for women, and other types of events (change of residence, physical attack, or life-threatening illness or injury) pose a risk for women only. These findings are not explained by either overall incidence of current life events nor sex differences in control variables.

In addition, data examining the direct contribution of cognitive style to depressive onset (case-control sample) and the interaction of stressful events by cognitive style in predicting depression (community sample) will be presented. In light of all findings, the dynamic relationship of stress, gender and cognitive style will be discussed with a focus on the interplay of these variables in predicting onset of depressive episodes in women.

S101

The relationship of early trauma to neuroendocrine and cardiovascular alterations in women with and without adult depression

C. Nemeroff, C. Heim, D. Newport, A. Miller (Atlanta, GA, USA)

Evidence from a diverse series of investigations using multidisciplinary techniques ranging from preclinical laboratory animal studies and epidemiological studies to case-cohort studies and genetic studies of twins all support the hypothesis that untoward events early in life are associated with an increase in a variety of psychiatric disorders in adulthood. This presentation will summarize our studies of four groups of adult women: (1) normal healthy volunteers; (2) women with a history of prepubertal sexual and/or physical abuse without major depression; (3) women with a history of prepubertal abuse with current comorbid major depression; and (4) women with current major depression with no history of prepubertal abuse. All subjects were admitted to the NIH-funded Emory University Hospital GCRC and received a standardized laboratory test of psychosocial stress (Trier Social Stress Test), as well as a CRF stimulation test and ACTH stimulation test. The subjects with a history of early trauma (with and without major depression) exhibit a persistently hyperactive ACTH response to the psychosocial stressor, as well as a profound tachycardia. Only the subjects with current major depression and early trauma exhibited cortisol hypersecretion in the Trier Social Stress Test. Multiple regression analysis revealed that peak ACTH and cortisol responses in the Trier test were predicted by a history of childhood abuse, the number of abuse episodes, the number of adult traumatic events and depression severity. Depressed patients, with and without early trauma exhibited a blunted ACTH response to CRF, whereas the subjects with early abuse exhibited an enhanced ACTH response in comparison to the results of the healthy volunteers. The implications of these findings and subsequently planned studies will be discussed.

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S102

Social stress and women's risk for recurrent depression

C. Hammen (Los Angeles, CA, USA)

Depressed women appear to experience a variety of interpersonal stressors and chronic strains in their social lives. These include difficulties in interactions with their spouses and children, as well as various interpersonal conflicts. Such difficult environments may set the stage for recurrence of depression. Data from two studies will be presented. In the first, approximately 150 young women

(ages 17–18) in the community were studied for 5 years in the transition to adulthood, examining onset and recurrence of depression. Data indicated that those with depressive episodes had more conflictual close relationships and interpersonal stressors, that in turn contributed to further depression. The second, cross-sectional, study included over 800 community women with histories of depression (or were never depressed) and their 15-year-old children. Not only were the offspring of depressed women more likely to experience depressive and other disorders, but also they and their mothers both experienced interpersonal maladjustment and social stressors, even when not currently depressed.

Overall, the data suggest that depression may contribute to – or even result from – social vulnerabilities. Stressful social lives, in turn, contribute to further depression, suggesting one pathway to the intergenerational transmission of depression. The difficulties of depressed women are especially apparent in their relationships with romantic partners, and with their children. Implications for treatment and prevention will be discussed.

S104

Impaired cortisol response to a cognitive challenge paradigm in major depressive disorder

M. Vythilingam, E. Vermetten, G. M. Anderson, S. M. Southwick, D. S. Charney, J. D. Bremner (Bethesda, MD, Atlanta, GA, New Haven, CT, USA)

Introduction

Several studies have confirmed an association between stressful life events and the onset of major depression, however the biological correlates of this relationship are unclear. The purpose of this study was to examine the effects of a stressful cognitive challenge on cortisol, heart rate and blood pressure response in men and women with and without depression.

Methods

Twenty-two medication free outpatients with major depressive disorder (13 women and 9 men) and 19 healthy subjects (11 women and 8 men) gave informed consent to participate in a 20-minute cognitive challenge performed under time pressure. Salivary cortisol, heart rate and blood pressure were measured before, during and after the cognitive challenge.

Results

Salivary cortisol response to the cognitive challenge was significantly different during all phases of the challenge in depressed subjects compared to healthy subjects ($F = 12.10$; $df = 1$; $p = 0.0005$). Cortisol levels were higher in patients with depression both during the baseline period ($F = 5.42$; $df = 1$; $p = 0.02$) and during the cognitive challenge ($F = 5.93$; $df = 1$; $p = 0.02$), however depressed patients had a pattern of blunted cortisol response to stress relative to healthy subjects. Women with MDD had the smallest increase in salivary cortisol following the cognitive challenge (15%) compared to women without MDD (83%), as well as men with (64%) and without (149%) MDD ($F = 4.76$; $df = 1,38$; $p = 0.04$). Diastolic blood pressure was higher during the overall testing procedure (main effect for diagnosis: $F = 11.02$, $df = 1$, $p = 0.0009$) in depressed patients compared to controls.

Conclusions

These results are consistent with a blunted cortisol response to a stressful cognitive challenge in patients with major depression, with a pattern of greater impairment in depressed women.

Gender differences in brain and behaviour: effects of sexual steroids

S105

Sexually differentiated development of the hypothalamo-pituitary-adrenal axis and behaviour

C. M. McCormick (Lewiston ME, USA)

The hypothalamic-pituitary-adrenal (HPA) axis of the developing rat is highly sensitive to various pharmacological and environmental manipulations. For example, we have found that manipulations such as prenatal stress, neonatal isolation, and increased neonatal exposure to corticosterone to have long-term effects on HPA function and spatial learning. The effects of such manipulations are sex-specific. We have investigated the role of gonadal hormones in shaping the development and function of the HPA axis in adulthood. We have shown organizational and activational effects of sex steroids on HPA function: (1) in experiments in which we manipulated the neonatal sex steroid environment and the adult gonadal hormone environment; and (2) in experiments in which we examined the neural circuitry involved in the sex hormone effects on HPA function. In a different series of experiments, we have investigated whether the effects of gonadal hormones on spatial learning are dissociable from their effects on the stress response. We investigated sex differences in the effects of sex hormones on performance in a working memory paradigm that is minimally stressful to rats. In addition, we investigated the specificity of the sex steroid effects through the use of both a spatial (spatial location) and a non-spatial (object memory) version of the task. In brief, sex steroid replacement (estradiol benzoate, testosterone propionate, or the non-aromatizable androgen dihydrotestosterone) improved performance on both tasks compared to gonadectomized males and females that did not receive replacement. However, there were sex differences in the effects of sex steroid replacement on the spatial location task. In sum, these experiments indicate that the effects of sex steroids on the stress response and on spatial learning depend on the substrate upon which they are acting. The substrate is shaped by numerous factors including, sex, the process of sexual differentiation, and developmental history.

S106

Estrogen promotes memory function and protects against stress

N. Luine (New York, USA)

Steroid hormones influence learning and memory in experimental animals and humans. Chronic elevations in estradiol generally enhance performance of tasks requiring memory while chronic elevations in glucocorticoids impair memory function. Using rats as models, experiments investigated memory following estrogen treatment and/or chronic stress. Memory was tested by object recognition, a field based task where rats are presented two identical objects. Following delays of 1–4h, the old and a new object is presented, and time spent exploring the new object, compared to old object, is a measure of memory. Spatial memory used the widely applied radial arm maze task and object placement. In object placement, one object is moved to a new location during the delay period. Results show estrogen-dependent enhancements in performance, ovariectomy (Ovx)-dependent decrements in performance, and estrus cycle-dependent performance parameters. Implications for female mental health were also investigated. The anti-estrogen Tamoxifen was given to intact or Ovx rats. Object placement (not object recognition) was enhanced suggesting that Tamoxifen acts as an agonist, not antagonist, in the brain and may not interfere with cognitive function. Genistein, a phytoestrogen available “over the

counter,” has a higher affinity for the beta than the alpha receptor. Genistein-treated, Ovx rats showed impaired object recognition (not object placement) suggesting a different role for beta receptors in memory. Chronic restraint stress (6h/day for 21 days) impairs male memory performance, but female performance was enhanced. To determine if estradiol protects females against stress, rats were Ovx, and Ovx-stressed subjects received cholesterol or estrogen. Estradiol-treated stressed subjects performed best on the radial arm maze. Results show that estradiol promotes cognitive function in females and suggest it may also protect against deleterious effects of stress hormones on cognitive function.

(Supported by NSF and NIGMS).

S107

Genetic mechanisms involved in sexual differentiation and reproductive behaviours

D. Pfaff (New York, USA)

The dogma regarding sexual differentiation of brain has stated for over 60 years, that androgens circulating in the blood of the developing mammal enter the brain, are aromatized, and function through Estrogen Receptors (ERs) to masculinize portions of the CNS. Supporting findings extend from frankly reproductive phenomena to non-reproductive behaviours (e.g. Pfaff & Zigmond, *Neuroendocrinology*, 1971). Building on the neural circuit and genetics of a well-understood behavioural system for female-typical reproductive responses (“Drive”, The M.I.T. Press, 1999), we have new results with ER knockout mice which support the dogma and add several new points: (a) Normal ER-alpha gene function is required for normal reproductive behaviours in both genders (Ogawa et al, *Neuroendocrinology* 1996 and *PNAS* 1997). (b) The ERKO phenotype on offensive aggression is opposite for the two genders of mice (*Endocrinology* 1998 a, b). Therefore, (c) the effect of a gene on behaviour can depend upon the gender in which it is being expressed. In dramatic contrast, male mating behaviours are present in ER-beta gene knockout male mice and, in fact these males are hyper-aggressive (*PNAS* 1999), with an interesting age/genotype interaction (Nomura et al. *Soc. For Neuroscience*, 2000). Current data with both alpha and beta genes knocked out (*PNAS*, 2000) show that different patterns of natural behaviours can depend on different patterns of ER gene expression. Finally, we have recent results which would require revision of the dogma: mRNA for a specific receptor which binds a gene product which also directly participates in the cascade controlling development of the gonadal ridge has been detected in several brain regions (Florea et al, *PNAS* 1991). Since this mRNA is expressed at fetal ages before the closure of the blood brain barrier, products of genes important for the gonadal ridge in addition to androgens, may contribute to CNS sexual differentiation.

S108

Neuroprotective effects of estrogens in experimental stroke paradigms

H. Vedder, C. Culmsee, V. Junker, J. Kriegelstein, J. Kriegelstein (Marburg, D)

A number of data suggest possible beneficial effects of estrogens in acute and chronic vascular brain diseases including stroke. Animal models serve as experimental approaches for the examination of the effects of estrogens on such insults under controlled conditions.

We here examined the effects of estrogens in a model of permanent occlusion of the middle cerebral artery in male NMRI

mice. After application of different concentrations of 17 beta-estradiol (0.3 to 30 mg/kg body weight), a reduction of infarct size was detectable, reaching significance ($p < 0.05$) at the 0.3 mg/kg concentration.

In search for more effective compounds, we tested 2-OH-estradiol (0.0003 to 30 mg/kg). At all concentrations between 0.03 and 30 mg/kg, the reduction of the amount of damaged brain tissue reached the level of significance, even in the lower range of concentrations.

Thereby, our data further support the effectiveness of estrogens in experimental stroke paradigms. These results are also in accordance with recent data from the literature validating experimental stroke paradigms for the characterization of the neuroprotective mechanisms of estrogens under pathophysiologically relevant conditions. Moreover, these paradigms may help to find more effective compounds and define the treatment conditions for the possible use of estrogens in the treatment of stroke in the human.

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S109

Estrogen action in brain via ER-alpha and ER-beta receptors: morphological-functional data

I. Merchenthaler (Radnor, USA)

The new type of estrogen receptor (ER-beta) is highly homologous with the classical ER (now called ER-alpha), exhibits a specific binding affinity for natural estrogens and is capable of activating the transcription of an estrogen response element/reporter gene construct. The distribution of the two ERs has been studied at both the mRNA and protein level. In the adult rat brain, both receptors are present in the hypothalamic preoptic area, bed nucleus of stria terminalis, medial and cortical amygdaloid nuclei, CA2-CA3 regions of the hippocampus and several brainstem nuclei, although the expression of each ER is region-specific. ER-beta is exclusively expressed in the rat hypothalamic paraventricular and supraoptic nuclei, the cerebral cortex, and cerebellum, while the hypothalamic ventromedial nucleus and arcuate nucleus, contain primarily ER-alpha. In vivo binding studies have confirmed the presence of ER proteins in brain regions expressing ER-alpha and/or ER-beta mRNAs. Interestingly, strong nuclear labeling is present in most of the pyramidal cells of CA2-CA3 regions of the hippocampus, suggesting that these neurons are the primary targets of estrogen in the hippocampus. In double knockout (ERa/bKO) mice, a weak residual binding is present in areas primarily expressing ER-alpha, therefore, this residual binding is probably due to a splicing variant of ER-alpha. In addition, the neuroprotective effects of estrogen were studied using the middle cerebral artery occlusion (MCAO) model in rats and mice. Mice were utilized in an attempt to identify the ER(s) mediating the neuroprotective effects of estrogen in the cerebral cortex. The data obtained from ERaKO and ERbKO mice suggests the neuroprotective effect of estrogen is primarily mediated via ER-alpha. Similarly, estrogen has been shown to protect CA1 pyramidal neurons in a gerbil stroke model.

The presence of a new nuclear ER suggests that estrogen, among other mechanisms, may exert its tissue- and cell-specific action via ER-alpha and/or ER-beta or both, depending on their expression in certain estrogen targets. In addition, the presence of two ERs provides an opportunity to develop ER-alpha and ER-beta-specific ligands for the treatment of several neurological diseases, including cerebrovascular stroke.

S110

Neuropsychopharmacological properties of neuroactive steroids

R. Rupprecht, B. Hermann, A. Ströhle, E. Romeo, F. Holsboer (Munich, D; Rome, I)

Steroid hormone action in the brain involves binding to cognate intracellular steroids receptors. We showed that the gonadal steroids 17 β -estradiol, testosterone and progesterone may also act as functional antagonists at the 5-HT₃ receptor. The functional antagonism of gonadal steroids at the 5-HT₃ receptor may play a role for the development of nausea during pregnancy and of psychiatric disorders. Moreover, we could demonstrate that 3 α -reduced neuroactive steroids concurrently modulate GABA_A receptors and regulate gene expression via progesterone receptors. An intracellular oxidation of GABAergic neuroactive steroids was identified as the molecular mechanisms underlying the genomic effects of GABAergic neuroactive steroids.

Animal studies showed that progesterone is converted very rapidly into GABAergic neuroactive steroids in vivo. Progesterone reduces locomotor activity in a dose dependent fashion in male Wistar rats. Moreover, progesterone and tetrahydroprogesterone produce a benzodiazepine-like sleep EEG profile in rats and humans.

In addition, there is a dysequilibrium of GABAergic neuroactive steroids in depression that can be corrected by various antidepressants. Neuroactive steroids may also play a role for the treatment of depression with the 11 β -hydroxylase inhibitor metyrapone. Thus, our studies provide the first clinical evidence for a putative role of such neuroactive steroids in the treatment of depressive disorders. Neuroactive steroids may further be involved in the treatment of depression and anxiety with antidepressants in patients during ethanol withdrawal. First studies in patients with panic disorder suggest a pivotal role of such neuroactive steroids also in human anxiety.

In conclusion, steroids exert both genomic and non-genomic effects in the brain that contribute to the pathophysiology of psychiatric disorders and the mechanism of action of antidepressants.

Female predominance in eating disorders: basic and clinical studies

S112

Leptin's role in anorexia nervosa

J. Hebebrand, C. Exner, M. Klingenspor, H. Remschmidt (Marburg, D)

Leptin is a hormone synthesized in fat cells that signals the size of the adipose tissue to the brain. Due to leptin's role in adaptation to semi-starvation it is of obvious interest to assess potential implications for both somatic and behavioral abnormalities associated with anorexia nervosa. The underlying hypothesis is that abnormalities could be triggered by the hypoleptinemia characteristic of the acute stage of this eating disorder. Accordingly, elevations in leptin secretion during weight gain should be accompanied by normalisation of the respective parameters. To test this hypothesis we performed longitudinal studies in inpatients and a series of experiments in rats with semistarvation induced hyperactivity (SIH). Rats, which had established a stable level of activity, were treated with leptin or vehicle via implanted minipumps concomitantly to initiation of food restriction for 7 days. In a second experiment treatment was initiated after SIH had already set in. In contrast to the vehicle-treated rats, which increased their baseline activity level by 300%, the development of

SIH was suppressed by leptin. Furthermore, leptin was able to stop SIH, after it had set in. Because SIH has been viewed as a model for anorexia nervosa we also assessed subjective ratings of motor restlessness in 30 patients with this eating disorder in the emaciated state and after increments in leptin secretion. Hypoleptinemic patients ranked their motor restlessness higher than upon attainment of their maximal leptin level during inpatient treatment. The results underscore the assumed major role of leptin in the adaptation to semi-starvation. Hypoleptinemia might contribute to the hyperactivity frequently associated with anorexia nervosa.

Reference

Exner et al., *Mol. Psychiatry* 5: 476–481; 2000

S113

Estrogens and leptin receptors

P. A. Bennett (London, UK)

Leptin, the product of the *ob* gene, is an adipocyte-derived hormone involved in the regulation of body fat mass. Injection of recombinant leptin into obese mice or humans, with an inactivating mutation of the *ob* gene, decreases body weight. In humans, such mutations are rare, and the sequence variations observed in leptin are infrequently associated with obesity. The combination of the rarity in defects in leptin itself, coupled with the observations of elevated plasma leptin in obese individuals, suggests leptin resistance as a key factor in obesity. Most studies have identified the hypothalamus as the major site of leptin action. Leptin acts via its receptor, a member of the cytokine receptor superfamily of single transmembrane domain receptors. There are multiple isoforms of the receptor varying mainly in the length of their intracellular domain; including a full-length form (leptin-RL) with signalling ability and several shorter forms with unknown function.

In normal rats, oestrogen administration decreases food intake and body weight; however, in *fa/fa* Zucker rats estrogen has little effect. The Zucker rat has a mutation in the extracellular portion of the leptin receptor, thus the effects of estrogen appear to be mediated via the leptin system. Estradiol administration decreased leptin receptor (leptin-R) expression in the hypothalamus. We looked at the levels of plasma leptin across the oestrous cycle, which did not vary significantly, in the rat. Neuropeptide Y (NPY) stimulated food intake was inhibited by leptin. Across the oestrous cycle, expression of leptin-RL correlated with NPY mRNA levels providing circumstantial evidence that regulation of leptin receptor abundance in the hypothalamus governs the biological actions of leptin.

Analysis of the leptin-R gene by 5' rapid amplification of cDNA ends (5' RACE) has revealed four different variants, denoted exon 1A, 1B, 1C, and 1D, diverging 23bp upstream from the initiating ATG codon. We report the presence of putative genetic elements, which provide possible mechanisms by which oestrogen may exert its effects on food intake.

S114

Eating disorders: clinical symptomatology and epidemiological aspects

L. Treasure (London, UK)

The disorders of eating (anorexia nervosa, the bulimic disorders, binge eating and obesity) straddle the borderland between medicine and psychology. On the one hand, there are strict biological mechanisms controlling food intake, and strong genetic influences on feeding and body composition. On the other hand, there is a clear and substantial influence of culture and psychosocial factors on eating disorders. These are by no means mutually exclusive, and cultural changes such as increased availability of food may in

fact increase the influence of genes. However, biological and psychological explanatory models of these disorders have tended to alternate over time and have led to similar fashions in research and management. After a period of separation of the obesity field from eating disorders, we are re-entering a phase where these disorders are being thought of as part of a spectrum of eating disorders as commonalities between their aetiology and management become increasingly apparent, whilst differences in their history and epidemiology remain.

Anorexia nervosa, the rarest and arguably most puzzling of these conditions, has high levels of mortality and morbidity. The concept of anorexia as a modern dieting disorder is a myth. Written medical descriptions of anorexia nervosa date from the seventeenth century. There are accounts from a 1000 years earlier of Christian ascetic women who starved themselves to prevent menstruation. The incidence of anorexia nervosa has remained relatively constant over time and across cultures indicating that there are fundamental causes which are not influenced by prevailing culture. Consistent with this is evidence that about half of the liability to anorexia is inherited.

Bulimia nervosa is a new disorder first described by Russell in 1979. In contrast to anorexia, bulimia is non-existent in cultures oblivious to weight concerns. The prevalence for each decade of Western women born after 1950 as has obesity. In this paper I will outline the research of aetiology which has contributed to a neurodevelopmental model in which there is an iterative process between genes and the environment.

S115

Sociocultural risk factors in eating disorders

B. Herpertz-Dahlmann (Aachen, D)

Epidemiologic studies indicate that anorexia and bulimia nervosa occur predominately in middle to upper social classes of the Western world and Japan. In addition, female gender is an important risk factor for the development of eating disorders, especially during adolescence and young adulthood. Besides biological factors the beauty ideal of slimness seems to contribute to trends in the prevalence of adolescent and young adulthood eating disorders. The paper will demonstrate how sociocultural influences may place young women at an increased risk for the development of anorexia or bulimia nervosa.

In childhood the societal ideal is conveyed by the parents. The majority of studies indicates that parental influences on eating attitudes and behavior predict weight concerns in the daughters, but not in the sons. In adolescence both peers and media exert influence on girls' ideal of slenderness and weight control behavior. Recent findings confirm the important role of the mass media. In primarily non-eating disordered girls the risk of purging behavior increased within a year relatively to the wish of looking like females in television and newspapers.

We will discuss how cultural influences might enhance the risk in women who are particularly susceptible to eating disorders by biological and psychological factors.

Marcé Society Symposium – Postpartum depression: risk factors and treatment

S116

Risk factors to postnatal depression: a review and risk factors among a cohort of women in Sydney

P. Boyce (Penrith, AUS)

Postnatal depression is a common disorder affecting 10 to 15% of women in the 6 months following childbirth. Various models have

been proposed to explain the onset of this disorder with the literature supporting a psychosocial model for postnatal depression. Such a model proposes that vulnerable women will become depressed following childbirth. Vulnerability for postnatal depression is increased among women who have poor social support, have previous psychopathology or a vulnerable personality style.

Objectives

To identify risk factors to postnatal depression in women recruited following childbirth.

Methods

We report two studies, both of which had similar methodologies. In the first study women were recruited shortly after childbirth and followed up at six weekly intervals using the Edinburgh Postnatal Depression Scale to identify women as potential cases of postnatal depression. Women who scored above 12 on the EPDS on two occasions were assessed using the SCID to identify those with major depression. A range of risk factors were assessed, at the baseline interview.

In the second study, similar methodology was used and with women being recruited immediately after childbirth at an urban teaching hospital and rural hospitals. The women then completed the EPDS at 8 weeks and 26 weeks following childbirth. In this case women were defined as being depressed if they scored above 12 on the EPDS.

Results

In the first study, increased risk of 9.5% of the women suffered from postnatal depression. The following were associated with an increased risk for postnatal depression, 16 years of age (RR 5.5), single or separated (RR 2.10), a past history of psychiatric illness (RR 5.4), an excess of life events (RR 2.85), dissatisfaction with interpersonal relationship (RR 3.65), insufficient support (RR 2.96), absence of support (RR 5.43), a vulnerable personality style (RR 4.01) or having a baby of the sex that they didn't wish (RR 2.6).

In the second study, which focussed more on obstetric variables, increased risk was associated with a vulnerable personality style, a past history of psychiatric illness and recent life events. There was no increase risk associated with obstetric variables, however, there were marginally increased risks for multiparous women, those who had an ante partum haemorrhage and those who had a forceps or caesarean section delivery.

Conclusions

These studies support the proposition that postnatal depression is essentially a psychosocial disorder and indicates that interventions to treat postnatal depression either prophylactically or when women become depressed, should focus on psychosocial factors.

S117

Postpartum blues: a risk factor for postpartum depression

C. Henshaw (London, UK)

Objective

Postpartum blues are dysphoric episodes affecting up to 80% of new mothers in the first week after delivery. They have been regarded as brief, benign and without clinical significance. A number of authors have postulated a link between blues and subsequent depression, however these studies have methodological problems. We report a prospective, controlled study of postpartum women with severe blues which uses systematically devised and validated instruments for that purpose which tests the hypothesis that severe blues increases the risk of depression in the six months following childbirth in first time mothers.

Method

103 first-time mothers who suffered severe blues and their controls who had no blues (matched for age, marital status and social class)

were recruited in late pregnancy. Blues status was defined using the Blues Questionnaire (Kennerley & Gath, 1989). Both groups were followed for 6 months with postal Edinburgh Postnatal Depression Scale (EPDS). RDC diagnoses were made following SADS-L interview at the end of the protocol in high scorers on the EPDS and a sample of low scorers.

Results

Backwards stepwise Cox regression analysis found severe blues and past history of depression to be independent predictors each raising the risk by almost 3 times. Depression in those with severe blues onset sooner after delivery and lasted longer. The difference was largely accounted for by major depression.

Discussion/conclusions

Findings support the increasing literature suggesting an intrinsic biological etiology to some postpartum depressions. The recognition of blues as a risk factor may assist in the monitoring and early identification of depression in mothers at risk.

S118

Treatment of postnatal depression

L. Appleby (Manchester, UK)

This presentation will cover and update a series of studies of postnatal depression in Manchester.

In the first study a sample of 2375 women were screened for depression 6–8 weeks postnatally. 12% scored above 12 on the Edinburgh Postnatal Depression Scale (EPDS), indicating probable depression. A number of factors were associated with high EPDS scores but in a stepwise logistic regression the main associations were unplanned pregnancy, bottle feeding, having no job to return to after maternity leave, and an unemployed partner. Depression was also associated with cognitive themes of perfectionism, self-criticism and role change.

188 women were confirmed to be suffering from depressive illness at interview of whom 87 agreed to enter a treatment trial. This demonstrated the benefits of the anxiolytic antidepressant fluoxetine and a simple form of psychological intervention based on cognitive behavioural therapy, cognitive behavioural counselling. The counselling consisted of advice on Child care, Reassurance about parenting skills, encouragement to take part in Enjoyable activities, advice on recruiting practical Support, and regular review of behavioural Targets based on such advice (CREST). The benefits of fluoxetine and counselling were equivalent but women were reluctant to take medication.

The counselling was subsequently taught to health visitors. Training was well accepted and led to improvements in attitudes to postnatal depression and in key counselling skills. Following training, health visitors were more likely to assess and record psychiatric symptoms in postnatal women and to provide treatment themselves. There was no increase in costs of the health visitor service. Cognitive behavioural counselling appears to provide the basis of an effective, acceptable, primary care-based treatment for postnatal depression.

S119

Benefits of infant massage for mother-infant interaction in mothers with postnatal depression

V. Glover (London, UK)

It is well established that maternal postnatal depression carries a substantial risk for behavioural and emotional problems and cognitive delay in children. The adverse outcome for the child may be, at least in part, because their mothers have not been able to give them the necessary stimulation and affection in the early months. Women with postnatal depression often have problems relating to their new babies. So far, no generally applicable intervention has

been proved to improve the mother-baby interaction, although individual psychotherapy may be of benefit. We have carried out a small project to study the longer term benefits of attending massage classes for mothers, in which the mothers were taught to observe their infants' cues and also how to massage them. We identified mothers with postnatal depression using the Edinburgh Postnatal Depression Scale (EPDS), and asked half of them to attend five weekly sessions of the massage class. The other half acted as controls. All the mothers attended a directed support group. Twelve in the massage group and 13 in the control group completed the study attending 5 sessions over a period of up to 8 weeks. The infants were on average 9 weeks old at the start of the study. There was no difference in mothers' baseline depression scores or in socio-demographic parameters in the two groups or in those that completed the study and those that did not. The primary outcome assessment was made by comparing "before and after" face to face interactions between mother and baby which were video-recorded and rated according to a standardised method. Initial interactions were impaired in both groups of mothers, as expected. The scores for the mothers in the control group stayed the same for the period of the trial. However for the mothers who attended the massage classes the scores, which reflect the quality of the interaction, e.g. warmth, sensitivity, improved into the normal range. The difference in the mother-baby interaction scores between the beginning and end of the trial, when compared across the two groups, was highly statistically significant ($p < 0.0001$).

Culture and women's mental health

S121

The postpartum maid (sic) in contemporary Chinese societies

D. Lee (Sha Tin, HK)

In many societies, elaborate customs and rituals are enacted during the postpartum period. Both informed clinical experience and recent studies suggest such postpartum customs are still widely practised in many societies. Besides, studies show that such customs and rituals shape the experience as well as the psychological well being of recently delivered women.

In traditional Chinese culture, the enactment of traditional rituals and customs relies on designated relatives (called peiyue) who accompany the new mothers for a complete month. Such relatives, most commonly the mothers, mothers-in-law, serve special roles in shepherding the new mother through the profound transitions. Apart from enforcing restrictions and taboos, the peiyue relatives coach childrearing skills and provide social support, ensuring both the well being of the mother and the infant.

With industrialization and socio-economic transformation, a novel form of postpartum support emerges. It is now increasingly common for recently delivered women to hire a maid specialized in traditional postpartum customs or to pay a relative to accompany the month. Hence instead of familistic dependence, socio-moral protection is now conferred by economic power and independence. This paper will discuss the socio-economic and cultural background that shapes the transformation. The author will also examine how the new arrangement reshapes the subjectivity of contemporary Chinese women.

S122

Performing traditional rituals after immigration; Chinese mothers in Sydney

B. Barnett, S. Matthey (Liverpool, NSW, AUS)

It has been argued that non-Western societies experience less postpartum stress and depression because the women are well

supported during the first four to six weeks by cultural rituals that recognise the need for such intervention. Such aspects become problematic in a variety of ways in the immigrant situation. The experiences of Chinese women in South Western Sydney, Australia, will be described.

A sample of Chinese women who had migrated to Australia were interviewed to determine whether (1) they had followed traditional perinatal practices, and (2) there was any relation between adherence to such practices and postnatal mood.

Chinese women ($N = 124$) attending an antenatal clinic in a public hospital in Sydney were recruited during their second trimester by a Chinese research assistant (a trained nurse). Six weeks postnatally the nurse interviewed the women ($N = 102$) in their home, asking them whether they had followed traditional practices and how they felt about their chosen course of action. She also asked them to complete two measures of current mood. These scales were Chinese versions of the General Health Questionnaire (GHQ-30) and the Edinburgh Postnatal Depression Scale (EPDS).

Over 90% of the mothers had followed traditional practices to some extent. Some 18% reported ambivalence about carrying out the rituals, and this seemed to relate mainly to feeling pressured by others to follow the rituals rather than having done so as a result of personal wishes. Around 10% had not undertaken any traditional practices, and half of these reported ambivalence or negative feelings about their actions. No correlation was found between mood at six weeks postpartum and the performance or otherwise of traditional rituals.

Discussion with migrant women antenatally about their wishes and intentions regarding traditional practices, and subsequent support to follow their chosen course of action, would seem advisable in routine perinatal care.

S123

Goan women's experiences of mothering in a new country

R. de Souza (Auckland, NZ)

Seventeen percent of New Zealand's population was born elsewhere. Migrants are from diverse backgrounds with needs and experiences that often differ from the existing models of health service delivery. In this exploratory qualitative study, individual interviews were used to examine the phenomena of experiencing two major life transitions simultaneously from the perspective of women from Goa, India. The first transition is that of migration and the second that of becoming a parent.

Migration is a major life event and whilst often an opportunity for exploration and personal growth, it can also be stressful. It can lead to mental, emotional and physical health difficulties. The psychological aspects of migration include the dual task of resolving grief over losses and of mastering resettlement conditions. Migration has also been called a psycho-social transition and described as cultural bereavement; grief not only for the country left behind but also for the culture or sub-culture into which they were born. Dislocation and displacement are common experiences.

Childbirth is also a traumatic life event. It is painful, potentially life threatening and both physiologically and psychologically stressful for mother and infant perinatally. The ways in which the birth of a child is conceptualised, structured and experienced varies from culture to culture. In order to maintain mental health postpartum, cultures develop precautionary practices and beliefs. There is little research exploring the views of new migrant women to New Zealand in regard to the level and appropriateness of maternity care received or about how their practises and beliefs around childbirth clash with those traditionally practiced in New Zealand, for example rooming-in, self-care, mobility and exercise.

For this study, data were analyzed using the constant comparative method consistent with grounded theory. Findings and recommendations for health professionals will be presented.

S124

An examination of cognitive and behaviour characteristics of Kainaiwa children diagnosed with fetal alcohol syndrome

D. Pace (Cardston Alberta, CDN)

The present study examined the scores of 450 Kainaiwa (Blackfoot) children from Kindergarten to grade 3 on social, behavioral, cognitive and cultural measures. The subject consisted of children in three different classification groups. Fetal Alcohol Syndrome (FAS), Special Education and Regular Education. The purpose of the study was to examine group membership to determine whether or not children who were diagnosed as FAS presented unique intellectual, behavioral, social and cultural characteristics from those of their regular and special education peers.

These results support the conclusion of previous research that FAS children differ significantly from their special and regular education peers. Statistical significant differences were found across all measures. This study provides useful information for future diagnosis and psycho-educational assessments for FAS children in early childhood. The results were helpful in designing early intervention programs conducive to Kainaiwa's culture and worldview. Is it the impression that the ELDERS and parents support and continue to play a key role in developing healthy programs for early intervention.

This study was undertaken with full support and encouragement by Kainaiwa Tribal Leaders, Elders and community members. The Kainaiwa are a proud nation considering the many social ills and inter-generational traumas they have encountered over the past 150 years since the arrival of the Europeans. This study provided a key to the solution for problems of mothers drinking during pregnancy and the impending results of the future Kainaiwa members. A number of key social issues are also discussed with reference to traditional beliefs and worldview of the Kainaiwa.

The Kainaiwa (Blackfoot) Tribe has a population of approximately 10,000. It is the largest reserve in Canada. The Kainaiwa value their traditional customs and practices. A recent survey of individuals on the Kainaiwa reserve found that English was the dominant language. 7.5% of the respondents claimed to speak the Blackfoot language. 31.2% claimed to understand the Blackfoot language and 44.3% claimed to have minimal knowledge of the Blackfoot language (Towson, Chrisjohn 1987) Unemployment is currently at 90% and most residents live on social assistance.

The presentation will provide the audience with opportunity to fully understand the issues facing the Blackfoot Nation in Canada with special emphasis on the Kainaiwa people. Discussion will focus on examination of future First Nation research related to clinical psycho-logical issues stemming from inter-generational traumas. An in-depth presentation on the Kainaiwa culture will also be presented as the foundation to understanding complex psychological issues.

S125

Sociocultural problems of migrants and health workers in gynecological hospitals

T. Borde*, M. David, H. Kentenich (Berlin, D)

Objectives

Immigrant women now account for 1/3 of patients in gynecological hospitals in European cities. Sociocultural diversity has changed the job description and personal skills required of hospital staff. The aim of this study was to identify potential areas for

improvement to develop healthcare concepts tailored to include immigrants' needs.

Methodology

To explore the quality of healthcare for patients of different ethnicity, we compared 320 German patients and 262 patients of Turkish extraction in the same gynecological ward. Bilingual interviews and questionnaires focused on patient expectations, satisfaction and aspects of communication with hospital staff. To ascertain the views of clinic personnel, we conducted a number of explorative interviews and questioned 69 members of staff.

Results

Comparison of patient collectives showed significant differences in socioeconomic status, education, literacy and healthcare knowledge. Immigrant patients were not only underprivileged but also less competent in the German language. They were notably less satisfied with the quality of care than German patients. Hospital personnel assessed patient satisfaction even lower, which appears to underline their dissatisfaction with their own performance. Organizational problems and the fact that healthcare services are inadequately prepared to respond to patients of different socio-cultural origin have a negative impact on the job satisfaction of hospital staff and are particularly detrimental to the quality of healthcare for immigrant patients.

Conclusions

In a socioculturally diverse environment, development of healthcare concepts tailored to immigrants' specific needs and organizational changes (interpreters, multilingual material, further training to enhance intercultural competence) would benefit both immigrant patients and staff.

ISPOG Symposium – The contribution of psychosomatic gynaecology to women's mental health

Abstracts not available

Neuroendocrine and emotional adaptations in pregnancy and lactation

S131

Maternity causes neuronal plasticity in the Hypothalamus

D. Theodosis, S. Langle, D. Poulain (Bordeaux-cedex, F)

Maternity, namely, giving birth and feeding (lactating) the young, requires the intervention of oxytocin (OT), a neurohormone produced by magnocellular neurons in the hypothalamus and released into the circulation from the neurohypophysis in response to a highly stereotyped electrophysiological activation. Concomitantly, the anatomy of the OT system changes dramatically, thus offering a striking example of activity-dependent morphological plasticity in the adult brain. At every parturition and lactation, OT neurons hypertrophy, their glial coverage diminishes, their surfaces become extensively juxtaposed and they receive an increased number of inhibitory and excitatory synapses. The changes are reversible and the system returns to its pre-maternal condition after weaning the young (TINS, 1987, 10, 426; TINS, 1996, 19, 363). This neuroendocrine system retains many juvenile molecular features in the adult that may allow such plasticity (Cell Mol Neurobiol, 1998, 18, 285), including expression of cell surface adhesion molecules implicated in synaptogenesis and neuronal-glial interactions in the developing and lesioned CNS, like

polysialylated NCAM (PSA-NCAM), F3/contactin and its ligand the matrix glycoprotein, tenascin-C. PSA-NCAM is of particular relevance since the complex carbohydrate PSA on its extracellular domain reduces cell adhesion, thereby allowing surface interactions underlying the dynamic cell changes responsible for such plasticity. Our recent ultrastructural analyses have provided direct evidence that PSA-NCAM is indeed a prerequisite since a single microinjection of endosialidase, an enzyme that selectively cleaves PSA from NCAM, close to the supraoptic nucleus *in vivo*, inhibited the morphological changes normally occurring in response to lactation (J Neurosci, 1999, 19, 10228). On the other hand, our *in vivo* and *in vitro* observations demonstrate that OT itself, in synergy with sexual steroids, can induce such plasticity since its application (by microinfusion into the 3rd ventricle or perfusion of acute hypothalamic slices) leads to neuronal-glial and synaptic changes similar to those brought on by parturition and lactation.

S132

Protective brain adaptations of stress coping mechanisms in pregnancy and lactation: involvement of oxytocin and prolactin

I. D. Neumann (Munich, D)

Pregnancy and lactation are accompanied by a reduced responsiveness of the hypothalamo-pituitary-adrenal (HPA) axis and the oxytocinergic system to a variety of stressors. Studies on rats have shown that these changes partly triggered by alterations in circulating steroidal hormones are due to a combination of attenuated stressor perception and feedforward mechanisms at limbic, hypothalamic and anterior pituitary levels involving also the CRH system. Further, maternity is accompanied by dramatic alterations in the emotionality with an increased level of anxiety-related behaviour in late pregnant rats. In lactation, anxiety is reduced which is possibly a prerequisite for increased (maternal) aggression and defence of the offspring. The robust neuroendocrine and emotional alterations seen in pregnancy and lactation are independent of the inborn level of anxiety as shown in rats bred for either high or low anxiety-related behaviour.

Various neuropeptides highly activated at this time to meet reproduction-related demands like oxytocin, prolactin and endogenous opioids were shown to significantly regulate the (re)activity of the HPA axis and/or to exert anxiolytic effects. Such neuropeptides are, therefore, possible candidates to be involved in the attenuated neuroendocrine stress responsiveness and altered emotionality peripartum. These physiological and reversible adaptations are, in pregnancy, likely to contribute to the protection of the fetuses from exposure to excessive, and damaging, levels of glucocorticoids. In lactation, they may protect the mother from catabolic processes caused by glucocorticoids. Further, down-regulation of the activity of the brain CRH system may be a protective mechanism to cope with the dramatic hormonal fluctuations in this period. Disturbance of these mechanisms, e.g. by repeated exposure to stress throughout pregnancy, results in an enhanced neuroendocrine stress responsiveness and increased anxiety in lactation.

Supported by DFG (Ne 465).

S133

Lactation-induced changes in amygdala-paraventricular nucleus (PVN) connections: are they mediating emotional filtering?

C.-D. Walker, S. Deschamps, A. Burlet (Verdun, CDN; Nancy, F)

Lactation is associated with multiple physiological and behavioral changes that are optimal for development of the offspring. In

particular, neuroendocrine stress responses and some emotional responses are blunted, but it is still unclear whether this phenomenon is dependent upon the nature of the stressor and whether specific alterations in neuronal circuitry allow to “filter” stressful stimuli during lactation. Corticotropin releasing factor (CRF)-containing neurons in the hypothalamic PVN control neuroendocrine stress responses and are modulated by inputs from the brain stem, the amygdala, and the bed nucleus of the stria terminalis (BNST) which integrate emotions. Here, we tested the hypothesis that 1) lactation induces changes in the PVN-BNST-amygdala relationships that are directed towards maintaining low reactivity to infant-irrelevant stimuli and 2) stressors that threaten survival of the infant can overcome this “filtering” mechanism and activate important neuroendocrine and behavioral responses in the mother. Compared to virgins, lactating rats exhibit higher CRF mRNA expression in neurons of the dorsolateral BNST, which relay some of the inhibitory hippocampal inputs to the PVN and reduced CRF mRNA levels in the central amygdala (CeA), which is considered stimulatory to PVN neurons. Using CRF-directed immunolesions of the PVN or PVN+BNST neurons, we showed that in lactating females, PVN neurons containing CRF maintain a tonic inhibition over neurons in the anterior BNST and the CeA. This further suggests that reciprocal connections between the PVN and the BNST/amygdala in lactating females are modified to lower the influence of stimulatory inputs on stress-responsive PVN neurons. However, this “filtering” system can be superseded since nursing mothers exhibit important neuroendocrine responses to a stimulus causing a direct threat to their pups, i.e. a male intruder, compared to a physical stressor less relevant to their litter. We are currently testing whether additional brain structures are recruited after specific stressors, that might overcome the hyporesponsiveness of the PVN-BNST/amygdala circuitry during lactation.

S134

Pregnancy reduces neuroendocrine stress responses: attenuated central processing of stressors and activation of opioid inhibition

J. A. Russell, P. J. Brunton, H. A. Johnstone, S. Ma, J. R. Seckl, I. D. Neumann, A. J. Douglas (Edinburgh, UK; Munich, D)

Brain pathways processing different stressors converge onto the corticotropin-releasing hormone (CRH)/vasopressin (VP) neurones in the parvocellular paraventricular nucleus (pPVN) of the hypothalamus, which stimulate ACTH secretion from the anterior pituitary and hence glucocorticoid secretion from the adrenal cortex. Simultaneously, centrally-projecting CRH neurones are activated, eliciting anxiety-related behaviours. We have investigated changes in the brain mechanisms regulating the neuroendocrine stress response in pregnancy. In late pregnant rats, basal activity of the pPVN neurones is decreased in terms of CRH and VP gene expression (measured by *in situ* hybridisation), and the diurnal rhythm in ACTH secretion is suppressed. Furthermore, pPVN neurone mRNA responses (for the immediate early gene NGF-IB, and the CRH and VP genes) to stress are attenuated in late pregnancy. These attenuated responses underlie reduced ACTH secretory responses to emotional and mild physical stressors, including immune challenge. These changes may result from reduced secretory capacity of the CRH/VP neurones, while the pituitary ACTH content is normal. Glucocorticoid negative feedback is evidently enhanced as 11beta-hydroxysteroid dehydrogenase activity (reactivating corticosterone) in the PVN and glucocorticoid receptor mRNA expression in the dentate gyrus are increased. Consequently, decreased activity or effectiveness of excitatory inputs to CRH/VP neurones is likely. This is supported by finding

a lack of stimulation of NGFI-B mRNA expression in the hippocampus by stress in pregnancy.

Activation of central endogenous opioid inhibitory mechanisms, important in hypoalgesia and in restraining stress activation of oxytocin neurones in pregnancy, is also involved. Hence the opioid antagonist naloxone restores ACTH responses to stress or systemic interleukin-1beta. The reduced neuroendocrine stress responses in pregnancy may protect the fetuses from adverse programming by excess glucocorticoid, but the underlying changes in stressor processing and reduced stress activation in the brain have implications for maternal mood changes post partum.

Support: BBSRC; DAAD/British Council.

S135

The neuroendocrine basis of social attachment

C. S. Carter (College Park, MD, USA)

The purpose of this presentation is to review the neuroendocrine mechanisms responsible for both the formation of social bonds and those mechanisms through which social bonds influence mental health. Social attachments and pair bonds facilitate both reproduction and survival, providing a sense of safety and reducing anxiety or stress. Studies of social attachment have focused on mother-infant and adult pair bonds. The underlying substrates of both may rely on shared neuroendocrine substrates. At the core of the neurobiology of social bonds is an ancient system which utilizes several neuropeptides including oxytocin. There also is a recurrent association between exposure to stressful experiences [and hormones of the hypothalamic-pituitary-adrenal (HPA) axis] and the subsequent formation of social bonds. Positive social experiences, including social bonds, may reduce HPA axis activity. In addition, oxytocin is capable both of facilitating the formation of social attachments and inhibiting HPA and autonomic reactivity. Of particular interest is the fact that these systems are designed to be modified by social experiences in early life, which can in turn produce long-lasting changes in the neuroendocrinology of social behavior. For example, early exposure to oxytocin or the related peptide, vasopressin can permanently modify both behavior and central peptide receptors. An understanding of the biological basis of social attachment and its developmental consequences provides insights into the neuroendocrine mechanisms through which social support benefits mental and physical health. Failures of this system may help to explain a variety of emotional disorders, including those that are characterized by deficiencies in social behavior.

Gender differences in the genetics of mental disorders

S136

Gender differences in attitudes towards predictive testing and ethics

M. Rietschel, F. Illes, G. Rudinger, M. Angermeyer, W. Maier (Bonn, Leipzig, D)

The advances in molecular genetics are producing insights into the molecular basis of a growing number of diseases. This knowledge allows to diagnose single-gene disorders as well as to identify predispositions to complex inherited disorders. Such testing may offer medical or psychological benefits but may also have adverse side-effects. The knowledge of being a carrier of a disease/vulnerability gene can help to treat/prevent the disorder, furthermore it may have an influence on family-planning, planning of the future, work, relationships, concept of an individual's

autonomy and in general on his well-being. Testing can be performed in individuals at risk for a specific disorder or as screening of the general population.

Attitudes towards the potential benefits and negative consequences of this "new genetics" vary considerably, they are influenced by personal experiences, ethnical, religious, and political factors.

Women approach ethical dilemmas differently from men. In psychological studies of moral decision making women tended to use a relationships-based ethics that see individuals as embedded in a network of relationships while men were more likely to regard individuals as isolated agents.

The availability of presymptomatic testing for many different disorders will have an enormous impact on society in general and specifically on the relationships of parents/couples. They will have the option to decide whether to perform prenatal testing, predictive testing in their children or for themselves for a variety of possible disorders. Before the introduction of wide-spread DNA testing it would therefore be desirable to learn what females and males think about this issue and if there are gender specific differences.

Within the framework of the German Human Genome Project we are conducting a representative survey on attitudes toward genetic research, counseling, potential misuse, and predictive testing in severe mental disorders. First results will be available by January 2001.

S137

Gender differences in the genetics of substance abuse

P. Franke (Bonn, D)

The etiology of substance abuse is presumed to be multifactorial. Within the last decade, family- (Merikangas et al. 1998), adoption- (Cadoret et al. 1995) and twin studies (Kendler et al. 2000) have underscored -apart from environmental and individual factors - the substantial role of genes in the development and maintenance of addictive behavior (Enoch & Goldman, 1999). The aim of psychiatric molecular genetics is to identify these genes leading to substance abuse and dependence.

From an epidemiological point of view prevalence rates of substance abuse disorders revealed gender differences which may reflect genetic differences between men and women. However, only few information is yet available on sex-specific genetic influences on substance abuse (which is often due to inadequate power to test for sex-specific transmission).

The following review will focus on this topic based on results of family-, adoption-, and twin study data as well as molecular genetic studies.

Cadoret RJ, Yates WR, Troughton E, Woodworth G, Stewart MA (1995) Adoption study demonstrating two genetic pathways to drug abuse. *Arch Gen Psych* 52: 42-52.

Enoch MA, Goldman D (1999) Genetics of alcoholism and substance abuse. *Addictive Disorders* 22: 289-299.

Kendler KS, Karkowski LM, Neale MC, Prescott CA (2000) Illicit psychoactive substance use, heavy use, abuse, and dependence in a US population-based sample of male twins. *Arch Gen Psych* 57: 261-269.

Merikangas KR, Stolar M, Stevens DE, Goulet J, Preisig MA, Fenton B, et al. (1998) Familial transmission of substance use disorders. *Arch Gen Psychiatry* 55: 973-979.

S138

Genetics of puerperal psychosis

I. Jones (Birmingham, UK)

For bipolar women the postnatal period is a time of heightened risk with episodes of severe psychiatric disturbance (puerperal

psychosis) following between 20 and 30% of deliveries. We have conducted a study of families multiply affected with bipolar disorder and find evidence of familial clustering of puerperal episodes ($k = 0.67$, $p = 0.001$). Episodes of puerperal psychosis followed 26% of 313 deliveries to 152 parous bipolar women. In those parous bipolar women with a family history of puerperal psychosis, 74% had suffered a puerperal episode in contrast to only 30% of bipolar women with no such family history (Pearson's $\chi^2 = 18.24$, 1 d.f., $p = 0.000018$). Our results conclusively demonstrate that familial (probably genetic) factors are implicated in susceptibility to triggering of puerperal episodes in bipolar women. Molecular genetic studies provide the means by which such genes may be found and we are currently undertaking association studies focusing on candidate genes in steroid pathways. The serotonin transporter gene VNTR represents an excellent candidate polymorphism in studies of puerperal psychosis: (1) it is the site of action of selective serotonin re-uptake inhibitors; (2) SERT expression is influenced by estrogen; (3) variation at the VNTR can influence expression of SERT; (4) several, but not all, previous studies have found an association between bipolar disorder and variation at the VNTR. We find significant evidence ($p < 0.003$) that variation at this polymorphism exerts a substantial (odds ratio = 4) and important (population attributable fraction = 69%) influence on susceptibility to episodes of puerperal psychosis.

S140

Gender differences in the genetics of anxiety disorders

J. Deckert (Münster, D)

Gender differences in frequency, age of onset, severity and symptomatology of anxiety disorders have been shown by epidemiological and clinical studies. Even self-reports on anxiety seem to be influenced by gender. The reasons probably are complex and include psychosocial as well as genetic factors.

With regard to genetic factors panic disorder is the anxiety disorder best studied. It is two- to threefold more frequent in women as demonstrated by epidemiological studies, mainly from the United States, and agoraphobia as one main clinical symptom appears to be more severe among women. Clinical genetic studies indicate that the role of genetic factors is different between the genders. Separation anxiety as a precursor syndrome has been suggested to be genetically determined only in women by an Australian study. Agoraphobia has been reported to segregate predominantly among the female relatives of patients with panic disorder. A differential role for maternal versus paternal transmission has been discussed controversially. Molecular genetic studies have provided first gender-specific results. An association with higher expressing alleles of the monoamine oxidase A gene has been found significantly only among women in two independent European samples while an association with an allele of the human analogue of a drosophila gene – presumably a tryptophan transporter – has been reported only in men in a Japanese sample. These clinical and molecular genetic studies in humans with anxiety disorders are supported by studies with knockout mice. Gender appears to be one major genetic background factor modulating the contribution of a knockout to the development of anxiety.

With regard to many aspects, however, the influence of gender on the genetics of anxiety disorders is not well understood. Gender effects will have to be a necessary focus in future genetic studies to contribute to the development of novel and individual therapies for anxiety disorders.

S141

Twin and genetic studies of eating disorders

C. M. Bulik (Richmond, VA, USA)

Despite a history of being largely viewed as disorders in women that are caused primarily by pernicious sociocultural and family influences, recent large-scale genetic epidemiological studies are transforming our understanding of the genetic and environmental contributions to the etiology of anorexia and bulimia nervosa. Twin studies of bulimia nervosa (BN) conducted in several centers around the world indicate that additive genetic effects contribute substantially to liability to the disorder (28 to 83%). Moreover, the contribution of shared environment seems to be substantially less than what would have been assumed from early theories of etiology. Indeed, the nature of environmental effects that appear to be etiologically relevant to bulimia nervosa are those that affect an individual uniquely (i.e. are not shared by members of a family), rather than shared experiences such as parental rearing approach or socioeconomic status. Although data are more scarce due to the rarity of the condition, anorexia nervosa too appears to be largely influenced by the additive effects of genes. Such findings from large-scale twin studies strongly support international efforts to search for genes that contribute to the risk for developing eating disorders. Furthermore, they encourage further clarification of the nature of the unique environmental effects that increase risk—especially in genetically high-risk individuals. The identification of genes and environmental risk factors for anorexia nervosa and bulimia nervosa may have profound effects on our approaches to prevention, and perhaps ultimately treatment. Moreover, new data, that include information on disordered eating in males, may assist us with unravelling the perennial question of why both anorexia and bulimia nervosa afflict women disproportionately.

Psychotherapy in women: political, cultural and clinical aspects

S142

Sociopolitical aspects of psychological health and wellbeing

B. Wimmer-Puchinger, T. Gabriel (Vienna, AT)

Modern societies offer different roles for men and women. Scientific literature shows significant gender differences in coping-styles, in prevalence, presentation and treatment response of various psychological problems. The underlying reasons may reflect an interaction of multiple factors. Some of the main points are 1) the persisting economically supported gender-role-models, their typical beauty-stereotypes and the accompanying stress to fulfill these demands; 2) the question of reproduction (contraception, interruption, delivery, still birth, unlucky pregnancy); 3) menopause and aging; 4) physical or sexual violence and 5) traumatization. A gender specific approach to health has become a major concern of research as well as of policy recommendations by WHO, NIH and the European public health commission. The health department of Vienna has elaborated a women's health report (1996) and identified field-for-action-programs basing on this report. A women's health expert commission has elaborated a 5 years women's health program (1998), launched by the city parliament. Society does play a central role for women's mental health. Talking about women's mental health problems it is crucial to ask for its' structural context. Women's mental health problems must not be purely seen in an individualized perspective but it is the responsibility of health policy to provide a structural basis on which a health system can be build, that adequately meets gender specific needs. Professionals have to be informed about gender

specific needs and able to answer them. Therefore a specific training for all professionals in the health system is needed. Are mental health professionals aware of the gender- and culture-specific factors behavior and experience? How are these interpreted or diagnostically labeled? Does profession include the reflection of ones own social role?

Women mental health programs in Vienna are presented, like an eating-disorder campaign, a communication training for health professionals working with breast cancer patients and on awareness of familial violence, psychological counseling for pregnant women with high risk of PPD).

S144

Do parents' eating disturbance predict children's eating disturbances? Differential influences and emerging gender effects at 8 years

C. Jacobi, W. S. Agras, L. Hammer (Hamburg, D; Stanford, CA, USA)

Research suggests that there is a relationship between parental, especially maternal eating disorders or disturbances and eating psychopathology in children. However, the evidence is limited to the first five years of life. Little is known about differential parental gender effects of these influences as well as gender differences in the emergence of eating disturbances in the child. Therefore, the purpose of this study was to examine paternal and maternal influences on eating attitudes and behaviors of 8-year old children.

108 infants (half of them males, half females) were followed from birth and interviewed at age 8 for eating disturbances using an adaptation of the McKnight Risk Factor Survey (Shisslak et al., 1999). Parental measures of eating disturbance included the Three Factor Eating Questionnaire subscales "disinhibition" and "restraint" as well as maternal and paternal BMI, all assessed at entry to the study.

No primary gender differences were found for any of the addressed eating disturbances. Higher maternal restraint scores predicted worries about being too fat in girls, but not in boys. Higher maternal disinhibition scores predicted weight control behaviors in their daughters, but not in their sons. No association between paternal predictors of disturbed eating and the child's disturbed eating attitudes and behaviors was found.

Results indicate that the impact of maternal eating disorders and disturbances was much stronger than that of fathers, specifically directed at their daughters, but not at their sons. The clinical importance of these disturbances in terms of precursors of adolescent eating disorders has to be determined by following the sample through puberty.

S145

Psychotherapeutic treatment of sexual health issues in women

M. Striepe, B. Robinson, N. Raymond, J. Feldman, S. Mize (Minneapolis, MN, USA)

Background

Hypoactive sexual desire disorder (HSDD) affects approximately one in three women in the U.S. HSDD is a complex issue, often rooted in multiple etiologies and requires comprehensive interdisciplinary treatment. It is critical that psychotherapeutic treatment addresses the multiple factors, including biological, psychological, physiological, psychosocial, sociocultural, spiritual, and familial factors, which influence a woman's sexuality.

Objectives

This presentation will illustrate gender specific treatment for HSDD. The types of interdisciplinary therapies required to

address the complex etiologies of HSDD among women will be described. A theoretical model of sexual health will be discussed and a case of HSDD presented to demonstrate this interdisciplinary psychotherapeutic approach.

Clinical interventions

The recommended treatment is derived from the clinical application of Robinson's (2000) Sexual Health Model. The model identifies ten key components that we believe to be essential aspects of healthy human sexuality. The sexual health model guides the work of the interdisciplinary team, including psychologists, psychiatrist, family physician, and gynecologist.

The therapeutic process includes a sexual medicine examination that involves an assessment by a psychologist and a family physician, each with specialized training in sexual health. Due to the complexity of HSDD it is often necessary for the woman to pursue further treatment, including individual and group therapy, and psychiatric and medical care. Our collaborative treatment utilizes different therapeutic interventions and theories, including Eye Movement Desensitization Reprocessing (EMDR) and Relational theory.

Conclusion

This intensive, interdisciplinary highly personalized approach improves client satisfaction and outcomes. The combination of the Sexual Health Model which promotes a positive view of sexuality and the interdisciplinary therapy helps women experience their sexuality through the integration of mind, body, and spirit. Consequently women gain a sense of empowerment and improved sexual self-esteem. Future research should be designed to evaluate the effectiveness of this approach.

S146

The role of submission stress in anorexia nervosa

M. A. Katzman (New York, USA)

Who is obsessed with fat? The patients who struggle to find a sense of power and self through body manipulation or the clinicians and researchers who relate to them in a recognizable and measurable vocabulary of weight and diet?

This presentation will review the cross cultural data on the emergence of eating disorders with an eye to challenging prevailing theories that characterize eating disorders as cosmetic compliance with a thin ideal or a product of modernization or westernization. Instead of organizing data around fat, food and weight participants will explore the value of understanding eating problems as a function of transition, disconnection and oppression. Changing political and economic systems and their impact on women's social roles and hence of self and their body will be used to decode the deeper cultural contexts of eating disorders. A neurodevelopmental model that incorporates the biological as well as psychological implications of "submission stress" and its impact on women's mental health will be presented and new paradigms for conceptualization as well as potential cross-disciplinary collaborations will be explored.

S147

Concepts of inpatient treatment for eating disorders in adolescence

A. Karwautz (Vienna, AT)

Inpatient treatment of patients with eating disorders traditionally is multi-dimensional and in need of a multi-professional team. Bulimia nervosa requires inpatient treatment only in case of severe co-morbidity, whereas most patients with anorexia nervosa need at least one period of inpatient treatment. There are numerous inpatient treatment packages for anorexia nervosa, however, scientific reports on their successfulness are rare. It

seems to be difficult to evaluate one or the other component used within these multidimensional packages.

Typical inpatient treatment programmes for adolescent anorexia nervosa and a review of the research on inpatient treatment for anorexia nervosa will be presented and the following problems are going to be discussed:

- 1: Is there a difference between treatment strategies for adolescents vs. adults and adolescents vs. pre-pubertal patients, resp.?
- 2: Is treatment research in anorexia nervosa due to multidimensionality of the treatment settings too complex or even impossible?
- 3: Is it proven that patients in care of specialized centers have better treatment outcome?
- 4: What happens to those patients whom cannot be helped with the current treatment methods employed?

How do parents affect the mental health of their offspring

S150

Resilience in adolescents with parental psychopathology: gender effects

K. von Sydow, B. Isensee, H.-U. Wittchen, R. Lieb (Munich, Dresden, D)

Objectives

Children of parents who suffer from psychopathology (e.g. anxiety, depression, substance use disorders) have elevated risks of developing mental disorders themselves. But although their risk is increased, most children from parents with psychopathological problems do not develop mental problems or are able to overcome their mental disorders. Therefore, it is of vital importance to study which children are resilient and are able to stay mentally healthy or regain their mental health in the face of adverse parental conditions. Although there exist various studies on resilience most of them are confined to small and clinical samples and there is a lack of representative studies which include various forms of psychopathology and interview both, the offspring as well as the parents.

Methods

Baseline, two and four year follow-up data from the Early Developmental Stages of Psychopathology Study (EDSP), a prospective-longitudinal community study were used. We report data about the younger cohort, aged 14–17 years at baseline (N = 1395). Respondents' mental disorders were assessed using the standardized Munich Composite International Diagnostic Interview (M-CIDI) with its DSM-IV algorithms. Additionally, information on psychopathology of both parents was collected by independent M-CIDI interviews with one of participants' parents (mostly mothers; N = 1053).

Results

First results about the following issues are presented: a) In the subsample of those adolescents and young adults with parental psychopathology, which factors are associated with lifetime mental health at second follow-up (never having fulfilled DSM-IV criteria for anxiety, depression, substance use, eating and somatoform disorders)? b) Which factors are in this subsample associated with remission at the second follow-up among those who reported mental disorders at baseline? The influence of biosocial variables (e.g. gender, age, education), intrapersonal variables (e.g. self-esteem, resilience), childhood development variables, family and interpersonal variables (e.g. social support) is analyzed.

Discussion

Implications of our results for research, prevention and intervention are discussed.

S151

Familial transmission of panic: are cognitive features mediators?

S. Schneider, B. Nündel (Basel, CH; Dresden, D)

The familial transmission of panic disorder can only partly be explained by genetic factors. At present, it seems highly probable that environmental factors determine the specific type of disorder that individuals with a genetic diathesis may develop. Based on cognitive and psychophysiological models, we hypothesized that cognitive features play a major role in the development of panic. In an ongoing, combined cross-sectional and prospective longitudinal study, we are investigating etiological factors for panic in 120 children of panic patients and 60 children of healthy controls (age at initial assessment: 8–14 yrs). To control the specificity of our results we are also investigating 21 children of spider phobics. Assessments included structured interviews with children and parents, clinical questionnaires, emotional Stroop test, and contextual priming paradigm. At the follow up assessment after 6 years, children of panic patients showed a higher incidence of panic attacks and panic relevant features, whereas children of spider phobics showed a higher incidence of specific phobia. Furthermore, cognitive features and separation anxiety of the first assessment predict the development of panic attacks, respectively panic disorder, at the follow-up assessment.

S152

The impact of parental couple relationship on daughters' and sons' mental health

S. Walper (Munich, D)

The present study investigates effects of interparental conflict on boys' and girls' well-being. While previous research has shown that high conflict between parents, especially if perceived by children, has a negative impact on child development, such effects have rarely been compared for nuclear and separated families. The present investigation tests whether effects of interparental conflict are exacerbated or buffered by parental separation. Furthermore, gender differences in adolescents' reactions to interparental conflict are explored. Available evidence suggests that during adolescence, girls become more vulnerable to interparental discord than boys. Hence, boys and girls will be looked at separately in nuclear as well as separated families.

The data come from the first wave of a German longitudinal study involving youth between age 10 and 18 years at wave 1. The present sample (n = 369) consists of nuclear families (121 boys and 110 girls) and single mother as well as stepfather families which were combined (72 boys and 65 girls), since effects of interparental conflict proved highly similar in both types of separated families. Indicators of well-being were self-reported depressiveness, self esteem, and somatic complaints.

Findings from multiple regression analyses suggest that only girls', but not boys' depressiveness is negatively affected by high perceived interparental conflict in nuclear as well as separated families. For girls living with both parents, this effect can be explained by their higher loyalty conflicts which are triggered by conflict between parents. However, the strong relation between parental discord and girls' depressiveness in separated families remains largely unexplained, even if both parents' supportive parenting and insecure attachment to mother are introduced as likely mediators. While the latter explains some of the negative effects of feeling caught between parents in nuclear families,

different processes seem to be relevant for youth in separated families.

The findings are discussed in terms of the emotional security hypotheses and the parentification hypothesis which has been put forward especially for girls in separated families.

S153

Sex differences in the early mother-child-interaction

G. Cucchiaro, M. Laucht, M. Gerhold, M. Dinter-Jörg, M. Polowczyk, G. Esser, M. Schmidt (Mannheim, D)

Objective

Investigation of sex differences in the mother-child-interaction (MCI) at the age of 3 months, 2 years and 4.5 years.

Method

The data came from the longitudinal project Mannheim Study of Risk Children of the Central Institute of Mental Health, Mannheim, Germany. Ten minute-videotapes of 305 mother-child-pairs were evaluated concerning the measures reactivity, guidance, attention and activity level.

Results

Mothers were more inconsequent with boys at the age of 2 and showed more motor negative reactions to them at 4. Three months boys showed more positive emotions, visual contact, readiness to interact with their mothers and smiled more at them. At the age of 2 and 4.5 however, boys showed more lack of reactivity, being at the same time more impulsive and less attentive than girls.

Conclusions

Sex differences in the MCI were minimal from the side of mothers. These differences were probably related to male impulsivity and lack of attention, which could also explain their lack of reactivity. The apparent poorer 3 months girls' reactivity could be interpreted as a signal of their emerging advance in cognitive development: girls start earlier to explore their environment, so that mothers are not more in the center of the MCI. This study is important for a better comprehension of children developmental outcomes.

Estrogens and schizophrenia

S154

Hypoestrogenism in schizophrenic women

N. Bergemann (Heidelberg, D)

Low estrogen levels leading to an elevated rate of menstrual dysfunctions such as amenorrhea and irregular menstruation have been described in women with schizophrenia and have often been attributed to neuroleptic-induced hyperprolactinemia. However, there is some evidence that "hypoestrogenism" in schizophrenic women does not occur exclusively under medication with hyperprolactinemia-inducing neuroleptics. While the precise mechanism of low estrogen levels in schizophrenic women is unclear, "hypoestrogenism" is of clinical relevance because estrogen seems to have a neuroleptic-like effect in schizophrenia and therefore a beneficial influence on the course of illness in schizophrenic women. In addition, low levels of estrogen might have a negative effect on bone mineral density and on the cardiovascular system.

To test the "hypoestrogenism hypothesis," hormone levels of 75 women with schizophrenia diagnosed according to DSM-IV and ICD-10 were determined in the follicular, ovulatory and luteal phases of the menstrual cycle. The hormones assessed were estradiol, prolactin, luteinizing hormone (LH), follicle stimulating hormone (FSH), progesterone, and testosterone.

The serum levels of estradiol were generally reduced during the entire menstrual cycle. With low levels of LH over the entire cycle and of progesterone in the luteal phase, anovulatory cycles were assumed. Hypoestrogenism was found in about 60% of the patients in accordance with a strict definition (estradiol serum level below 30pg/ml in the follicular phase and below 100pg/ml in the ovulatory phase). To rule out a possible effect of hyperprolactinemia on the gonadal axis and the subsequent effect on the estrogen level due to conventional neuroleptics, estradiol serum levels of patients treated with atypical neuroleptics known to induce only a mild increase in prolactin, or no increase at all, were compared with those from patients treated with conventional neuroleptics. The data clearly indicate high prolactin levels in the latter, but low levels in the group treated with atypical neuroleptics. In both groups, however, low levels of estradiol were measured.

The findings provide evidence that hypoestrogenism in schizophrenia occurs in women with and without neuroleptic-induced hyperprolactinemia. Further research should be conducted to clarify the cause of hypoestrogenism in schizophrenic women and focus on possible clinical implications.

S156

A menstrual survey of a Canadian sample of women with schizophrenia

M. Seeman (Toronto, CDN)

Objective

To study menstrual regularity in premenopausal women with schizophrenia treated with various antipsychotics.

Hypothesis

The greater the dopamine D2 receptor affinity of a drug, the greater the prolactin rise, the more the menstrual irregularity and, by extension, the greater the risk for loss of bone density via chronic deficit of estrogen.

Method

200 women with schizophrenia under age 45 are being recruited in Toronto, Canada (50 on olanzapine, 50 on risperidone, 50 on clozapine or quetiapine, 50 on conventional antipsychotics). Recruits have been on the same medication for at least 6 months. Demographics about the disease process and about family history of osteoporosis are collected. Plasma prolactin and BMI are measured. Menstrual status is defined, and bone densitometry is performed in every fifth individual who consents. Preliminary results will be available at the time of the symposium.

Conclusion

High prolactin leads to short term problems. Long term consequences are, thus far, unknown.

S157

Effect of estrogen on brain development and neuroprotection: implication for schizophrenia

H. Kölsch, M.L. Rao (Bonn, D)

There are several gender differences in schizophrenia: 1. Compared to men the age of onset is 3.2 to 4.1 years later in women. Furthermore, there is another increase in the incidence of schizophrenia in women at the age of 45 to 54 which is not observed in men. 2. Women present more often with the paranoid and disorganized subtype of schizophrenia compared to men. 3. Sex-differences are also observed with respect to the dopamine-D2-receptor binding in neuroleptic-naive schizophrenic patients: In men there is a left-lateralized asymmetry of the striatal receptor-binding which is more pronounced than in women. 4. Women respond better to neuroleptic treatment than men. 5.

Tardive dyskinesia appears to be more pronounced in women than in men, especially during menopause. 6. Schizophrenic women have significantly more daughters than sons.

These observations suggest a strong influence of the female hormones on brain development and during the adult life. Estrogen-dependent alterations comprise regenerative responses, axonal sprouting, enhanced synaptic transmission, neurogenesis and cell survival. Estrogens appear to influence these cellular events by modulation of neurotransmitter receptor function. These involve among others serotonin and dopamine receptors, as well as interaction via the classical nuclear estrogen receptor, interaction with the second and third messenger systems, as well as the phosphorylation cascades and protein kinases.

In vivo and in vitro models and epidemiological studies suggest that estrogens provide neuroprotection of the central nervous system. Our own studies on a neuronal cell system, involving neurotoxic oxysterols show, that estrogens in physiological concentrations provide potent neuroprotective properties.

Psychopharmacological issues

O158

Compliance and functional impairment in depression: gender differences

K. Demyttenaere, W. Dewe, J. De Bie, P. Enzlin, B. Boulanger, P. Mesters (Louvain, Mont-Saint-Guibert, B)

Background

"Feeling better" is a frequent reason for depressed patients taking antidepressants to stop their medication. It can be measured by using symptomatology scales or functional impairment scales.

"Significant" functional impairment is indeed mandatory for a DSM-IV diagnosis, but is poorly defined.

Compliance behaviour is gender dependent.

Objectives

To assess functional impairment and compliance behaviour in major depression in primary care by gender.

Materials and methods

272 patients (72.4% women and 27.6% men) meeting DSM-IV criteria for major depression and treated with antidepressants by their GP were included. Functional impairment was assessed at baseline with the Sheehan Disability Scale (SDS) for work (SDSW), social life (SDSS) and family life (SDSF). The patients received routine clinical care by their GP and were contacted by phone monthly by the investigators to obtain SDS scores and information about compliance.

Results

After six months 136 patients (50%) stopped their treatment prematurely. Dropping out was not related to age or gender.

At baseline, work was more impaired than family life and social life for men.

At baseline, family life was more impaired than work and social life for women.

Early drop out (first 8 weeks) was related to an improvement in all SDS scores for men, but not for women.

Conclusions

Drop-out rate was equal for men and women for the whole group. However, the Sheehan Disability Scale demonstrates that an early improvement (as measured by a decrease in functional impairment) is a risk factor for drop-out from treatment in men, but not in women.

O159

Selling sanity through gender: the aesthetics of psychotropic advertisements

J. M. Metzl (Ann Arbor, MI, USA)

The "Direct-to-the-consumer" advertisements for antidepressants appearing in many women's magazines have been the subject of much recent controversy. Industry representatives and a few academics argue that the cartoon "Prozac Clouds" followed by "Prozac Suns" provide important sources of "information." Bioethicists meanwhile, assert that these images distort the truth, and dangerously trivialize serious illnesses in the name of profit.

I argue in my paper, however, that these advertisements must be understood in historical context - and that this context is visual. I employ a methodology based in visual analysis and medical historiography to examine themes appearing in medical advertisements over time. The first part of my presentation involves a discussion of the construction of "visual knowledge." I then trace the visual history of 50 years of pharmaceutical advertisements from *The American Journal of Psychiatry*, from 1949 to 1999.

My analysis focuses upon two concomitant narratives. On one hand I argue that advertisements during this 35 year time period situate the rise of "wonder drugs" in the context of an era of pharmaceutical progress and innovation described as the "golden age of psychopharmacology." Over the course of this time period the products promoted by these advertisements helped revolutionize the diagnosis and treatment of anxiety, depression, and other outpatient mental illnesses in the United States.

However the advertisements also illustrate the ways in which these new scientific treatments, and indeed the very notion of objectifiable progress, could not function free of the culture in which they were given meaning. Rather, in the space between drug and wonder drug, or between medication and metaphor, the images hint at the ways psychotropic treatments became imblicated with the same gendered assumptions at play in an American popular culture intimately concerned with connecting "normal" and "heteronormal" when it came to defining the role of women in society.

O160

Response and remission rates in different subpopulations with major depressive disorder administered venlafaxine, SSRIs, or placebo

R. Entsuah, H. Huang (Parsippany, USA)

Objective

The goal of this investigation was a direct comparison of patient subpopulations, by age and gender, for response and remission rates associated with treatment with the serotonin-norepinephrine reuptake inhibitor venlafaxine/venlafaxine XR and several selective serotonin reuptake inhibitors (SSRIs).

Method

Subjects (n = 2045) 18 to 83 years old who met DSM-III-R or DSM-IV criteria for major depression or major depressive disorders, respectively, were randomly allocated to treatment with venlafaxine/venlafaxine XR, one of several SSRIs, or placebo for up to 8 weeks. Original data from 8 comparable double-blind, active-controlled, randomized clinical trials were used in the analysis. Symptoms of depression were assessed with the Hamilton Rating Scale for Depression (HAM-D) before, during, and after treatment. Response, 50 percent decrease in HAM-D21 score; remission, HAM-D17 score of 7 or less; absence of depressed mood (ADM), HAM-D21 depressed mood item score of 0.

Results

For men and women across age groups, onset of response was more rapid with venlafaxine/venlafaxine XR than with SSRI treatment, but both forms of treatment were superior to placebo by the final assessment. For all subgroups, remission rates with venlafaxine/venlafaxine XR were greater than with SSRIs (40% to 55% vs 31% to 37%, respectively; P values less than .05), but venlafaxine/venlafaxine XR and SSRIs both led to significantly higher remission rates than placebo did. Rates of ADM with venlafaxine/venlafaxine XR (34% to 42%) and SSRIs (31% to 37%) were similar for all subgroups and significantly higher than with placebo (all P values less than .05). All subjects within a given treatment group exhibited similar onset and rate of response, remission, and ADM, regardless of age or gender.

Conclusions

These data suggest that men and women of various ages have comparable responses to antidepressant medications. In addition, venlafaxine/venlafaxine XR therapy led to a more rapid response and more complete alleviation of symptoms than did SSRI therapy across age and gender groups.

O161

Intermittent fluoxetine dosing in premenstrual dysphoric disorder

R. Judge, E. Brown, C. Miner, J. Dillon (Indianapolis, IN, USA)

Objective

The efficacy of fluoxetine in the treatment of premenstrual dysphoric disorder is well established. An open label study found that luteal phase dosing of fluoxetine was comparable to daily dosing in women with PMDD. The current multicenter, randomized, double-blind, placebo controlled trial will evaluate the efficacy of fluoxetine given daily during the luteal phase of PMDD.

Methods

Following a 2-cycle screening period and a 1-cycle single blind placebo period, approximately 250 eligible women were randomized to receive fluoxetine 10mg/day, fluoxetine 20mg/day or placebo (each dosed for 14 days prior to the next expected menses) for 3 cycles. Women recorded PMDD symptoms daily on the self-rated Daily Record of Severity of Problems (DRSP). Items are rated from 1 (not at all) to 6 (extreme) on the DRSP and are correlated with the DSM-IV research criteria for PMDD. The primary outcome measure for each woman will be her change from mean baseline luteal phase scores to mean treated luteal phase score over the 3 months of treatment. Secondary assessments will evaluate improvement in mood, physical symptoms and functioning. Analysis of efficacy and safety data will be performed on an intent-to-treat basis.

Results

Results from the trial (currently in progress) will be reported.

Conclusion

Fluoxetine dosed during the luteal phase only of each menstrual cycle may be an effective treatment for PMDD.

O162

Efficacy and safety of venlafaxine for premenstrual dysphoric disorder

E. Freeman, N. Kunz, K. Rickels, M. McPherson (Philadelphia, Radnor, USA)

Objective

Premenstrual dysphoric disorder (PMDD) is a chronic disorder that impairs functioning and diminishes quality of life. The purpose of this study was to evaluate the efficacy of venlafaxine,

a novel antidepressant that selectively inhibits the reuptake of serotonin and norepinephrine, in the treatment of PMDD.

Method

After 3 screening cycles, 157 women were randomly assigned to double-blind treatment with venlafaxine or placebo taken twice daily for 4 menstrual cycles. Flexible dosing ranged from 50mg to 200mg daily. The primary outcome measure was the total premenstrual symptom score as assessed by the Daily Symptom Report (DSR).

Results

At the end of the first treated menstrual cycle, improvements in PMDD were significantly greater with venlafaxine than with placebo (DSR total change from baseline 12.3 vs 4.4 for placebo, $P < 0.001$). Improvement slightly increased in the second treatment cycle and was maintained at the same level for the remaining 2 study months ($P < 0.001$ for venlafaxine-placebo difference in each treatment cycle, last observation carried forward). The mean dosage in the premenstrual week ranged from 50mg/day in the first treatment cycle to 130mg/day in the third cycle. Only 7 subjects (9%) in the venlafaxine group vs 5 subjects (6%) in the placebo group discontinued treatment because of adverse events ($P = 0.56$). Adverse events (overall mild and transient) reported most frequently with venlafaxine vs placebo were nausea (45% vs 13%), insomnia (35% vs 16%), and dizziness (32% vs 5%).

Conclusion

Venlafaxine was significantly better than placebo for the treatment of PMDD. Efficacy was seen early (in the first cycle of treatment) at a relatively low dosage, and treatment was well tolerated.

O163

Venlafaxine for treating hot flashes

D. L. Barton, C. L. Loprinzi, J. A. Sloan, J. W. Kugler, J. A. Mailliard, B. I. LaVasseur, P. J. Novotny, S. R. Dakhil, K. Rodger, T. A. Rummins, B. J. Christensen, (Rochester, MN, Peoria, IL, Omaha, NE, Ann Arbor, MI, Wichita, KS, New Orleans, LA, USA)

Problem

Hot flashes are often the first and most prevalent symptom associated with menopause. They have been shown to significantly impact a woman's quality of life by disrupting sleep, social and work activities. Women being treated for breast cancer may enter into menopause and/or experience hot flashes earlier than expected and may be denied the most effective treatment, hormone therapy, to prevent and control hot flashes. Effective alternatives to manage this bothersome symptom are needed.

Objective

A placebo-controlled, randomized clinical trial was completed by the North Central Cancer Treatment Group to evaluate the short and intermediate term efficacy of a newer antidepressant, venlafaxine, in reducing the experience of hot flashes. Toxicity associated with this treatment was also assessed.

Methods

This study consisted of four weeks of treatment comparing three different doses of venlafaxine, 37.5, 75, and 150mg daily versus placebo. This was followed by an additional eight weeks of open label treatment, which allowed titration of the venlafaxine to optimal hot flash control. Daily hot flash diaries and toxicity information were collected throughout both phases.

Results

The placebo-controlled trial involving 191 evaluable patients demonstrated that 75mg of venlafaxine daily reduced hot flashes

the most (61%) with acceptable toxicity. The open label phase demonstrated that 75mg of venlafaxine daily continued to be effective in maintaining an over 60% hot flash reduction throughout the eight week period. Toxicities that were significantly greater than placebo included mouth dryness, temporary nausea, decreased appetite and constipation. These side effects did not appear to increase with extended use of the drug. Positive effects on mood, quality of life, feeling tired and sleep were seen. There was no evidence that libido was decreased with treatment.

Conclusion

Venlafaxine at 75mg per day is a very well tolerated, effective nonhormonal treatment for hot flashes. It provides short term and intermediate term efficacy with respect to hot flash reduction.

O164

Prozac, and the pharmacokinetics of narrative form

J. M. Metzl (Ann Arbor, MI, USA)

Biological psychiatry, psychopharmacology, and neuroradiology have combined to provide a new, presentist language for narrating the gendered self, explained by the immediacy of symptoms, the impartiality of PET scans, and the precision of neural chemicals. In this paper I examine the ways these ideas have also shaped literary representations of women's mental illness. I examine four texts—one essay and three works of fiction—presenting women as heroes or as protagonists in explicitly biological terms, as mediated through the literary character of Prozac: “Black Swans,” “Shrinks,” “Medicated,” and Prozac Highway. Though different in important ways, each effectively co-opts biological presentism in the name of specific feminist critiques of past structures of oppression (psychoanalysis, literary genre, self-narration), and ultimately of Prozac itself. Breaking from prior renditions of the mental illness narrative, the women presented in these works posit notions of selfhood in which the individual and individually gendered subject—previously known as products of neurotic mothers or of neurotic civilizations—is engaged in the active construction of the terms of her own “illness.” At the same time, however, the acceptance of biological language brings with it the risk of accepting and re-enacting some of psychiatry's (psychoanalysis and psychopharmacology both) more troubling assumptions about gender identity.

Gender differences in psychiatric treatment

S165

Gender and psychotherapy

C. Nadelson, M. Notman (Boston, Cambridge, MA, USA)

Gender is an important variable in psychotherapy. It can influence the patient's choice of therapist, the “fit” between therapist and patient, and the sequence and content of the clinical material presented. It also affects the diagnosis, length of treatment, and even the outcome of therapy. These issues will be the focus of our presentation. We will also examine developmental and life experiences, gender differences in personality styles, and the effects of stereotypes and value on psychotherapy.

S166

Gender and psychopharmacology

J. H. Gold (Brisbane, AUS)

Research data and clinical experience have demonstrated that men and women respond differently to most psychotropic medications. A review of the recent literature on the topic will be presented and the implications for treatment of women through-

out the life cycle will be outlined. As most drug studies have not used women in their samples, the focus of the paper will be on the differences in metabolism of psychotropic drugs by men and women.

S168

Gender and stress in physicians

D. E. Stewart, F. Ahmad (Toronto, CDN)

The exigencies of medical practice force many physicians to confront a rapidly expanding knowledge base, stressful situations, changing practice conditions and long hours. While many physicians deal well with these stresses, as a profession we face higher rates of depression, suicide, and substance abuse than many other groups.

While physicians of both genders share most common stresses, there appear to be some stresses that are more gender specific. These include sexual harassment, intimidation, and discrimination, which are reported much more frequently by women than men medical students, residents and graduate physicians. Moreover, many women physicians work a double shift: at work and at home. Women physicians report more depression while men physicians report more substance abuse.

This presentation will discuss some of the causes of stress in women physicians based on a survey of Canadian women doctors. By better understanding the stresses faced by female physicians, optimal prevention, coping and treatment strategies can be developed.

S169

Gender, serotonin and mood

M. Steiner (Hamilton, CDN)

The serotonergic system has been linked to the etiology of several, albeit disparate, psychiatric disorders. The accumulation of many lines of evidence support the view that there are gender differences in the serotonergic system in humans. It is further proposed that a gender differentiated serotonergic system acts as the nidus for the development of gender-specific psychiatric disorders. Depression, anxiety and eating disorders are largely seen in females, whereas alcoholism, aggressivity and suicide predominate in males. Evidence from both animal and human studies suggesting that the serotonergic system mediates between social-environmental experience and biological states will be presented and reviewed. A reconceptualization of the serotonergic system as a gender-specific psychobiological interface is proposed.

Psychosis after childbirth

S170

The effect of antidepressant treatment on pregnancy outcome

G. Koren (The MotheRisk Program, Toronto, CDN)

Clinical depression is one of the most common chronic medical conditions in pregnancy. Women often discontinue their antidepressants in pregnancy due to fears of teratogenesis. Yet, an increasing body of evidence fail to show that the common antidepressants, tricyclics and SSRIs, are morphological or behavioral teratogens. In contrast, recent work by our group indicate that abrupt discontinuation of these drugs can lead to life threatening morbidity. Clinicians caring for pregnant women or for those planning pregnancy with depression, should ensure that their decisions regarding pharmacotherapy are evidence-based and not the result of misinformation and misperception.

S171**The effect of anxiety on pregnancy outcome**

V. Glover, N. Jackson, D. Adams, N. Fisk (London, UK)

Several studies have shown that stress or anxiety in pregnancy is linked with the baby being born earlier and/or smaller for gestational age than in control women. The mechanisms underlying this are not known, although both transport of cortisol across the placenta and impaired uterine blood flow may well play a part. We are following a cohort of 700 women through pregnancy until delivery, measuring anxiety by the Spielberger self report State and Trait scales at booking (average 14 weeks) and at 20 and 30 weeks. Blood sampling at all three time points, and assessment of uterine blood flow by colour Doppler ultrasound at the latter two, were also carried out. Women who were more anxious at booking had significantly smaller babies at birth. The possible contribution of impaired uterine blood flow and hormonal factors are being examined.

S174**Course and treatment of bipolar illness during pregnancy and the postpartum period**

L. Cohen (Boston, MA, USA)

While the postpartum period has typically been considered a period of risk for relapse of bipolar disorder, systematic data regarding the course of bipolar disorder during pregnancy are sparse. The management of bipolar women who plan to conceive or those who are pregnant or puerperal poses significant challenges for clinicians who care for these patients. Recent data suggest that pregnancy is now "protective" and the risk for relapse after lithium discontinuation is similar in pregnant and nonpregnant women with 50% relapsing within 6 months.

This presentation reviews the major clinical dilemmas associated with the management of pregnant bipolar patients as well as recent data on the course of bipolar disorder during pregnancy and the postpartum period. Treatment guidelines for the management of bipolar illness during pregnancy and the postpartum period will also be presented. There will include an algorithm for assessing the risks and benefits of using both typical and atypical antipsychotics during pregnancy as well as mood stabilizers including lithium, carbamazepine and other newer anticonvulsants.

S175**Pharmacokinetics of St. John's Wort (*hypericum perforatum*) in breastfeeding**

C. Klier, M. Schäfer, B. Schmid-Siegel, G. Lenz, M. Mannel (Vienna, AT; Berlin, D)

Objectives

Doctors as well as patients often treat postnatal depression with herbal preparations derived from St. John's wort. Because these preparations are available to patients as over-the-counter "natural" treatments for depression they are popularly assumed to be safe. However, no systematic data regarding treatment of postnatal depression, infant's safety or pharmacokinetics of hypericum constituents in human breast milk or infant plasma exists.

Study design

A mother with postnatal depression presented at our service. Her pharmacist had recommended taking a St. John's wort preparation three times a day (Jarsin®300, Lichtwer Pharma AG, Berlin, Germany). The dose of the drug was not changed during a 8-week period. Neither she nor the baby had shown any side effects such

as skin irritation or colic. Four breast-milk samples (fore- and hind-milk) during an 18-hour period were analyzed to measure concentration of Hypericin and Hyperforin. The mother's plasma was collected five hours after the drug was administered around the time of expected peak concentrations of both components. The infant's plasma was collected three hours later. Hypericin, Hyperforin and the respective internal standards were isolated from breastmilk/plasma by liquid/liquid-extraction and analyzed by reversed phase HPLC and HPLC/MS/MS, respectively.

Results

Only Hyperforin is excreted into breastmilk at a low level, Hyperforin and Hypericin (two major active components) were below the lower limit of quantification (BLQ = below lower limit of quantification; BLQ Hypericin = 1,14 ng/ml, BLQ Hyperforin = 0,50 ng/ml) in this infant's plasma, and no side effects were seen in the mother or infant.

Conclusion

This drug might be a safe alternative associated with a lower frequency of side effects for women who are eager to take an herbal remedy rather than using other psychotropic drugs. However, before recommending St John's wort drugs for the treatment of depression to women who breastfeed, long-term studies of outcome in infants are needed.

Neurobiology of maternal behaviour**S176****The neurobiology of mother-infant attachment**

K. Kendrick (Cambridge, UK)

There are relatively few animal models to aid the study of the neurobiology of mother/offspring attachment but one that has proved useful in this context is the sheep. Maternal sheep bond selectively with their offspring within 1–2h of giving birth. The mother learns within this time to recognise the specific odour characteristics of her lambs and will subsequently only accept suckling from her lambs and respond aggressively to any approaches by other lambs. We have used neuroanatomical, neuropharmacological and neurophysiological approaches combined with behavioural analyses to determine some of the neuroanatomical substrates and transmitter systems involved in this complex process. The bonding process is initially triggered by feedback stimulation from the vagina and cervix during birth influencing the activity of olfactory processing regions within the brain to promote and selective recognition memory. Olfactory cues and later visual cues from the face trigger activation of hypothalamic (medial preoptic area, mediobasal hypothalamus and paraventricular nucleus), limbic (olfactory bulb, amygdala, septum and hippocampus) and cortical (medial pre-frontal and medial temporal, cingulate and entorhinal) structures associated with making emotional and behavioural responses towards lambs. Oxytocinergic, opiate, noradrenergic and dopaminergic systems and nitric oxide signalling have all been implicated in different aspects of offspring recognition and bonding.

S177**Modulation of oxytocin receptor by estrogen and its significance to maternal and sexual behavior**

M. McCarthy (Baltimore, MD, USA)

In rodent brain, gonadal steroids, in particular estradiol, potently modulate oxytocin and its receptor. This modulation is brain region specific and may underlie selective modulation of behaviors by oxytocin. In the ventromedial nucleus of the hypothalamus,

oxytocin receptor synthesis and the binding of oxytocin to its receptor are markedly enhanced by estradiol. In the neighboring central nucleus of the amygdala, oxytocin binding is relatively unaffected by gonadal steroids. This neuropeptide has been found to enhance reproductive behaviors such as sexual and maternal responding in females. It has also been reported to have an anxiolytic effect in rats and mice. We have recently been investigating the signal transduction mechanisms regulating the expression of oxytocin receptor in the hypothalamus and amygdala, and the potential for specific behavioral effects being mediated by oxytocin selectively in each brain region. We have found that estradiol-induced increases in oxytocin binding in the hypothalamus are dependent on protein kinase C and that oxytocin infused into this site, but not the amygdala, enhances female sexual behavior. Alternatively, oxytocin receptors in the amygdala are maintained at tonic levels by dopamine activation of protein kinase A and oxytocin at this site, but not in the hypothalamus, is anxiolytic. These findings suggest that separate mechanisms have evolved to allow oxytocin to regulate a hormonally-dependent behavior, reproduction, and a hormonally-independent behavior, anxiety. Both of these behaviors involve social interactions with other animals may allow females to optimize their reproductive fitness by adjusting their social behavior in coordination with changing physiological conditions.

S178

Dopamine and maternal behaviour: from incentive motivation to neglect

J. M. Stern (Piscataway, USA)

The mother-young synchrony is disrupted by abnormally low or high levels of dopamine (DA), a neurotransmitter critical for incentive motivation and movement, but also involved in psychotic and addictive behaviours. In a series of experiments with lactating rats, reunited with their pups after a 4-hour separation, we varied the effective level of DA. (1) The neuroleptic, haloperidol (HAL), a DA receptor blocker, dose-dependently (0.2–5.0 mg/kg) inhibited the active aspects of maternal behaviour (MB), retrieval and licking of pups, while quiescent nursing was facilitated. (2) The brain locus of these effects was studied with bilateral microinfusions of another DA receptor blocker, cis-flupenthixol (FLU). Retrieval was dose-dependently reduced by FLU only when the infusions included the shell of the nucleus accumbens (NA), a region strongly associated with the limbic system and motivated behaviours. Licking of pups was reduced and quiescent nursing was increased by FLU in the core or shell of the NA, findings related to modest increases in catalepsy. (3) Before reunion with their litter, mothers were fitted with a muzzle that permits distal stimuli from pups but not snout contact, resulting in sustained muzzle-pushing and handling. These measures of maternal motivation were severely reduced by treating muzzled dams with dosages of HAL (0.05–1.0 mg/kg) too low to block retrieval and licking in controls. (4) Effective DA levels were increased modestly by low dosages of the DA agonist, apomorphine (APO; 0.1 or 0.25 mg/kg). Compared with controls, the maternal sequence was disrupted until the APO wore off due to the competing, prolonged behaviours of sniffing (bedding, cage, pups) and pup carrying. Thus, whereas baseline levels of mesolimbic DA are necessary for maternal arousal and initial responsiveness, higher levels of DA, induced perhaps by snout contact with pups, are necessary for the motoric performance of retrieval and licking. Because nursing is enhanced by DA-receptor blockade, suckling may inhibit mesolimbic, as well as hypothalamic DA. Abnormal levels of DA, low due to depression and high due to psychotic states or addictive drugs such as cocaine, are associated with maternal neglect in women.

S180

Mother and infant oxytocin mechanisms contributing to intergenerational transmission of maternal behavior

C. A. Pedersen, M. L. Boccia (Chapel Hill, NC, USA)

Meaney, Plotsky and colleagues have demonstrated that the frequencies of pup-grooming (PG) and arched-back nursing (ABN) exhibited by rat dams are inversely related to adrenal and behavioral acute stress responses (ASRs) that develop in the offspring they rear. In addition, dams' frequencies of PG and ABN correlate with the amount of these maternal behaviors (MBs) they received during infancy. Our studies indicate that oxytocin (OT) is involved in several ways in the intergenerational transmission of MB and possibly ASRs. Central OT selectively amplifies PG and ABN in nursing dams: ICV infusion of OT antagonist significantly decreased dams' ABN and, by increasing self-grooming (SG), significantly decreased PG as a percentage of total grooming (PG + SG). Central OT appears to shift the balance of dams' grooming toward pups and away from self. Other components of MB were unaffected. PG and ABN influence the development of central OT receptors in offspring: OT binding was higher in the central amygdala, medial preoptic area, bed nucleus of the stria terminalis and ventral tegmental area in adult female rats that had received higher amounts of PG and ABN during infancy. Brief daily maternal separation beginning on postnatal day 2, which increased PG and ABN received, significantly altered OT binding in the hippocampus and cortex of 4 and 8 day old pups. OT activity in young female pups, which may be affected by MB received, influences their adult levels of PG: Compared to saline treatment, daily sc treatment with OT antagonist or OT on postnatal days 2–10 significantly decreased and increased, respectively, adult frequencies of PG. These findings, together with reports that centrally administered OT decreases adrenal and behavioral ASRs, suggest the following OT hypothesis of intergenerational transmission of MB and ASRs: OT in the mother's brain controls how much PG and ABN she exhibits (and possibly her ASRs) which influences OT activity in the brains of her pups which, in turn, regulates the development of their central OT receptors (and perhaps other aspects of central OT systems) and, thereby, their adult levels of PG, ABN and possibly ASRs. Supported by MH56243.

Women and psychosis: new treatment strategies

S184

Is the pre-menstrual exacerbation of psychotic symptoms specific to schizophrenia?

G. Althaus, B. Pfulmann, E. Franzek (Würzburg, D)

Background

Previous studies found a correlation between the menstrual cycle and the risk of acute psychiatric admission due to a psychosis. Correlation of psychotic symptomatology and menstrual cycle leads to the hypothesis of estrogen protection which would suggest that low estrogen phases are associated with more severe psychotic symptoms.

Methods

We examined whether a correlation exists between menstrual cycle phase on the day of an acute psychiatric admission and diagnosis. In 122 acutely admitted psychotic women, the menstrual cycle phase was assessed and independently a diagnosis according to ICD-10 and to Leonhard was established.

Results

In all diagnostic entities the majority of patients was admitted premenstrually. Using ICD-10-criteria revealed no significant

differences between diagnostic entities. We found patients with cycloid psychoses significantly more frequently admitted to hospital during the luteal and premenstrual period than patients with schizophrenia ($p < 0.02$).

Conclusions

The exacerbation of psychotic symptoms during the luteal phase was significantly more frequent in patients diagnosed as cycloid psychosis than in patients diagnosed as schizophrenia. This findings do not confirm a specificity of an exacerbation of psychotic symptoms for schizophrenia. Our findings rather suggest that female reproductive function plays a major role especially for the manifestation of cycloid psychoses according to Leonhard.

S185

Prevalence of hyperprolactinemia in a large cohort of schizophrenic patients treated with conventional antipsychotic drugs or risperidone

B. Kinon, J. Gilmore (Indianapolis, IN, USA)

Objective

The under-recognition of hyperprolactinemia caused by antipsychotic drugs that may produce marked prolactin elevations (conventional antipsychotic drugs or risperidone) needs to be addressed. This open-label study was designed to determine the extent of this potential problem in a routine clinical setting.

Methods

402 adult inpatients or outpatients with a diagnosis of schizophrenia, schizophreniform disorder, or schizoaffective were analyzed from a one-day, point prevalence trial. Patients had no prior knowledge of serum prolactin levels or any potential associated adverse events and patients were required to have been treated with a conventional antipsychotic drug or risperidone for a minimum of 3 months prior to study entry. Patients taking concomitant medications known to elevate prolactin levels were excluded. Rigorous assessments of serum prolactin and reproductive hormones were performed to estimate the prevalence rate of hyperprolactinemia. Patients whose prolactin levels were above the upper limit of normal (>18.77 ng/ml for males, and >24.20 ng/ml for females) were considered to have hyperprolactinemia. Patients were stratified by gender and antipsychotic treatment, and in females, by menopausal status.

Results

Serum prolactin was obtained from 147 females (age range: 21–69 years; mean age = 44.51 years) and 255 males (age range: 18–66 years; mean age = 40.76 years). The prevalence of hyperprolactinemia across all females was 59.2% (mean serum prolactin = 44.1 ng/ml) and the prevalence of hyperprolactinemia across all males was 42.4% (mean serum prolactin = 20.2 ng/ml). Males experiencing elevated prolactin levels had significantly lower testosterone (total) levels versus those with normal prolactin levels ($p = 0.0001$). Further analyses of the hormonal imbalance associated with hyperprolactinemia across all females and stratified by menopausal status will be provided in the poster.

Conclusions

Few studies have reliably assessed the prevalence of hyperprolactinemia and associated medical morbidity caused by antipsychotic drugs that may produce marked prolactin elevations. This study reports the wide-spread prevalence of hyperprolactinemia with associated lowering of reproductive hormones in a population of patients receiving routine clinical care.

Treatment of women with psychotropic drugs

S187

Medication for women with depression and anxiety disorder in Japan I. Gender and cultural characteristics: somatization and preference of psychotropic drugs

T. Kuroki, K. Yoshida, N. Tashiro (Fukuoka, J)

Objectives

Female patients show medically unexplained, somatic symptoms more frequently than male patients do, while somatization is recognized as the common feature of patients with depression and anxiety disorder in eastern Asian countries. The gender-culture interaction may play a significant role in the pathophysiology and treatment of somatization, depression and anxiety disorder. This study aimed to elucidate the impact of gender and cultural factors on medication treatment of depression and anxiety disorder in Japan.

Methods

The authors examined the relationship between medically unexplained, somatic symptoms and depression and anxiety disorder in a primary care setting in Japan, using several measurements of somatization and psychological distress. The authors also reviewed gender differences in actions of psychotropic drugs.

Results

In consistent with the reports from European countries, female population of patients with medically unexplained, somatic symptoms was significantly greater than that of patients with organic disease in Japan. Analysis of the profile of somatization indicated that Japanese patients were likely to show a phobic attitude to illness compared to Australian patients. The survey on medication treatment in Japan revealed that sulpiride, rather than tricyclic antidepressants and selective serotonin reuptake inhibitors, has most frequently been indicated as an antidepressant. Interestingly, sulpiride is believed to be especially effective for treating premenstrual distress syndrome and postpartum depression. Sulpiride displays not only a selective antagonism of dopamine-D2 receptors but an atypical antipsychotic property.

Conclusions

Gender and cultural aspects should be considered for developing effective medication treatment of somatization, depression and anxiety disorder.

S188

Endocrine side-effects of antipsychotics in women

A. Wieck (Manchester, UK)

Background

All conventional antipsychotic drugs stimulate the secretion of prolactin from the pituitary and this has for decades been an inevitable and neglected side-effect. Some of the new antipsychotics are prolactin sparing. This offers the opportunity to revisit this side-effect and examine its consequences and management.

Objectives

These are first to enhance the knowledge about the magnitude of baseline prolactin levels and the prevalence of the main resulting symptoms in women and secondly, to raise the awareness of longterm effects of antipsychotic-induced hypoestrogenism.

Methods

This review is based on peer-reviewed articles obtained by electronically searching Medline (1966–2000) and cross referencing.

Results

Typical and some atypical antipsychotics increase prolactin levels up to 10-fold during acute and chronic treatment. Estimated

frequencies of antipsychotic-associated amenorrhea range between 20 and 50% in prospective and cross-sectional studies. Studies from the pre-neuroleptic era also report a high incidence of menstrual irregularities in psychotic women suggesting a predisposition to a dysfunction in the hypothalamic-pituitary-ovarian axis. However, the substantial incidence of antipsychotic-induced galactorrhea in psychotic women (10–57%) and the frequent resolution of endocrine symptoms after drug discontinuation suggest that antipsychotics make a major contribution to this symptom. As a result of reduced ovarian activity women may suffer from infertility, sexual dysfunction, acne and hirsutism.

Recent studies suggest that oestrogens have protective effects on coronary heart disease, cognitive decline and osteoporosis. Psychiatric patients with prolonged premenopausal amenorrhea may lose out in this respect. Preliminary data indicate that patients treated with conventional antipsychotics have reduced bone densities at several sites vulnerable to fracture. However, the contribution of other risk factors for osteoporosis which are common in psychiatric patients needs to be investigated further.

Conclusion

Hyperprolactinaemia induced by antipsychotics leads to distressing symptoms and potentially harmful long-term effects. If the offending drug cannot be discontinued, management of symptoms is required in most cases.

S189

Sexual dysfunction in women on antidepressants: common presentations and some treatment strategies

L. Webster (Manchester, UK)

Sexual dysfunction can be a symptom of depression and a side effect of antidepressant treatment. This presentation reviews the women referred to a psychosexual clinic during a six month time period. Common clinical presentations are identified of the development of sexual dysfunctions such as loss of libido, problems with arousal and anorgasmia in women on antidepressants. Strategies for treatment are outlined, in view of what is known about the pharmacological actions of antidepressants on sexual function. These strategies include dosage adjustment, drug holidays, alternative antidepressants, educational approaches and the use of couple and sex therapies.

Menopause – freedom or insanity

S190

The hormonal replacement therapy controversy

C. Nadelson, M. Notman (Boston, Cambridge, MA, USA)

The relative risk and benefits of HRT have become increasingly more complex to interpret and apply for individual women as new data continue to appear, often contradicting previous data. Most often, the focus of controversy has been whether there are significant benefits in preventing cardiac disease and osteoporosis, or increased risk of reproductive and breast cancer. Recently, effects on cognitive function especially Alzheimer's disease, and on depression have sparked attention. This paper will review current data and focus on mental health effects including 1) Emotional effects of hormones, including the relationship between depression and hormone variations 2) Emotional effects of HRT.

S192

Menopause: social expectations, women's realities

N. Stotland (Chicago, IL, USA)

Women come to menopause with a wide range of expectations derived from the societies in which they live. The expectations

concern not only the physiologic realities of menopause, but also, and especially, its psychosocial implications. Those implications are the result of attitudes towards aging and fertility. For a woman who wishes to have a child, or more children, menopause (despite technologies available to very few) means the end of that hope, and, for a society that values women chiefly for reproduction, a drastic diminution in her social worth. In a society where birth control is not available and repeated pregnancies drain women's physical and psychological resources, menopause may be a welcome respite. Menopause is often used to represent aging. In societies where young wives are expected to obey and care for their mothers-in-law, aging brings respect, relief, and authority. In youth-oriented societies, menopause, as a symbol of lost youth, is sometimes experienced as a disaster. Perceptions have also been influenced by the advent of hormones meant to keep menopausal women in a pre-menopausal state. Both patients and clinicians bring their expectations to the therapeutic encounter.

S193

Are women who choose hormone replacement therapy selected a priori by specific personality traits or psychological vulnerability?

E. Loekkegaard, L. F. Nielsen, A. Koester, L. Hvas, K. Garde (Copenhagen, DK)

Studies have shown that women using hormone replacement therapy (HRT) represent a special subgroup of the population regarding for instance cardiovascular risk factors and education.

To analyse if women who choose HRT are characterised a priori by high neuroticism score or by being psychologically vulnerable.

Prospective population-based study was initiated in 1976 with follow-ups in 1981, 1987 and 1996. The population comprises a random sample of 621 women born in 1936 and living in the county of Copenhagen.

The analyses are based on data on two sub-cohorts of 268 and 235 women from the large population-based study. These subgroups consist of the women participating in both baseline at 40 respectively 45 years and at follow-up in 1996. Apart from women having had an oophorectomy women registered with mental disorder in the schizophrenic or affective spectrum were excluded.

In 1976 at the age of 40 the women participated in a comprehensive examination which apart from baseline characteristics included Eysenck's personality questionnaire concerning intro/extroversion and neuroticism. In 1981 at the age of 45 the re-examination of the women included a test for psychic vulnerability.

The women reported whether or not they used HRT at the age of 40, 45, 51 and 60 years. The analyses comprised "never users" of HRT and "future users", defined as women who started HRT subsequent to baseline registration during the observation period.

The groups were compared by multivariate statistical methods to adjust for confounding factors.

A general tendency that women subsequently choosing HRT are characterised by a neurotic personality trait and psychological vulnerability at baseline was found.

The results will be discussed in a framework of coping strategies.

S194

The climacterium hits everybody else but me? Anticipations and experiences of the climacterium

A. Koester, L. F. Nielsen, K. Garde (Copenhagen, DK)

Many different aspects are involved in the anticipation and experience of the climacterium, of which not all can be explained

by biological changes occurring during this phase of life. More permanent symptoms, gender specific stereotypes of the troubles connected to middle-age and general ageing processes seem to play an important role as well. The concept of the climacterium often changes during the middle-age period, as lay anticipations are not always fulfilled by personal experience and symptoms usually linked to biological changes can persist long time after menopause.

Results from a Danish general population study of a cohort born in 1936 followed during 20 years from the age of 40 to 60 will be presented to illustrate these areas.

Psychiatric disorders after miscarriage

S195

Psychiatric effects of miscarriage: depression, anxiety and implications for attachment theory

R. Neugebauer (Vienna, AT)

Objectives

Ten to 20% of clinically recognized pregnancies end in miscarriage, defined as an involuntary loss of an intrauterine pregnancy up to 27 completed weeks gestation. It is frequently an unexpected, physically stressful and unwanted event that raises a woman's doubts about her reproductive competence. A miscarriage, especially loss late in gestation, is likely to be physically very painful, frightening and associated with the sight of blood and embryonic and maternal tissue. Further, miscarriage represents a unique form of bereavement, the rupture of a physical as well as symbolic attachment between the mother-to-be and the anticipated future child. Based on these considerations, we anticipated that miscarriage would be associated with an increased risk for depressive and anxiety symptoms and the emergence of feeling pathognomonic of grief, i.e., yearning and pining for the deceased.

Methods

We examined these potential multiple psychiatric and psychological sequelae of miscarriage using a modified hort design comprising a cohort of miscarrying and pregnant women drawn from the ob/gyn patients of a single large urban hospital and women residing in the community.

Results

Compared to women in the pregnant and community cohorts, the miscarrying women had substantially elevated levels of depressive and anxiety symptoms, increased rates of major and minor depressive disorder and of some anxiety disorders. However, among miscarrying and pregnant women, gestation at time of loss was not associated with depressive symptom levels. Nor, among the miscarrying women, was yearning and pining for the lost pregnancy and the lost child, associated with length of gestation at time of loss.

Conclusions

As hypothesized, miscarriage raises a woman's risk for symptoms of anxiety and depression. However, results for symptoms of grief suggest either that maternal attachment to the unborn child emerges early and remains relatively constant during the first two trimesters of pregnancy or that attachment, loss and symptoms of yearning exhibit counterintuitive relations in the context of prenatal loss.

S196

Loss and depression: the risk for affective disorders and depressive symptoms following miscarriage

C. M. Klier (Vienna, AT)

Objectives

The psychiatric consequences of involuntary pregnancy loss have been studied since the seventies, with depressive symptomatology and disorders being the main focus until recently. This life event, which is experienced as traumatic by many women, represents a threat to psychological well-being. Reactions to perinatal loss are best understood when viewed through the framework of attachment theory.

Methods

A series of controlled studies were conducted in the late nineties employing pregnant and/or community control groups. To restrict evaluation to depressive disorders only would neglect the fact that emotional distress falls along a continuum rather than a dichotomy. Also, failing to reach a threshold for caseness does not imply that an experience has had no significant impact. Thus, studies that report on both depressive symptoms and disorders are important. A limitation is that the results of such studies cannot be compared directly.

Results

In the first 6 months after the loss, women are at elevated risk for depressive symptoms, subthreshold depression and depressive disorders. Childlessness was found to be a risk factor in most studies, whereas factors such as a personal psychiatric history, stress during pregnancy, dissatisfaction with social support and unplanned or unwanted pregnancy was found to put a women at risk in only single studies.

The work of Neugebauer and colleagues demonstrated that miscarrying women are at a 2.5 fold overall risk for a major depressive episode and a 5 fold risk for a minor depressive episode. The proportion of miscarrying women who had elevated depressive symptoms was 3.4 times that of pregnant women and 4.3 times that of community women.

Conclusion

Since there is an increased risk for the onset of depressive disorders and symptomatology following miscarrying, screening for such conditions should be conducted, and immediate treatment should be provided, when indicated. This is not only important for the health and well-being of mothers, but also for children born in subsequent pregnancies as unresolved grief and depression in the mother might impair the parent-child relationship.

S197

Co-morbidity of depression and anxiety following miscarriage

D. Castille, R. Neugebauer (New York, USA)

Miscarriage, often an unexpected, adverse physically painful medical event, may trigger worry and anxiety. However, systematic observational studies of anxiety as a psychological sequelae of miscarriage are rare, as are studies of co-morbid depression and anxiety or studies that control for one (anxiety or depression) in considering the other.

Objectives

We examine whether and under what conditions miscarriage increases anxiety symptoms and the degree of co-morbidity of symptoms of anxiety and depression following reproductive loss.

Methods

Miscarriage is defined as a nonviable, intrauterine pregnancy involuntarily terminated before 28 completed weeks of gestation. We interviewed 224 women within 4 weeks of miscarriage, 277

pregnant at about the same point in gestation and 290 non-pregnant community women at a single point in time.

Results

A new instrument, the Total Anxiety Symptom Scale (reliability .90), based on DSM-IV symptom criteria for anxiety disorders was used to measure anxiety symptoms. Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale. Observed symptom mean of the miscarriage cohort was 24.0 (15.2), different from that in the pregnant (20.4 [12.9]) and the community (20.2 [14.6]) cohorts ($p < 0.05$). Significantly higher levels of anxiety were reported by public patients in the miscarriage cohort, a pattern not found in either pregnant or community women. Prior reproductive loss, childlessness and gestational age mediated the effect of miscarriage on anxiety symptoms. Anxiety and depressive symptoms were highly correlated. Miscarriage exerted a stronger influence on depressive symptoms than on anxiety symptoms. Consequently, the observed elevation of anxiety symptoms in miscarriage women compared to levels in the other two cohorts was abolished after control for depression.

Conclusions

Loss events that also involve an element of threat to the individual appear to increase both depressive and anxiety symptoms in the same individual. Depressive symptoms may mask anxiety symptoms following miscarriage. Physicians should be alert to both depressive and anxiety symptoms for early intervention with miscarriage patients.

S198

Prior reproductive loss as a predictor of depression or anxiety in the subsequent pregnancy

P. A. Geller (Philadelphia, USA)

In order to develop appropriate clinical screening and treatment protocols to help offset psychological and psychiatric consequences of loss, empirical evaluation of the mental health consequences of miscarriage is necessary. Although recent research has established that miscarriage is a risk factor for depressive reactions ranging from depressive symptoms to minor and major depressive disorder, systematic study of anxiety disorders as a consequence of miscarriage has been rare. Furthermore, the existence of anxiety and depressive symptoms during the pregnancy subsequent to the miscarriage has not been adequately addressed in the literature.

A cohort design was used to examine the hypothesis that women who miscarry are at increased risk for an anxiety disorder episode – including obsessive compulsive disorder (OCD), panic disorder, or phobia – in the 6 months following loss. The miscarriage cohort consisted of women attending a medical center for spontaneous abortion ($n = 229$); the comparison group was a population-based cohort of women drawn from the community ($n = 230$). The association between miscarriage and each anxiety disorder were estimated using relative risks (RRs) (computed by dividing the 6 month total incidence rate of the anxiety disorder in the miscarriage cohort by that in the community cohort) and 95 percent confidence intervals (CIs). Results indicated that among miscarriage women, 3.0% experienced a first or recurrent episode of OCD compared with 0.4% of community women (RR = 8.0; 95% CI, 1.0–63.7). There was no strong evidence for increased risk of panic disorder or phobia – including agoraphobia, in the 6 months following loss. Results will be discussed in terms of clinical implications. In addition, rates of anxiety and depressive symptoms in a subsample of 49 women who conceived again within 6 months after their miscarriage will be reported.

S199

Randomized controlled trial of time-limited, telephone administered bereavement counseling following miscarriage

R. Neugebauer, L. Baxi, J. Markowitz, J. Kline, K. Bleiberg, T. Ferro, A. Skodol (Vienna, AT)

Objectives

Miscarriage/fetal death occur in 10–20% of clinically recognized pregnancies. Previous observational studies found that such losses are associated with substantial increases in levels of depressive symptoms and depressive disorder in the subsequent 6 months. The widespread use of supportive counseling and therapy programs for miscarriage women, developed in part in response to these findings, have not been evaluated for safety or efficacy. We developed a standardized counseling protocol focused primarily on miscarriage/early fetal loss, employing 1–6 sessions of telephone administered interpersonal counseling, and have commenced an evaluation of its safety, acceptability, and efficacy using a randomized controlled design.

Methods

Study subjects comprise women attending a medical center in a major urban area in the northeast US for a miscarriage, defined as the involuntary loss of an intrauterine pregnancy up to 27 weeks completed gestation with the conceptus dead on expulsion. Women diagnosed with an inevitable miscarriage up to 27 weeks completed gestation are also study eligible. After an initial pilot phase to assess protocol feasibility, women symptomatic at baseline (Beck depression scores > 8) are allocated either to interpersonal counseling ($n = 80$) or standard care ($n = 80$). To test for preliminary evidence of intervention safety and efficacy we compare the level of depressive symptoms and functioning at 10 weeks after loss among women assigned to interpersonal counseling with that among women assigned to standard care, adjusting if necessary for baseline differences in symptom levels between the two groups. Women with baseline Beck scores below 9 are also assessed again at 10 weeks after loss.

Conclusions

This study will assess the safety and preliminary evidence of efficacy of counseling to alleviate depressive reactions to loss among miscarriage women. Counseling for miscarriage has the potential to substantially reduce psychiatric morbidity among women of reproductive age.

S200

The grieving response to stillbirth – course and variations of the coping-process, needs for therapeutic help, recommendations for treatment

M. W. Kuse-Isingschulte (Munich, D)

Until the beginning of the early '70s the death of an unborn child towards the end of pregnancy or shortly after delivery received little attention. To spare the women “unnecessary stress”, open discussions on the tragic event were rather avoided – proceeding on the assumption, that parents develop an emotional link only after the birth, being in contact with their child. Early studies described stillbirth as a “non-event” the death of an unknown, nameless person. As a consequence, there were only very rare possibilities of grieving towards the patients, who were left alone with their broken hopes and expectations. In addition it was noted, that this repression was also in the interest of the skilled personnel to avoid oppressing feelings of helplessness and grief.

In a systematic study the emotional response to a late miscarriage or stillbirth as a sudden and unexpected event was examined retrospectively (7 years) involving 51 patients. The effort was to describe the course of coping – in order to

differentiate between a normal grieving-process and a depression as a complication. Several factors were found influencing the grief, depending on the personality of the patient, the circumstances of the delivery and the treatment. Further more risk-factors for a depressive reaction were examined, to improve the medical and psychotherapeutical treatment.

The findings revealed, that the course of the grieving response was positively influenced by open discussions with the patients, a contact to the deceased child and an exact information about the circumstances and the place of the funeral.

The mental health of women in their mothering role

S201

Antenatal maternal stress and obstetric outcome: epidemiological findings and neuroendocrine mechanisms

M. Austin (Randwick, AUS)

This review examines the associations between antenatal maternal stress and obstetric and infant outcomes using preterm delivery as the key outcome indicator. This was done by means of a Medline search focusing predominantly on prospective, controlled studies which investigated both associated epidemiological factors and putative neuroendocrine mechanisms.

There is evidence from a number of US studies in economically deprived African American women for an association between perceived maternal life event (LE) stress and preterm delivery. The findings from the European studies are conflicting, partly because they combine outcome measures ie. preterm delivery and low birth weight. However the three largest Scandinavian epidemiological studies examining preterm delivery (Lou et al 1994, Hedegaard et al 1996, Nordentoft) and controlling for confounders such as smoking, age and obstetric history, have confirmed this association. These studies taken together suggest that this may be a robust finding not limited to socioeconomically deprived African American samples and independent of other significant risk factors.

Two small prospective studies examining the relationship between the HPA axis, psychosocial status and premature delivery have reported a significant association between a set of adverse psychosocial factors on the one hand, and levels of ACTH, CRH and cortisol levels, and on the other hand, a significant correlation between CRH levels and premature delivery. Clearly, these findings remain preliminary and indicate a complex relationship between perceived stress in pregnancy, the HPA axis and premature delivery. The impact of antenatal maternal stress on infant temperament and psychopathology remains to be examined more fully in prospective controlled trials.

S202

Intervention with general practitioners and maternal child health nurses in the detection and management of postpartum depression and distress

A. Buist, J. Milgrom, C. Morse, S. Durkin (West Heidelberg, Footscray, AUS)

Changes in Health Delivery have been substantial in recent years, with little known as yet about what the full impact of these changes will be. Whilst there has been increased awareness and education about postpartum depression, there has also been a reduced length of obstetric stays, limiting of visits by MCHN's and an orientation of Psychiatric services to the 'Seriously Mentally Ill' which largely excludes women with postpartum depression.

Given this climate, it is essential that services for women with postpartum psychiatric disorders are used optimally, and supports are available not just for the women, but to support primary health care workers.

Our study, completed in 1999, linking a mother-baby unit with MCHN's and GP's with education, liaison and prioritised tertiary assessment and admission will be presented; 243 women were recruited antenatally and followed to up to 9 months postpartum, 133 forming the study group and 110 the control. MCHN'S and GP's in the study group were offered an intensive education package, with ongoing 4-6 weekly liaison meetings. The intervention was welcomed and feedback positive; women however in the study and control group did not differ in their levels of depression throughout the study. Differences however emerged between levels of depression in women in well supported affluent areas and those in under resourced lower socioeconomic areas, with a trend at postnatal follow up for the latter group to score higher on the Edinburgh Postnatal Depression Scale. Comments and feedback from health workers in these areas, relevant to the intervention and the ability to make use of it, highlight the need for integration of services.

S203

The meaning of the cry

E. McKenney (Newcastle, AUS)

A crying baby causes distress to most of us, we want the crying to stop. However crying is a baby's way to communicate to those caring for him or her, and a communication parents try to understand. Most parents learn to deal with the crying. Some parents with histories of deprivation, neglect, or abuse have difficulties in coping with parenthood resulting in children with insecure attachment. Many of these parents find the crying of their babies intolerable and they struggle to cope with an intolerable distress that the crying causes for them. These parents, with unprocessed, emotionally deprived backgrounds, have defensive behavioural patterns making attunement to their infants difficult. Because these parents are unable to reflect on their own difficult childhood experiences they are unable to reflect on their infant's psychological experience, and they find their infant's distress unmanageable. In this presentation I will discuss two patients for whom this was relevant to their postnatal distress.

S204

Vulnerability and resilience in the maternal role; the importance of early experiences

B. Barnett (Liverpool, NSW, AUS)

Child development, physical, cognitive and emotional, is critically influenced by early experience. This is not a new idea, but we have been fortunate enough in the last decade or so to acquire acceptable scientific evidence to support such statements. Much of the early environment, material as well as social, is provided by the mother, or who ever assumes that role for the infant. During gestation her physical and mental well-being are vital to the foetus, and after the birth, her emotional and instrumental competence are of crucial significance for the current and future welfare and competence of the offspring.

What enhances and what subverts maternal competence? One fundamental issue is the current state of the mother's social network; her interpersonal relationships. Bowlby (1969/82, 1973, 1980, 1988) stated that vulnerability or resilience in the face of adversity, and also our capacity to enjoy life, depended upon this factor. Social network is not a chance occurrence; it is devised and maintained by the individual to the best of his or her ability, based on past experiences. The closer the relationship, e.g. a marital partnership, the more likely it is that selection of the other has

been carried out on the basis of what best fits the mental representation or internal model of such relationships. These mental representations were first laid down in the family of origin (biological or otherwise) and may or may not have been modified by experiences in subsequent relationships. Attachment is an essential aspect of this process.

Assuming the maternal role is not a simple corollary of biological maturation following puberty. The decision regarding whether or not to follow this course in life, i.e. becoming a parent, is complex, and the motivation largely remains unconscious.

The effect of early relationships on coping with a challenging event in later life – becoming a parent for the first time – will be illustrated by case material concerning women who experienced both normal and abnormal childbirth.

S205

Premature birth of a very small baby: how do parents cope with it?

U. Wesselmann, A. Kersting, I. Hörnig-Franz, F. Louwen, K. Schütt, V. Arolt (Münster, D)

Problem

a premature birth often occurs unexpectedly. When the birth weight is very low, this can be extraordinarily distressing for the parents. The life threatening immaturity and its consequences are traumatic stressors, which mothers have to cope with. The present study examines psychological sequelae of the birth of a very small premature baby, in particular the traumatic impact of such an experience.

Methods

the sample consisted of 18 mothers, whose children were born before the 32nd gestational week and/or had a birth weight of less than 1500g. The comparison group comprised mothers who had a normal uncomplicated delivery.

Immediately after delivery the traumatic experience was measured by the Impact of Event Scale (IES) and peritraumatic dissociation by the Peritraumatic Dissociative Experiences Questionnaire (PDEQ). After two weeks and again after six months a structured clinical interview (SCID) was carried out, in addition standardized and validated questionnaires for depression (BDI, MADRS) and anxiety (STAI, HAMA) were completed by the mothers.

Conclusions

preliminary results show that some mothers experience the premature birth of a very small baby as a severe traumatic event.

Discussion

The extent of traumatic distress after a premature birth has been underestimated in scientific literature until now. Considering the present results possible predictors for traumatic distress and severe psychological disturbance are discussed.

Symposium of the German Society for Psychosomatic Gynecology and Obstetrics

S206

Intervention rates in normal birth: reason for psychosomatic concern?

B. A. Schuecking, C. Schwarz (Osnabrueck, D)

Objectives

German women in their reproductive years are a most healthy population; the average birth rate is 1,4 per woman. A high percentage of spontaneous, uncomplicated birth is to be expected. Overall intervention rates being amongst the highest of Europe, the

amount of interventions in the non-risk majority of women (e.g., induction of labour/caesarean section) and their psychosomatic as well as somatic consequences are of interest & should be discussed.

Methodology

Quantitative study of perinatal data from all women giving birth in Lower Saxony hospitals (~70 000/year; >90% of all births) for a 15 year period (1984–99), subsampling women “at risk” and women without risk following WHO guidelines. The results will have to be discussed in the light of psychosomatic findings on interventions during birth.

Results

As a first result, the expected difference between intervention rates of women with and without risks can be shown in caesarean section; other interventions as for example induction rates are high in both groups, followed by more interventions in many cases. A “cascade-affect” of first interventions will have to be proven. Trends will have to be worked out.

Conclusions

For the first time, the overall intervention rate of German birth is analysed from the physiological point of view. Taking into consideration the psychosomatic importance of a physiological birth experience both for the mother and her child (e.g. bonding), cascades of unnecessary intervention in normal birth should be avoided. The European debate on elective caesarean section on request of the mother will have to be discussed as well from a psychosomatic point of view.

S207

Traumatically experienced childbirth

A. Pantlen, A. Rohde (Bonn, D)

The attitudes and expectations of women concerning pregnancy, delivery and motherhood depend on cultural and sociological influences. Since the 60th the obstetricians have changed fundamentally. Today pregnant women wish “natural childbirth” and “a self-determined delivery” in combination with a maximum of security. Because of the decreasing birthrates in the western industrial countries the single event becomes more important in a woman’s life.

If the delivery takes an unexpected course with complications or a termination by caesarean section, women often are disappointed and they are torn by feelings of failure. The childbirth experienced as a traumatic event can lead to serious psychological disturbances postpartum. Dependent upon objective and subjective factors, some women may even develop the symptomatology of a posttraumatic stress disorder (PTSD). These women suffer from mental re-experience of delivery, hyperarousal, avoidance, sense of guilt, fears, nightmares, sleep disturbances and depressive symptoms.

Our own experiences at the department for Psychosomatics in Gynecology (founded 1997) show that the development of PTSD symptoms is influenced by subjective factors such as need for control, sense of shame, expectations and previous traumatic experiences. In case of PTSD symptoms a specific psychotherapeutic treatment is always necessary to prevent long-term negative consequences for the health and mental condition of the mother and the mother-child-relationship.

S208

Mothers after stillbirth: at high risk for complicated (traumatic) grief?

A. Kersting, P. Ohrmann, V. Arolt (Münster, D)

To give birth to a stillborn child is a critical life event for mothers and fathers as well.

In a case report the traumatic and distressing situation of a mother bereaved by stillbirth is illustrated. Taking into account the current scientific research different strategies to cope with the loss of a stillborn child are critically discussed.

Grief is a highly individualized process influenced by intrapsychic, interpersonal and social factors. The definition of normal and pathological grief is complicated by the variety of grief reactions. Two research groups (Horowitz et al 1997, Prigerson et al 1999) developed empirically validated criteria with a special focus on the traumatic aspect of grief. They describe a specific kind of grief after traumatic losses, like the loss of a stillborn child. However, further empirical research on representative samples as mothers after stillbirth is necessary to validate previous findings and to differentiate specific subgroups of pathological grief.

In summary in recent research the psychological strain of mothers after stillbirth has been underestimated. Mothers who gave birth to a stillborn infant should be assumed to be at high risk for complicated (traumatic) grief.

S209

Negative outcomes from prenatal diagnosis and fetal loss – psychic and social impact

B. C. Hahlweg-Widmoser (München, D)

For obstetricians the loss of a child due to medical respectively fetal reasons is a common phenomenon. The identification process of a medical or fetal defect up to the actual delivery is a first time experience with an essential psychological unknown impact on those who are affected.

My studies deals with the decision process leading to an abortion and the herewith connected psychic reactions as well as coping possibilities those who are involved, have.

It is possible to reflect derived results quantitatively as well as qualitatively. In conclusion not only general but also individual and social results on legal abortion based on medical and fetal indication are given.

S210

Psychiatric admissions following abortion and childbirth: a record-based study of 107,883 low-income women

J.R. Cogle, D.C. Reardon, V.M. Rue, P.K. Coleman, P.G. Ney (Springfield, IL, Portsmouth, NH, Sewanee, TN, USA; Victoria, BC, CDN)

Research into women's psychological adjustment to abortion is complicated by methodological problems. Most studies have no information about women's psychological state prior to becoming pregnant. Most are exposed to sample selection bias with typically fifty to sixty percent drop out rates. Since more negative reactions are reported among women who keep their abortions secret or cope by means of repression or denial, high drop out rates may strongly dilute measures of maladjustment postabortion. Another shortcoming of most studies in this field is that follow up is limited to a few months, weeks, or even hours. Recent studies have underscored the importance of longer term evaluation. For example, Major and colleagues (2000), investigated the psychological state of women one hour pre-abortion, and one hour, one month and two years postabortion. They found that depression, negative emotions, and dissatisfaction with the abortion decision increased with time.

The present investigation seeks to circumvent the problems of concealment, nonparticipation, short follow up times, and lack of information about prior psychological history by means of a large record linkage study. The sample consisted of 107,883 low-income California women aged 13–49 years at the time of the target pregnancy event. Women were categorized according to whether they had only abortion(s) or only birth(s) during the time period

analyzed. Medical records related to psychiatric admissions were examined for a period of four years after the target pregnancy event. Throughout the four years of analysis, aborting women had a significantly higher rate of psychiatric admission (72% higher) compared to postpartum women. Controlling for prior psychiatric admissions increased the odds ratio. These higher rates persisted across all age groups and at all time periods measured from 90 days to 4 years after the pregnancy event.

Higher rates of psychiatric admission among aborting women may be due to common risk factors, a lack of social support some women experience during stressful life experiences, or negative reactions among a minority of women to the abortion experience itself.

S211

Coping with medical abortion – the German experience

A. Hemmerling, J. Beusch, F. Siedentopf, H. Kentenich (Berlin, D)

Background

Since the controversial introduction of Mifegyne (RU 486) in November 1999, German women do also have the possibility of choosing between medical and surgical abortion. We explored the coping process of women who chose the medical procedure to terminate an unwanted pregnancy.

Methods

Women were asked before and four weeks after the procedure to complete a questionnaire regarding demographic data, motivation, medical details and social support. Additionally, the women completed the German Version of the Hospital Anxiety and Depression Scale (HADS) and the Impact of Event Scale (IES).

The study is conducted in cooperation with several Berlin gynecologists. The following evaluation compares the data of the first 65 participating women who chose medical abortion with the results of other international studies.

Results

Comparing data before and a month after the abortion, our study shows a significant decline of both anxiety and depression (HADS). Prior to the procedure 16 women (24.6%) had elevated scores on the anxiety scale, four weeks later only 3 of the women (4.6%). For depression those numbers fell from 14 women (21.5%) to 2 (3.1%) respectively. Afterwards, only 2 women (3.1%) showed higher depression levels than before abortion, none of them did so in anxiety levels. The women in our study had significantly lower entrance levels than those participating in the studies of Henshaw (1994) and Slade (1998).

The scores collected on the IES (four weeks after the procedure) were also significantly lower than the ones of the study done by Slade. Demographic and medical data as well as social support and satisfaction with treatment confirms results of international studies. 61 women (93.8%) evaluated the possibility of choice between different abortion methods as being highly important to them. 38 women (58.5%) would characterize the overall experience as a rather positive one. In a hypothetical future situation 54 participants (83.1%) would opt again for a medical abortion.

Conclusion

According to existing literature the reduction of anxiety after an abortion is a normal psychological reaction; the fall of depression scores after the abortion suggests a first relief. Our study supports the consensus view that termination of an unwanted pregnancy is a positive first solution to the conflict, regardless of the chosen method.

The positive outcome and high satisfaction levels among the participants illustrate the importance of an ongoing and improved

accessibility of medical abortion with Mifegyne for women in Germany.

WPA Section on Women's Mental Health Symposium – Mental health aspects of violence

S212

Harassment and intimidation of medical trainees

D. E. Stewart, G. Erlick-Robinson (Toronto, CDN)

North American surveys over the past decade have consistently shown that over 70% of female and 20% of male medical students and residents are harassed or abused during professional training. The offending agents are faculty supervisors, residents, fellow students, nurses and patients or their families. A literature review of the health and professional effects of this mistreatment will be described and discussed. Harassment prevention guidelines and their implementation will be presented from the authors' experience in Canada and the USA.

S213

Psychological effects of violence on women

N. Stotland (Chicago, IL, USA)

Violence against women occurs in virtually every major culture and every rank of society. It has pervasive effects on women's cognitions, emotions, and behaviours. These effects are further complicated by the social context in which the violence occurs; not uncommonly, the woman is blamed for her own victimization. The impact is also related to the age at which the violence occurs, the nature and severity of the violence, and the number of violent episodes. Violence impairs self-esteem and the ability to trust other people and feel safe in one's environment. Violence is a major risk factor for depression, anxiety disorders, notably posttraumatic stress disorder (PTSD) and personality disorders. Recent clinical and theoretical work indicates that some patients diagnosed with borderline personality disorder can be better understood and treated as cases of PTSD. Victims of violence suffer dissociation, guilt and panic. Their need to protect themselves from repeated violence engenders intense vigilance and jumpiness. At the same time they are often strongly attached to their abusers, feeling unable to cope on their own and acutely aware of the underlying weakness and neediness of the abuser. Treatment, which will be discussed, must address these understandable psychological sequelae of violence.

S214

A curriculum on boundary violations

G. Erlick-Robinson, D. E. Stewart (Toronto, CDN)

There is increased awareness amongst health care professionals of the negative consequences of boundary violations with patients. A curriculum designed by the authors will be discussed. It consists of a didactic portion addressing the causes and consequences of such violations as well as a workshop component using case vignettes which allow participants to consider their responses in various clinical situations. These vignettes can be tailored to suit the particular group of attendees and encourage active participation in the discussion.

S215

Treatment of women who suffered violence

C. Nadelson, M. Notman (Boston, MA, USA)

Violence against women takes many forms including sexual exploitation, sometimes within a treatment situation. In this talk, therapeutic issues for woman who have experienced rape or sexual

boundary violations will be explored. Topics that will be addressed are: The traumatic aspects of the violation and treatment of post traumatic effects, relationship with the therapist which can repeat earlier trauma, erotic transference and counter-transference, anger and the need for the patient to control the treatment situation, problems of trust and special therapeutic needs. The role of consultation will be described.

S216

War, women and trauma

P. Bell, I. Bergeret, L. Oruc (Berchem, B)

The last few decades have seen an increase of research into the psychosocial and psychiatric consequences of war. However the bulk of this research relates to male veterans and refugees. There is a serious dearth of literature on female civilians being performed in the country of trauma origin. This study explores the psychosocial effects of war on women, within the cultural and geographical context, particularly;

- (1) the extent and nature of the of the psychological and psychiatric response to trauma (Post Traumatic Stress Disorder, depression, anxiety)
- (2) the role of current social and cultural factors determining the level of coping and adjustment psychiatric morbidity.
- (3) comparing the above factors across the following three categories of war experience:
 - domestic: women from Sarajevo who remained throughout the war,
 - displaced: women forced to leave their homes, staying in refugee settlements,
 - returned refugees: women who have returned to Sarajevo from exile.

One hundred and fifty female civilians, divided into the above groups, participated in this study, conducted in Sarajevo and surrounding refugee settlements. Women were interviewed by local psychiatrists, using the Harvard Trauma Scale for the screening of PTSD and Social Functioning, and the Hopkins Checklist for Anxiety and Depression. Both tests have been revised, translated and validated for Bosnian population. The Rosenberg Self-Esteem Scale and the Lazarus Coping scale examine psychological aspects of self-esteem and coping. A general interview containing demographic information was devised for the purposes of this study.

Results indicate an overwhelming presence of PTSD 82%, depression, 80%, anxiety 76% and poor social functioning 72%. Displaced women – victims of ethnic cleansing – showed the greatest level of psychopathology and poor social adjustment. The war experiences were most dramatic for this group, indicating a positive correlation between nature of traumatic event and nature of traumatic response.

In order to implement effective responses, it is necessary to determine the personal and environmental factors that influence an individual's path to recovery. Moreover it is essential to redress the serious imbalance that exists in trauma research pertaining to women in conflict as well as to non-western societies.

S217

Violence against women and mental health status : national data from France

M. Saurel-Cubizolles (Villejuif, F)

After an introduction discussing the main points of the available scientific literature on this topic, we describe the national survey on violence against women, carried out in France in 2000. In this survey, including about 7000 women 20–59 years old, violence is assessed as physical, sexual and psychological abuse whatever the

context (couple, family, work, public places) or the aggressor (man or woman) is, during the last 12 months and over lifetime.

Mental health status is measured by several indicators, describing symptoms, use of medical care, suicide attempts. The General Health Questionnaire, 12 items, is used to get a standardised measure of psychological distress.

These empirical data, showing what is the prevalence of violence in France and in what extent violence erodes women's mental health, arise social and political questions. One of them is about the role of health professionals to recognise victims of violence and to help them.

Women, chemical dependence and mental health

S222

Gender-specific aspects of quality management in the treatment of alcohol dependent women

M. Banger, S. Kutscher, H. Birkhahn, E. Holzbach, H. Eich, J. Pach, K. Windgassen, C. Wurthmann, K. Hummes (Essen, Oberhausen, Gelsenkirchen, Remscheid, D)

Objective

For quality management evaluation 457 alcohol dependent patients (according to ICD-10) of 6 Psychiatric departments of the Ruhr region were included in this study during Sep. 99 to October 00.

Methods

Substanceabuse-Anamnesis, diagnostic procedures, kind of treatment, unwanted side effects, complications during treatment, therapy-outcome were standardized documented and the results were gender specific compared.

Results

20% of the included patients were females (on average 46 ± 11 yrs old), 80% men (on average 44 ± 9 yrs old). History of alcohol dependence was significantly shorter in women. In spite of this fact alcohol induced somatic diseases were balanced in both groups. 29.3% of all patients reported about life events, 12.2% of women had experience in sexual abuse, 2.8% of men.

Conclusion

The lifetime prevalence of alcoholism in females is less than in men. As a consequence a lot of studies in this field do not include women or do not observe gender specific aspects. In our study the female patients had in spite of their shorter substance abuse history the same extend of somatic diseases and complications. Our data of the sexual abuse experience in women demonstrate the necessity of a gender specific psychotherapeutic approach during qualified detoxification.

Estrogen and cognitive health in women – neuroprotective actions of estrogen

S223

Estrogen prevents oxidative nerve cell death and modulates the processing of Alzheimer's disease-associated amyloid beta precursor protein (APP)

C. Behl, B. Moosmann, D. Manthey (Munich, D)

The female sex hormone estrogen (17-beta estradiol; E2) has multiple neuromodulatory functions and affects structure and function of the brain. E2 has been shown to have beneficial effects in prevention of neurodegenerative disorders, such as Alzheimer's Disease (AD). Genomic and non-genomic effects may mediate the neuroprotective activities of E2. Considering the non-genomic activities, the potential of E2 to prevent oxidative stress in neurons

could be of great importance, in particular for diseases known to be associated with an increased oxidative burden. With respect to AD, which shows many hallmarks of oxidative stress, E2 modulates the amyloidogenic processing of the amyloid beta precursor protein (APP), one central step in the pathogenesis of AD. We found that (1) physiological concentrations of E2 very rapidly cause an increased release of secreted non-amyloidogenic APP (sAPPalpha) in mouse hippocampal HT22-cells and human neuroblastoma SK-N-MC cells and that (2) this effect is mediated via the phosphorylation of extracellular-regulated-kinase1 and 2 (ERK1/2), prominent members of the mitogen-activated protein kinase (MAPK) pathway, through E2. The APP-processing is one important target of E2's actions in neuronal cells. Other genetic targets of E2 will be identified in the future and may have the potential of serving as novel therapeutic and preventive approaches.

Supported in part by Bayer AG.

S224

Mechanisms of estrogen protective activity in neural cells

E. Vegeto, A. Brusadelli, S. Belcredito, C. Bonincontro, P. Ciana, A. Maggi (Milan, I)

Decreased blood levels of estrogens have been associated to the manifestation of diverse neural disorders. We now know that estradiol may have a profound influence on neural cell activities. An extremely diversified mechanism of action provides this hormone with a high complexity of effects. Estradiol in fact regulate neural cell activities by binding at least two subtypes of intracellular receptors (named ERalpha and ERbeta) which are hormone-regulated transcription factors. We have recently shown that each of the two receptors, once transcriptionally activated by the same hormone, display a differential influence on the target cell physiology by eliciting the synthesis of a specific sets of signalling proteins. In addition, the two ERs are expressed in several brain areas and in all types of cells besides neurons: astrocytes, oligodendrocytes, and microglia. It is conceivable that in each cell type the activation of the two ER results in the synthesis of cell specific factors, thus increasing the potential of the hormone actions in neural cells.

In microglia cells we show that estrogen may oppose the inflammatory activity of LPS by blocking the morphological differentiation towards the ameboid conformation and the synthesis of pro-inflammatory agents.

In our neuroblastoma model system we have identified genes which are specifically induced by estrogens. Of these, two were further studied: nip-2 and protymosine. Our studies show that nip-2 encodes a apoptotic protein of relevance for the apoptosis. Protymosine, on the other hand, encodes a protein involved in cell proliferation. Further studies in vitro and in vivo have shown that the expression of nip-2 is significantly decreased by physiological concentrations of oestradiol, while the hormone increases the activity of prothymosine.

We will discuss the complexity of the multiplicity of estrogen effects in the different cell components of the mammalian CNS.

S227

Estrogen and Alzheimer's disease: evidence from human studies

V. Henderson (Los Angeles, CA, USA)

Estrogens possess a number of properties that suggest a potential role in Alzheimer's disease (AD) prevention or treatment. These include neurotrophic and neuroprotective actions, effects on neurophysiological properties believed to be important in memory formation (long-term potentiation), modulation of acetylcholine and other neurotransmitter systems affected in AD, and effects on proteins implicated in AD pathogenesis (beta amyloid and apo-

lipoprotein E). Positive findings in clinical and imaging studies of healthy older women provides additional indirect support for this supposition. Data from case-control and cohort studies indicate that estrogen therapy is associated with a reduced risk of AD. In the largest such study, conducted in the Leisure World retirement community in California, risk was reduced by a third (relative risk 0.65, 95% confidence interval 0.49–0.88) (Paganini-Hill & Henderson, *Arch. Intern. Med.* 156:2213, 1996). Although not all reports have suggested protective effects, risk estimates were even lower in epidemiological studies from New York, Baltimore, Rochester, Italy, and Rotterdam. With respect to Alzheimer treatment, results of three recent randomized clinical trials (Henderson et al., *Neurology* 54:295, 2000; Mulnard et al., *JAMA* 283:1007, 2000; Wang et al., *Neurology* 54:2061, 2000) fail to support previous suggestions that estrogen therapy might have clinically important effects on AD symptoms. Preliminary findings, however, have raised the possibility that estrogen might enhance beneficial effects of cholinomimetic treatment in AD. In conclusion, observational data support the use of estrogen for the primary prevention of AD, but this possibility is not yet addressed by clinical trial data. For women with symptoms of dementia due to AD, clinical trial data do not support a role for estrogen monotherapy.

S228

Estrogen and cognitive functioning in postmenopausal women

B. Sherwin (Montreal, CDN)

Fundings from basic neuroscience have provided evidence that estrogen has beneficial influences on neurochemical and neuro-anatomical substrates of the brain that are important for memory. Prospective studies in surgically menopausal women (Sherwin, 1988; Sherwin & Phillips, 1990; Phillips & Sherwin, 1992) and controlled, observational studies of naturally postmenopausal women (Kampen & Sherwin, 1994; Carlson & Sherwin, 1999) demonstrated that estrogen replacement therapy (ERT) maintains short and long-term verbal memory in women and increases the capacity for new learning. Several large epidemiological studies of postmenopausal women have also confirmed that estrogen use protects against aspects of cognitive decline with aging (Kawas et al., 1997; Tang et al., 1996; Grodstein et al., 2000). We recently found that 72 and 74 year old estrogen-users also performed better on tests of memory than nonusers (Carlson & Sherwin, 1999; 2000). Taken together, these finding strongly suggest that the use of ERT in postmenopausal women will protect against the deterioration in aspects of memory that occurs with normal aging.

The effect of depression on premature aging in women

S229

Attitudes towards aging in perimenopausal women

G. C. Valadares Miranda (Minas Gerais, BR)

Climacteric experience, information level and self-perception significantly vary due to socio-economical class. Women with medium-high level income are wise, including on role of hormone use and quality of life improvement. The low-income women are less informed, their experiences with HRT are punctual, ephemeral added to their unfamiliarity and even ignorance on global role of hormone effects. Women's view of Menopause is changing in better way but there's a lack of information on HRT especially in low-income population. Medical and women educational efforts could improve it.

Perimenopausal women treatment need a global dimension not restricted to hormone deficiency, focusing symptoms relief and prevention aspects: identification of chronic diseases, the tracks of cancer. Due to high morbidity and mortality cardiovascular diseases and osteoporosis were added to the basic propedeutic adopted by Health Ministry in Brazil, totalising four axes: Climacteric syndrome propedeutic; Cancer and Chronic diseases identification; osteoporosis.

Climacteric Syndrome propedeutic include clinical identification with most complete possible physical and gynaecological examination, observing vasomotor symptoms, atrophic modifications. The chronic diseases identification must consider cardiovascular diseases (CVD) considering risk factors: CVD installed, Hypertension, Diabetes Mellitus, Brain Vascular Disease or Peripheral Vascular Disease, family history of premature CVD, smoking, obesity.

Balanced dietary, regular fitness, stop smoking and drinking, controlling cholesterol and blood pressure, added to HRT could decrease CVD, Alzheimer Disease and Depression risk for menopausal women (climacteric women start using ATD after 45's).

Cancer preventive exams are recommended for uterus neck, vulva, vagina, endometrium, ovaries, and colon. Osteoporosis is evaluated by skeleton densitometry and recognition of risk patients (low height, family osteoporosis history, alcohol and caffeine intake, smoking, sedentary; anti-convulsive, anti-acid, thyroid hormone use; chronic kidney insufficiency, gastrectomy, bowels anastomosis, bad absorption symptom, hyperparathyroidism, diabetes).

The way the participants of climacteric focal groups go through menopause, their anxiety and expectations is quite individualistic, frequently a lonely experience. A better doctor's -patient relationship, education and self-help group must help.

"EVERY WOMAN LIKES TO BE LOVED."

S230

Relationship between depression and cardiovascular disease in women

E. Galli, H. Cavalié, L. Feijóo, M. Rondón (Lima, PE)

Women get depressed twice as frequently as men do and the first episode usually appears around age twenty, before than in the man.

Cholesterol dosage was done to 50 patients, where 28 of them (56%) measured less than 160mg%, 14 (28%) between 160–240mg%, 3 (6%) between 200–240 and 5 patients (10%) more than 240mg%.

36 patients (72%) were found with high basal cortisol.

Brain SPECT displayed 46 patients (92%) with right and left orbito frontal mesial hipoperfusion.

Heart SPECT found 12 patients (24%) with coronary insufficiency.

1. Women with major depression have a high likelihood of suffering from coronary disease (24%). Our figures agree with international data that range between 18 and 60%.
2. Brain SPECT allows us to confirm the diagnosis of depression in 96% of the cases, showing its reliability as a diagnostic tool.
3. Cortisol is elevated in 72% of patients with major depression. So, this is also a reliable test for diagnosing.
4. Cholesterol was found very low in 56% of patients with major depression, this is also a very valuable diagnostic tool, in spite of the inverse relationship between cholesterol and heart disease.

This report allows us to infer that depression predisposes to heart disease and that both CardioSPECT and NeuroSPECT are very important exams in the diagnosis of the woman with major depression. Also, we should not forget two simple and economical tests as cholesterol and cortisol measurements.

Developmental psychopathology of females and males: an attachment perspective

S234

Temperament, caregiver - child interaction, attachment security and disorganisation

U. Bade, B. Mertensacker, U. Pauli-Pott (Giessen, D)

In many studies the concept of attachment security by Bowlby turned out to be an important predictor of the child's further social and emotional development. The central issue of the present study is how the quality of attachment develops. Traditionally, studies exclusively focused on maternal sensitivity to explain this process. According to the theory of attachment a secure attachment is established by sensitive caregiving in the infant's first year of life. Besides maternal sensitivity the present study includes and examines further aspects of maternal behavior, namely emotional expression, authenticity/congruence and maternal depressiveness/anxiety as well as infant negative emotionality/irritability. The quality of attachment was assessed in a sample of $n = 33$ dyads using the 'strange situation' according to Ainsworth et al. (1978) at the children's age of 18 months. In the course of the children's first year of life (at 4 and 8 months) behavior observations had been conducted in the laboratory and during home visits. It is demonstrated that maternal depressiveness/anxiety plays an important role for the development of attachment (in)security as well as the development of disorganized behavior. Moreover, infant negative emotionality and maternal authenticity/congruence turned out to be significant predictors.

S235

Autonomy and attachment in adolescents with eating disorders

F. Becker-Stoll, B. Stadler, S. Scheitenberger (Regensburg, D)

Several studies have already linked adolescents' states of mind regarding attachment to concurrently-assessed qualities of parent-adolescent relationship and to autonomy development in adolescence (Kobak, Cole, Ferenz-Gillies, Fleming & Gamble, 1993, Allen, 1995, Allen & Land, 1999, Becker-Stoll, Fremmer-Bombik, 1997). In important respects the pursuit of autonomy and relatedness in interactions with parents may be comparable to attachment processes that are observed in infancy and childhood. The adolescent's task of establishing autonomy while maintaining positive relationships with parents is functionally similar to the infant's task of exploring the environment from the secure base of the parent-infant relationship.

The etiology of eating disorders has been related to an impaired development of autonomy (Bruch, 1978) as well as to insecure attachment representation (Cole-Detke & Kobak, 1996). The present study investigates the balance of autonomy and relatedness and the attachment representation in a clinical sample of adolescents with eating disorders ($N = 30$), compared to a nonclinical control sample ($N = 27$). To investigate both aspects of autonomy and of attachment we assessed the attachment representation of the adolescents by means of the Adult Attachment Interview (Main & Goldwyn, in prep.) and observed the adolescents together with their mothers in a revealed differences task and in a planning a vacation task. Both situations lasted 10 min. and were analyzed with a modified form of Allen's autonomy and relatedness coding system (Allen, 1995).

The clinical eating disorder sample will be compared to the nonclinical sample concerning 1) adolescent autonomy and relatedness behavior in both interaction situations 2) the distribution of security and insecurity of attachment 3) the relation between attachment representation and autonomy and

relatedness behavior. Results will be discussed both within Bowlby's framework of developmental pathways of attachment and within the development of autonomy (Ryan, Kuhl, & Deci, 1997).

S236

Attachment and coping with chronic disease – a challenge to develop intervention programs based on attachment theory

S. Schmidt, T. Jentschke, S. Schinke, B. Strauss (Jena, D)

The purpose of the study was to investigate strategies of coping with chronic disease from the developmental perspective of attachment theory. It is assumed that attachment theory, in particular the concept of the internal working model, is a powerful framework to explain interindividual ways of coping. The sample of the study consisted of 150 patients, mainly female, suffering from three types of disease: breast cancer chronic leg ulcers and alopecia (the intention was to cover a broad range of subjective impairment caused by a disease). Methods used in the study were clinically oriented: Attachment styles were assessed with the German version of the Adult Attachment Prototype Rating, coping strategies with the Berne Coping Modes, and a range of questionnaires were used as well. Findings indicated that two levels of coping emerged with one "coping level" corresponding to attachment experiences. Avoidantly attached patients showed highly deactivating strategies of coping while ambivalently attached individuals showed hyperactivating strategies. Securely attached patients, in contrast, were more able to shift flexibly from one strategy to another and to rely on interpersonal coping resources. As a conclusion, new intervention concepts may be developed focussing on attachment experiences in the context of coping with chronic disease. The development and in particular the indication of such an intervention program will have to be evaluated in future research.

S237

Adult attachment status and couple relationship quality in expectant and young parents

K. von Sydow, M. Ullmeyer (München, Hamburg, D)

Objectives

Research about adult attachment and couple relationship quality has become increasingly popular in the past decade. But most studies only rely on self-report (questionnaire) assessments of adult attachment which are at a high risk of being biased by socially desirable answers. We present results from a longitudinal study which applied the Adult Attachment Interview (AAI).

Methods

In our prospective longitudinal study with 30 (expectant) parent couples ($N = 60$) we collected AAIs at the first assessment (pregnancy) and assessed couple relationship quality longitudinally at four points in time (pregnancy, 2nd, 4th, 7th month postpartum) by questionnaires (Partnerschaftsfragebogen/PFB: Hahlweg, 1979, 1996; Relational Assessment Scale/RAS: Hendrick, 1981).

Results

Data about the intra-dyadic concordance of both partner's attachment status are presented and it is decreed if the AAI-status predicts the longitudinal course of couple relationship quality.

Conclusion

Methodological problems and implications of the study (e.g. the interrelation of idealization in the AAI, "dismissing" AAI classifications and remarkably "good" evaluations in couple relationship quality questionnaires) and the correspondence of our results with other studies are critically discussed.

Postpartum depression: trans-cultural studies

O238

Perceptions of postnatal depression across countries and cultures: From a TransCultural Study of PostNatal Depression (TCS-PND)

N. Glangeaud, P. Asten, R. Ghubash, M. Smith, J. Cox, B. Figueiredo, L. Gorman, S. Hacking, E. Hirst, M. Kammerer, C. Klier, D. T. S. Lee, S. Neema, M. Oates, T. Okano, M. Smith, T. Seneviratne, A. L. Sutter, V. Valoriani, B. Wickberg, K. Yoshida (Villejuif, F; London, UK; Dubai, UAE; Dublin, IRL; Stoke-on-Trent, UK; Braga, P; Iowa City, USA; Manchester, UK; Zürich, CH; Vienna, AT; Hong Kong, VRC; Kampala, EAU; Nottingham, UK; Mie, J; Bordeaux, F; Florence, I; Göteborg, S; Kyushu, J)

This session will be dedicated to the memory of Professor Channi Kumar.

Objectives

The qualitative study was conducted within the international "Transcultural study of postnatal depression (PND)" in 17 centres located in 13 different countries. The aim was to explore perceptions of PND by lay and professional key informants, specifically regarding description of symptoms, awareness of this pathology and of possible care.

Methods

Broad areas of inquiry and open-ended probes were developed by the TCS-PND research group during international workshops to obtain data comparable between countries on perceptions of PND. A non-random convenience sampling method was used to recruit postpartum mothers for focus groups, and fathers and grandmothers for interviews. Influential healthcare planners and clinicians were interviewed as professional key informants in each centre. Within sites, transcripts of focus groups and interviews underwent a process of text analysis in the original language until exhaustive theme extraction was achieved. Themes (in English) from all the centres were combined into broader categories and after consensus discussions these categories were revalidated.

Results and discussion

Qualitative data were supplemented in each centre with socio-demographic data to address the issues of: (i) whether perceptions of PND are related to some specific cultural perception of mental health and/or of status of parenthood and (ii) how high or low levels of general care and specificity of health policy relate to differences in perception of needs for care. Data collected using the same probes and methodology in different countries and cultures has enabled a comparative analysis of perceptions of PND. In addition it has shown that, although not described with the same words, PND is a well-recognised condition by recent mothers in all countries in this study. Data on focus groups and interviews from selected countries are given in the following abstracts to illustrate some similarities and differences in perceptions between countries.

O239

What do Swedish mothers and fathers think about happiness, unhappiness and mental health in the transition to parenthood period? From a TransCultural Study of PostNatal Depression (TCS-PND)

B. Wickberg, B. Nordström (Göteborg, Lund, S)

Background

Equality in working life (80% of mothers of pre-school children are employed) and in family policy is highly valued in Sweden. The ideal of family life is one of parents sharing infant care and

responsibility. In reality, only 10% of the parental leave is used by fathers. In the perinatal period, however, the main support person for the woman is her partner with 90% of fathers taking ten days parental leave after the birth. The generational support system has become less important.

Methods

Data from 6 focus groups with 28 mothers were collected from the regular parental groups offered to all parents 1 to 5 months postpartum by the Child Health Services in Sweden.

Key informants, three in each category of fathers, grandmothers, planners and clinicians were also interviewed.

Results

An effect of Swedish cultural perceptions could be that the fathers rather talked about their own feelings instead of their partners. (1) Happiness during pregnancy for fathers meant: good relationship, talking much with the partner; feeling ready to have a baby, having time enough. (2) Unhappiness during pregnancy: worries and sad mood. (3) Happiness postpartum: long parental leave, to have grandparents near, good hospital care, sharing baby care and partner support.

The mothers also stressed the partner relationship as important for (1) happiness during pregnancy but also feelings of pride and self-esteem. Many focus groups regarded child-bearing as a miracle and the meaning of life. Unhappiness (2) was: worries about baby's health; not being able to cope as a mother and worries about partner relationship. Happiness postpartum (3) was: sharing experiences with partner, successful breastfeeding, not being self-centred, following the development of the baby. Unhappiness postpartum (4) was: vulnerability, worries about not coping as a mother, stress, not having time enough, tiredness and birth complications.

O240

Postnatal depression in Japanese women: modern and traditional aspects: from a TransCultural Study of PostNatal Depression (TCS-PND)

K. Yoshida (Fukuoka, J)

Japanese childbearing women are well educated and want to establish their career rather than trying to get married quickly. On the other hand, many modern Japanese women keep traditional concepts of marriage. About half of women get married through the traditional arranged marriage system and tend to quit work at marriage or after pregnancy. They often choose a traditional support system for perinatal women (which is called Satogaeri bunben), staying a few months perinatally at her own family house to get sufficient support, especially from their own mothers.

Methods

Data from focus groups of mothers (four groups with 17 women in total from five to eight months postnatal, all married) and three key informants in each category (fathers, grandmothers, clinicians and planners) were collected through one local health centre located in the catchment area of our university hospital. The data were collected by myself and my colleagues, one psychiatrist and three psychologists.

Results

To highlight of different perceptions of postnatal depression, which are related to Japanese specific cultural perceptions, were as follows. (1) Happiness during pregnancy: Having a baby boy (focus group); Socially accepted (father, grandmother); Attending a traditional ceremony for pregnancy (father); Being proud of having a pregnant daughter (grandmother). (2) Unhappiness during pregnancy: Husband's affair during wife's absence. (3) Happiness after birth: Being accepted by mother-in-law (focus

group); Going to shrine with a baby (father). (4) Understanding of postnatal depression: Many focus group mothers discussed this as to be something like being depressed, however they confused it with maternity blues. Fathers and grandmothers did not know much about this so they did not give any particular answers, and nothing culturally relevant. The GPs (clinicians) did not really know about postnatal depression precisely, mentioning that they were not educated especially about perinatal psychiatry. However, they were able to guess the cause and policy. The planners were much less knowledgeable and were not aware of the importance of these issues, lacking ideas about concrete policy.

O241

Obvious gap between somatic and psychosocial treatment during pregnancy, delivery and after birth in Austria

B. Schmid-Siegel, C. M. Klier, A. Kumpf-Tontsch, G. Lenz (Vienna, AT; Leipzig, D)

Objectives

In 1974 a standardized prevention program was introduced that consists of medical check-ups for pregnant women and children until the age of four. All check-ups are free of charge, a financial incentive for mothers was given until 1995 (95% of pregnant women attended). This program is the main reason for the good physical health of mothers and babies and the low perinatal mortality rate (4.4/1.000 in 1999). Although in Austria there are a mean of 10.1 contacts with health professionals during pregnancy, no regular psychosocial assessments are performed for mothers during pregnancy and after child birth.

Methods

The healthcare system was studied using the statistical yearbooks and information provided by the ministry of health. Moreover, qualitative research was employed to study the views of healthcare planners, mothers, grandmothers and fathers on postnatal depression (PND) with regard to symptoms, causes and desired treatment.

Results

Professional key informants do know about the psychosocial and biological causes of PND, about clinical symptoms and the repercussions on child development and the family. There is agreement that a high quality of medical services should be maintained, that the high prevalence of PND is not recognized, and that there is a lack of public awareness, information, psychotherapeutic services and specific facilities such as mother-baby units. Results of the focus groups show that women are fairly well aware of the symptoms and causes of PND, what treatment options should be available and what should be done to improve services.

Conclusion

In order to identify PND and utilize mother and baby services more effectively, there is a need for postgraduate education, multi-professional cooperation and the introduction of psychosocial screening programs.

O242

The father's role between mother's expectation and the man's experience

P. Benvenuti, M. Ardito, S. Bellini, G. Marchetti, D. Poggiolini, S. Rosi, V. Valoriani (Florence, I)

The aim of this presentation is to compare women's expectations about their partners during pregnancy and after childbirth with the father's perception of his own role. Data were collected from 5 Focus Groups and from semi-structured interviews administered to fathers. One of the main themes related to happiness and unhappiness during pregnancy and after childbirth that emerges

from the FG is the expectation of the presence, empathy and affective support from one's own partner. This expectation is strongly prevalent in respect to other possible forms of support (i.e. from one's own parents, friends, etc). It seems that the women in our sample consider their partners as the only figure able to support them, implicitly loading him down with responsibilities. The fathers, while realising this, express some personal difficulties. The availability for a practical support clearly emerges together with sharing responsibilities related to take decisions and daily needs. Fathers' difficulties, instead, concern the assumption of the paternal role, the changes in the couple relationship, and feelings of exclusion. The apparent contradiction between mothers' and fathers' perceptions corresponds to different idealised points of view of the importance of their own roles. On one side the mothers pretend to be the exclusive focus of attention, on the other the fathers experience feelings of jealousy, affective deprivation and low acknowledgement of their attempts.

O243

Pregnancy, delivery and post-partum experiences: similarities and differences in Portuguese mothers: from a TransCultural Study of PostNatal Depression (TCS-PND)

B. Figueiredo, C. Alegre (Braga, P)

We aim to address the main similarities and differences in pregnancy, delivery and postnatal experiences of Portuguese mothers. In order to accomplish this purpose, 8 focus groups were composed, each one with 4 to 6 participants. The sample, with a total of 35 subjects, is quite heterogeneous regarding several social and demographic characteristics. However, the majority of the mothers had their first (45.7%) or the second child (45.7%), about six months prior to the study.

The focus groups were held in Medical Centres and the mothers were invited to participate by the nurses responsible for the vaccination in those centres. Most mothers agreed to participate. Those sessions occurred in the presence of two researchers and were audio-taped. Some questions were presented for discussion in the group, in order to focus the participants in their pregnancy and postnatal experiences. Mothers contributions were then transcribed and categorised using the IN-VIVO program. The categorisation of themes resulting from mothers participation, as well as some examples of their contributions, which had been categorised in each one of the themes, are presented.

Similarities and differences found in pregnancy, delivery and postnatal experiences in this Portuguese sample, along with the advantages of using a qualitative methodology when conducting a study with this kind of purpose, are discussed. In relation to observations in others countries, results show the great importance of the quality of the relationship and support from extended family and husband to the happiness of Portuguese women during pregnancy and postpartum; nevertheless the mothers complain of the intrusiveness of the family after delivery. Also, as far as postnatal depression is concerned, and regarding to the causes, almost all the mothers conveyed that overwork and lack of support from husband and from mother might lead to depression after delivery.

O244

Health services provision for patients with perinatal-psychiatric problems in Switzerland

M. Kammerer, E. Kammerer, C. Bollag, B. von Castelberg, K. Gossen, K. Lieske, M. Mögel, C. Pinard (Horgen, Zürich, CH)

Background

The prevalence of postnatal depression in Switzerland is within the range known from many studies worldwide.

Research questions

1. What is the structure of perinatal-psychiatric service provision in Switzerland from the top – down perspective of the ministries of health?
2. What are the met and unmet needs in the eyes of service planners, patients, clinicians, specialist for child protection, health visitors, mothers fathers, grandparents?

Method

1. Descriptive data were obtained by questionnaire.
2. Qualitative data were obtained by focus discussion groups and key informant interviews.

Results

1. It is a non-gatekeeper system. Outpatients are looked after by both adult and child psychiatrist and psychologists in private practice and by adult and child psychiatric hospital outpatient services. Pregnant women who need inpatient services obtain treatment on general wards for women (or for both sexes). Mothers with babies are provided joint mother and baby admission for psychiatric treatment on general wards for women (or for both sexes) in at least one hospital of nearly every canton.
2. The qualitative data suggest that pregnant patients may experience dangerous situations on psychiatric wards and mothers with babies may have to face long waiting time until the hospital can provide joint mother and baby admission under safe circumstances. On the ward they may find it difficult to look after the baby especially to breastfeed the baby while patients without babies may behave in an inappropriate way. (Patients' interviews). Health visitors report difficulties in identifying outpatient services with a constant interest in perinatal-psychiatric health service. The interest of the institutions and the quality of the perinatal-psychiatric service may depend too much on the individual doctors interests who happen to work there and thus fluctuate. (Health visitors, social workers, doctors).

Conclusion

Systematic quantitative research in order to establish the pathways of care and the outcome of perinatal-psychiatric patients in Switzerland is necessary.

O245

Mother's perception of postpartum depression in France – is it different from father's perception? From a TransCultural Study of PostNatal Depression (TCS-PND)

N. Glangeaud-Freudenthal (Villejuif, F)

Data presented are from interviews of 3 postpartum men and from focus groups of 17 postpartum women recruited in crèches (casual day baby care centres) and in Maternal and Infant Protection centres (PMI), in Paris and its near suburb.

Results

The main answers to four open questions were:

“Happiness (or no unhappiness) of women during pregnancy?”

For women: Having no health problems, feeling the baby, having a joint project of a child with partner, having family around, not being alone, not having marital conflicts and being understood at work. Women also described anxiety about delivery and baby's health. For men: being able to feel the baby, being a supportive partner, having financial and material comfort, and importance of a child for continuity of generations.

“Happiness (or no unhappiness) of women after birth?”

For women: becoming a family, a good relationship with their own mother and partner still interested in you. Women also talked about difficulty to care at the same time for baby, partner, work, and family.

For both men and women: pride of having a healthy growing baby, successful nursing, having family support and joys, not being alone, and confidence in childcare.

For men: being together at birth, having direct contact with the baby, woman's returning to work and re-establishing a normal rhythm of life.

“Understanding postnatal depression?”

For women: having a difficult baby, different from what you had expected, lack of sleep with a crying baby, and being overloaded with other children, can cause depression.

For migrant women, a far away family was also perceived as a possible cause for depression. Although saying not to know much about PND, men were able to describe symptoms and causes.

“What can be done to help a depressed mother?”

For women: having support and understanding from their mother and from other women after birth.

Both men and women stressed the importance of practical help of someone at home and said medical consultation was needed only in very severe cases of depression.

Men insist, first of all, on their help and understanding for the women and next on other women's support for her. They expressed many ideas on how to help a woman to avoid depression.

Psychoneurobiological investigations in women: HPA-axis and related hormones

S246

Effects of socially induced emotion on oxytocin, prolactin, and ACTH in humans

R. Turner, M. Altemus, J. Amico (Alameda, USA)

There is little research on the effects of specific emotional states on pituitary hormone release. Most studies in this realm have focused on the HPA axis and effects of stress and social support, rather than specific emotions. In an initial study, we found trends toward a decrease in oxytocin during negative emotion induction and during massage and no change in oxytocin during positive emotion induction. In addition, we found that trait anxiety was associated with less oxytocin release in response to emotion induction and massage. In the present experiment, 32 healthy women, from 20 to 30 years old, were administered a standard emotional imagery protocol to elicit target emotions associated with social attachment and then viewed brief film clips to augment the emotion inductions. Induced emotions were (a) happiness based on romantic love and (b) sadness based on loss of a loved one. Participants underwent emotional inductions while blood draws occurred every 5 minutes through an indwelling catheter. Using repeated measures analysis of variance, comparisons were made among mean baseline hormone levels and mean levels during the imagery task, film, and post-induction phases. There was no consistent pattern of oxytocin release in response to emotion inductions. However, mean prolactin levels showed a significant increase from baseline (12.01 ng/ml) to film (13.48 ng/ml) in the love condition [Mean Square = 12.7; $F(3,75) = 4.8, p < .004$]. In the loss condition, there was a trend toward an increase in prolactin from baseline to film. Also, in the loss condition, mean ACTH levels dropped from the film to the post-induction phase only, from 37.90 pg/ml to 25.36 pg/ml [Mean Square = 40.9; $F(3,40) = 4.02, p < .01$]. Women who were not currently in a couple relationship showed greater increases in ACTH when viewing the romantic film; $t(17) = 3.2, p < .005$. And, the happier women reported feeling during the romantic imagery task the more their ACTH levels increased during that task, $r = .59, p < .02$. Overall,

oxytocin release was not responsive to induction of attachment-related emotions, and there was no relationship between personality traits and oxytocin release. Prolactin and ACTH were significantly affected by attachment-related emotion, but the happy versus sad nature of the event did not have consistently differential effects on hormone levels.

S247

Breast-feeding and stress: evidence for psychoendocrine stress protective effects in women

M. Heinrichs, U. Ehlert, I. Neumann, G. Meinlschmidt, S. Wagner, C. Kirschbaum, D. H. Hellhammer (Zürich, CH; Munich, Trier, Düsseldorf, D)

In several studies lactation has been shown to be associated with basal alterations of the hypothalamic-pituitary-adrenal (HPA) axis. Since there is evidence from animal research that HPA stress responses are under significant influence of the lactogenic hormone oxytocin, suckling-induced oxytocin release both into the blood and within the brain may be expected to reduce endocrine responses to psychosocial stress in humans.

The effects of suckling on the HPA axis and the sympathetic-adrenal-medullary system responses to mental stress in 43 breast-feeding women were investigated. Subjects were randomly assigned either to breast-feed or to hold their infants for a 15-min period with the onset 30 min before they were exposed to a brief psychosocial stressor (Trier Social Stress Test, consisting of unprepared speech and mental arithmetic).

Both breast-feeding and holding the infant yielded significant decreases of adrenocorticotropin (ACTH), salivary free cortisol, and total plasma cortisol (all $p < 0.01$). There were no significant differences of baseline hormone levels between both groups 1 min before the stress test. In response to stress exposure, ACTH, salivary free cortisol, total plasma cortisol, norepinephrine, and epinephrine were significantly increased in the total group (all $p < 0.001$). However, free cortisol and total cortisol responses to stress were markedly attenuated in breast-feeding women (group by time, $p = 0.067$ and $p = 0.001$, respectively). In addition, there was no change in oxytocin or vasopressin in response to the stress. Breast-feeding as well as holding led to decreased state anxiety ($p < 0.05$), however, stress exposure worsened mood, calmness, and anxiety in the total group (all $p < 0.001$).

From these data we conclude that the suckling stimulus in lactating women does not result in a general restraint of the psychoendocrine responsiveness to psychosocial stress as observed in rats. Rather, breast-feeding is suggested to exert a short-term suppression of the cortisol response to mental stress.

S249

The role of early adverse experiences in the pathophysiology of mood and anxiety disorders: neuroendocrinological studies in adult women with a history of childhood abuse

C. Heim, D. J. Newport, A. H. Miller, C. B. Nemeroff (Trier, D; Atlanta, GA, USA)

Compelling evidence suggests that, in addition to genetic vulnerability and female gender, early adverse experience represents one of the major risk factors for the development of mood and anxiety disorders. Persistent sensitization of corticotropin-releasing factor (CRF) neurocircuits may be the underlying biological substrate of an increased vulnerability to stress, depression and anxiety as a consequence of early-life stress. We here present findings showing that women with a history of childhood abuse exhibit increased pituitary-adrenal and autonomic responses to standardized psychosocial laboratory stress when compared to controls. This effect is particularly robust in abused women with current symptoms of depression and

anxiety. Abused women without depression further exhibit increased adrenocorticotropin (ACTH) responses to oCRF, whereas abused women with current depression, and depressed women without early-life stress, demonstrate blunted ACTH responses. Abused women without depression further show adrenocortical counter-regulation to central hyperactivity. Those abused women suffer from depression report more recent life stress than abused women without depression. Taken together, these findings suggest that early-life stress induces sensitization of the neurobiological stress response systems in women. Upon repeated stress, women with a history of child abuse may hypersecrete CRF, resulting in down-regulation of adeno-hypophyseal CRF receptors and, at extrahypothalamic sites, in symptoms of depression and anxiety. New research is now underway evaluating the potential prevention or reversal of the detrimental neurobiological effects of early-life stress.

S250

The predominance of women in chronic fatigue syndrome: are endocrine dysregulations a possible explanation?

J. Gaab, D. Hellhammer, U. Ehlert (Zürich, CH; Trier, D)

Chronic Fatigue Syndrome (CFS) is operationally defined as medical unexplained, disabling fatigue of six months or more duration, accompanied by several physical complaints. The prevalence of CFS is substantially higher among women than men. With a still unknown nature and cause of CFS, the reasons for these gender differences remain speculative. While psychosocial factors, such as illness behavior, prevalence bias, and depressive illness are of great importance, differences in the regulation and activity of neuroendocrine systems might trigger the observed gender excess for CFS.

Evidence from animal as well as human studies suggests that there is a marked sexual dimorphism in the activity and reactivity of this neuroendocrine system. Women show an attenuated ACTH response to a centrally acting psychosocial stressor, an increased adrenal sensitivity and, in comparison to men, a differential course of glucocorticoid-induced cellular effects. Because we have recently described similar alterations of the hypothalamus-pituitary-adrenal (HPA) axis in CFS, pointing to a central pathophysiological mechanism, we will discuss whether gender differences in the activity and reactivity of the HPA axis could explain the marked sex differences in the prevalence of CFS.

WPA Section on Women's Mental Health Symposium – Women physician's stress

S251

Cortisol levels in male and female physicians

D. E. Stewart, B. Bergman, F. Ahmad (Toronto, CDN)

While physicians of both sexes share common stressors of heavy workloads, rapidly expanding knowledge requirements, new technologies, changing practice conditions and ever increasing patient expectations and criticisms, there may be gender differences in some stressors and physiologic responses to them.

This presentation will discuss the findings of a study comparing age-matched female and male academic physicians on their perceived sources of stress. We will also present their salivary cortisol measurements over the course of a normal working day to see what, if any, gender differences exist in physiologic reactions to perceived stress.

S252**Dual career marriage**

N. Stotland (Chicago, IL, USA)

The vast increase in the numbers of women entering professional careers has not been accompanied by concomitant changes in gender role responsibilities or increases in social supports for domestic responsibilities, notably the care of children and other dependents. Women also continue to suffer from discrimination in salaries and opportunities for promotion, further taxing the relationship. The dual career marriage requires a careful examination of the assumptions of each partner, followed by decisions about the utility of those assumptions and alternatives to behaviors that have caused marital tensions. The couple should strongly consider investing financial resources to purchase services that are not genuinely related to the quality of family life, such as chauffeuring children or preparing elaborate meals for guests.

Priorities must be carefully set; meticulous housekeeping may not be at the top of the list. Ongoing communication and negotiation is essential.

S253**Obstacles to advancement**

C. Nadelson, M. Notman (Boston, Cambridge, USA)

This paper will consider the career and personal obstacles advancement that are issues for all physicians, but more specifically for women. We will discuss developmental, life cycle, and sociocultural factors, as well as the professional barriers that affect women's career choices and advancement. We will propose some interventions and solutions.

S254**Coping strategies for women physicians**

G. Erlick-Robinson (Toronto, CDN)

Women physicians are subjected to a multitude of internal and external stresses including role conflict, role overload, discrimination and high personal expectations. They may see problems as a result of their own personal failures. They may have difficulty setting limits or finding time for themselves and be reluctant to admit they are overwhelmed. They may fail to recognize early signs of emotional illness and find it hard to seek help for themselves. A variety of coping techniques will be described.

ISPOG Symposium – Contributions of psychosomatic obstetrics to women's mental health

S256

Addiction in pregnancy, delivery and postpartum – concepts of pre-, peri- and postnatal care in a women's university hospital

K. Härtl, R. Kästner, M. Stauber (München, D)

Heroin addiction during pregnancy increases the chances of spontaneous abortion, premature contractions, intrauterine asphyxia, low birth weight and neonatal withdrawal symptoms. The abrupt withdrawal of heroin is accompanied by an increased child mortality. Substitution with Levomethadon is perceived as a useful treatment possibility for opiate-addicted pregnant women, although few studies on its effectiveness exist.

We are studying the efficacy of a psychosomatic treatment concept for opiate-dependent pregnant women regarding psychosocial parameters of the women, pregnancy complications, birth parameters and data of the newborn. The survey sample

consists of 80 opiate-dependent pregnant women who, between 1994 and 1999, were enrolled in our psychosomatic treatment program consisting of substitution therapy and psychotherapy in the I. Department of Obstetrics and Gynaecology of the Ludwig-Maximilians-Universität in Munich, Germany.

In our sample population the pregnant women had an average 7-year drug addiction with frequent polytoxicomanic abuse and many attempts at withdrawal. The pregnancy was diagnosed late, usually in the fifth month of pregnancy. The risk for abortion and premature births was in the normal range and there were no stillborn babies. 50% of the pregnancies showed no complications. The average gestation was 39 weeks and the average birth-weight 2750 g. Almost 90% of the babies had withdrawal symptoms, usually beginning on the third day, but which were easily treated with medication. The offer of psychosomatic treatment was accepted by 75% of the pregnant women. Most of the women were able to reduce the substitution dosage to a high degree during pregnancy.

Substitution with Levomethadon is a good treatment method, even though babies show longer-term withdrawal symptoms. In most cases it is possible to reduce the substitution dosage during pregnancy. The high risk of relapse which was found in the sample underlines the necessity of adjuvant psychotherapy and in the long term joint treatment with other institutions in order to support the patients further.

S258**Memories of unspoken pain (traumatic delivery)**

C. Maggioni, S. Mimoun (Milan, I; Paris, F)

The aim of the study was to evaluate the presence of traumatic memories after deliveries in a healthy population group.

This research concern 50 women attending the prenatal clinic as outpatients. All subjects were healthy with single, uncomplicated pregnancies and they delivered normal newborns with an Apgar score between 8 and 10. Only 6 cases had caesarean section for intrapartum fetal distress. We assess the self body perception using the Jodelet test of "body image questionnaire", free interviews, before deliveries and two months later, and written records of personal experiences.

Body consciousness in pregnancy was lower than in normal non pregnant subjects except for perception of fetal movements and perception of body weight as an obstacle in every day activities. The frequency of intrusive memories related to delivery was assessed at 2 months after delivery and is related to a low body perception. This result can not be interpreted as a deception in expectations since subjects self reported satisfying childbirths. We suggest that the poor self body consciousness may produce major difficulties when a strong physical experience such as delivery occurs. Other factors may interfere increasing or decreasing the risk of a traumatic experience of delivery: the presence of the husband at delivery does not have a preventive effect while the presence of a nurse or even a midwife has a positive effect if she is perceived as a constant presence; feelings of inability of women undergoing Caesarean section increase the risk of traumatic memories. Finally, the recalled memories after deliveries were spontaneously related to the personal previous history more than the actual one, suggesting a global disorganisation which is consistent with a threat at the integrity of the body.

We suggest that other symptoms than depression may interfere in the precocious mother baby interaction and traumatic memories need to be considered with great attention.

S260**Emotional experience of childbirth and obstetrical complications**

B. Sjögren (Stockholm, S)

A complicated childbirth may result in painful memories characterized by fear of death, disappointment with own achievement, care given by the obstetrical staff as well as the partner's support. The mental wellbeing may be influenced. The role of unexpected complications and the solution of this situation e.g. an emergency cesarean section is important. Some difficulties in realizing the status of motherhood may result. There may be problems with next pregnancy and motherhood. Many women who ask for psychological help due to fear of childbirth have experienced a complicated delivery. They may have experienced loss of control of the obstetrical situation, or the development of total chaos during the delivery, either on their own part or by the attending hospital staff. They may report anxiety over physical pain and the feeling that the staff did not satisfy their need for pain relief. There is in some cases reason for consideration of posttraumatic stress reaction. In some cases the reaction after a complicated delivery is due to a depressive reaction in women who are apt to react in this way. The emotional consequences of the extremely tragic complication of stillbirth have been investigated and results have shown that the long-term consequences are moderate. Many women have a good wellbeing but some women suffer from anxiety. The role of the psychological management is evident in these cases. The care and the organization of the management in these cases will be discussed.

S261**Psychic processes during human pregnancy, a psychoanalytical study**

M. Bydłowski (Paris, F)

The author presents a study performed in a department of obstetrics and gynecology during many years, interviewing parents and mostly mothers, either disturbed or only seeking to understand the emotional crisis they were going through.

300 first time mothers to-be were interviewed at different stages of her pregnancy, with the help of an interview guide line.

Up to recently there were little research on maternal psychic changes: pregnancy is a short period of time promptly forgotten to the advantage to the care for the new baby; in addition, as soon as the baby is born a process of idealization takes place and the non idealized maternal psychic experience is soon repressed.

Clinical observers and researchers agree that newborns as well as the foetuses react to their mother's emotions. This capacity to adjust to the mother's way of behaving makes every mother-child interaction a unique choreography. They also note that the new mother has no advanced skill, no innate predisposition in taking care of new born babies if she has never been exposed to motherhood before.

Major data indicate that during pregnancy, the woman undergoes a period of psychic transparency: past memories come back very intensively and painful experiences of the past resurface to be lived again. As S. Fraiberg quoted it, mental representations of the past condemn the new mother to re-enact the tragedies of her own childhood with her own children.

The emerging of these "ghosts in the nursery" is facilitated by the particular transparency of the maternal psyche during pregnancy.

Psychiatric consultations in the department of obstetrics itself are important in order for these women to become conscious of such experiences and to integrate them in what they are actually living.

The author will illustrate her talk with some slides of painting showing that the main topics of the psychic changes during pregnancy (psychic transparency, maternal idealization, identification as a mother) have been noted by the Renaissance painters

S262**Psychodynamic factors of traumatic childbirth experience**

M. Ringler (Vienna, AT)

This paper will outline the protecting features as well as those contributing to the development of traumatic birth experiences from a psychoanalytic point of view. Conclusions derive from almost 30 years of psychotherapeutic work and empirical research in the field.

- Uncertainty that one's body will be able to manage the birth experience without destroying one's sexual functioning and identity.
- Rigid expectations with respect to the birthing setting and/or bodily sensations
- Openness vs. Inhibitions with respect to new/unexpected bodily sensations.
- Ability to oscillate and discriminate well between contractions and the interval between contractions in spite of pain.

The above characteristics are embedded in the personal attitudes towards

- Cleanliness vs. contamination
- Intactness vs. damage
- The ability to tolerate pain without developing the fear to become destroyed physically and psychically
- Pain not being sexualised
- The ability to tolerate partial loss of control

Anxiety disorders in women**O263****Maternal anxiety in late pregnancy and fetal hemodynamics**

K. Sjöström, L. Valentin, T. Thelin, K. Marsal (Malmö, S)

Objectives

Several studies have shown that maternal emotional stress during pregnancy is associated with behavioural disorders and attention deficits in the children. This suggests that maternal anxiety might induce a state of fetal stress and influence the intrauterine growth and function of the fetal brain with abnormal postnatal development as a consequence. The aim of this work was to study the relation between maternal anxiety and fetal hemodynamics.

Methods

37 nulliparous, healthy women, without any medication were studied prospectively in the third trimester of pregnancy (36 gest. weeks), with a self-rate test of anxiety, the Spielberger State-Trait Anxiety Inventory. Doppler ultrasound examination of the umbilical artery and fetal middle cerebral artery was performed at 38 gestational weeks (range 37–40). Pulsatility index (PI) was calculated and corrected for fetal heart rate. After the examination maternal blood pressure and pulse rate were assessed. The women were divided into three groups of increasing levels of state anxiety i.e. acute anxiety, and trait anxiety i.e. personality bound anxiety proneness.

Results

The fetuses of women with higher trait anxiety scores had significantly higher PI values in the umbilical artery ($p = 0.006$), significantly lower PI values in the fetal middle cerebral artery ($p = 0.003$) and significantly lower cerebro-umbilical PI ratios ($p = 0.0002$), suggesting a change in blood distribution in favour

of brain circulation in the fetuses. Maternal weight, weight-increase, height, age, marital status, smoking and drinking habits, and socio-economic factors known to affect fetal well-being did not interfere with these findings. No significant differences in birth-weight, length and head circumference were found between infants born to mothers with higher trait anxiety levels compared to mothers with lower trait anxiety levels.

Conclusion

Our results suggest that maternal stress, in terms of trait anxiety, influence fetal cerebral circulation. This finding might possibly lead to the understanding of the transmission of emotions from the pregnant woman to her fetus.

O264

Tokophobia, a profound dread and avoidance of childbirth. Its presence in Britain and Grand Cayman, B.W.I.

K. M. Hofberg, I. F. Brockington (Stafford, Birmingham, UK)

Some women dread and avoid childbirth, despite desperately wanting a baby. This is tokophobia, (Hofberg & Brockington, BJPsych, 2000). Twenty-six British women with a morbid fear of childbirth were interviewed and a quantitative analysis performed. Phobic avoidance of childbirth may date from adolescence (primary), be secondary to a traumatic delivery or present as a symptom of prenatal depression. Pregnant tokophobic women, refused their choice of delivery, suffered higher rates of psychological morbidity than those granted their choice. Tokophobia was reinterpreted by the British media as effecting 'white, intelligent, middle class . . . women . . . used to making informed choices as consumers,' (Lesley Steyn, Times newspaper, July 2000). This denigrates tokophobia.

The incidence of tokophobia is unknown so a pilot study was developed: –

1. to distribute a screening questionnaire in a General Practice Clinic (GPC) in Grand Cayman
2. to assess women with the Birmingham Interview for Maternal Mental Health (BIMMH)

Method

Women, aged 16 to 46, attending GPC, between October 1999 and January 2000 completed the questionnaire. Childfree women were asked about their wish to have a baby, their thoughts on childbirth and their preferred method of delivery. Mothers were additionally asked about previous deliveries, depression, nightmares and flashbacks.

Results

354 questionnaires were completed. 53% of respondents were Caymanian, 32% were Jamaican and 5% British. 15 of 111 childfree women (13.5%) expressed a dread of childbirth making them avoid pregnancy. 39 of 243 women (16%) with children dreaded childbirth so avoided pregnancy. 25% of mothers confirmed depression and/or nightmares or flashbacks after childbirth. Ten women agreed to interview with the BIMMH.

Conclusion

Grand Cayman is a Caribbean island with a multicultural society of 41,000 people, half are foreigners. The study suggested that 1 in 7 women attending GPC suffer from tokophobia and over a quarter of mothers suffered symptoms of depression and/or post traumatic stress disorder following childbirth. This is important, unrecognised psychopathology transcending culture, colour and country.

O265

Parental psychological reactions after birth of a baby with an abdominal wall defect

H. Skari, M. Skreden, U. F. Malt, K. Bjornland, A. Bjornstad Ostensen, K. Juvik, G. Haugen, R. Emblem (Oslo, Arendal, N)

Objective

To compare parental psychological reaction after birth of a baby with an abdominal wall defect (AWD) with birth of a healthy baby. Based on the obstetric literature, our main hypothesis was: Prenatal diagnosis and information to parents of babies with AWD is associated with reduced psychological distress compared to postnatal diagnosis and information.

Methods

Sixty-one parents of 31 neonates with AWD (25 gastroschisis and 6 omphalocele) were prospectively included from 1997–99 at a perinatal referral center. Eighteen of 31 patients (58%) had a prenatal diagnosis. Comparing neonates with and without prenatal diagnosis no significant differences in neonatal mortality were found (17% and 8%, $p = 0.62$). The control group included 249 parents of healthy babies from an unselected population enrolled in 1998. Psychological reaction was assessed by General Health Questionnaire-28 (GHQ-28), State Trait Anxiety Inventory (STAI-X1) and Impact of Event Scale (IES). The response rates were 87% (controls: 97%) at birth, 72% (controls: 85%) at 6 weeks, and 51% (controls: 71%) at 6 months.

Results

In the acute phase parents of babies with an AWD experienced a relatively strong stress reaction with total GHQ score 24.9 (controls: 19.6), STAI score 2.1 (controls: 1.5), IES intrusion score 15.5 (controls: 6.4), and IES avoidance score 6.7 (controls: 3.2). The differences remained at 6 weeks and 6 months follow-up. In the acute phase we observed significantly increased GHQ scores concerning anxiety, depression and somatization in the group of parents with a prenatal diagnosis compared to the group with postnatal diagnosis. At 6 weeks the GHQ depression score was still significantly higher in the group of parents with a prenatal diagnosis. Stress scores were significantly higher in mothers than fathers at all 3 occasions.

Conclusion

Parents of babies with AWD suffered from a higher level of anxiety, depression and stress than parents of healthy babies.

Prenatal diagnosis and information of AWD were associated with increased acute stress responses compared to diagnosis at birth.

Mothers suffered significantly more than fathers in both the AWD and the control group.

O266

A manualized, empirically-supported psychodynamic treatment for borderline patients (TFP): overview, problems, and first results

G. Dammann, N. S. Erazo, P. Buchheim, P. A. Foelsch, J. F. Clarkin (Basel, CH; Munich, D; White Plains, N.Y., USA)

Introduction

“Transference-Focused Psychotherapy (TFP)” is the first manualized and empirically-supported psychodynamic treatment approach for the treatment of DSM-IV-Cluster B personality disorders (especially Borderline Personality Disorders) (Clarkin, Yeomans & Kernberg, 1999). We will present and discuss: 1. the specific elements of this treatment approach (assessment phase, contract setting, thematic hierarchies, deviation from technical neutrality), 2. similarities and differences with the other manualized treatment approach in this field (“Dialectical

Behavioral Therapy (DBT)", Linehan, 1993), 3. the empirical basis of the training (adherence and competence rating scale, supervision, video recordings etc.), 4. the results and limits of the few prior controlled psychodynamic outcome studies (Stevenson & Meares; Bateman & Fonagy), 5. the necessity of multidimensional diagnosis to measure symptomatological and structural change.

Hypotheses

TFP is not using supportive techniques and is not focussing technically on behavioural change (for example no skill training to avoid self destructive behavior), but is focussing on the object relations and splitting phenomena activated and interpreted in the transference. Nevertheless we expect significant symptomatological improvement.

Design

The designs of two ongoing international TFP-pilot-studies (N = 29) with female borderline patients (New York and Munich) and some preliminary results of the Munich study will be presented.

Results and conclusion

There is now good evidence that a manualized psychodynamic treatment approach for borderline patients can improve both, severe disorder-specific symptomatology (self-cutting behavior), and some interpersonal and intrapsychic disturbances (identity diffusion, depression) but not anxiety and anger.

O267

A stress reduction and relaxation program for women with generalized anxiety disorder. Will a 6 week stress reduction and relaxation program benefit women with GAD?

V. Thomson, G. Morar (Cambridge, CDN)

Objective

Breath plays a vital role in determining whether we suffer from stress- it has a unique relationship to the autonomic nervous system. A sample of 100 female patients, family physician referred with Generalized anxiety disorder (GAD) were studied following a stress reduction program incorporating mindfulness based practices and relaxation strategies.

Method

The files of patients seen between 1996–1998 were reviewed. A random sample of 100 female patients were selected. A pretest consisting of SCL-90-R, BAI, and MSCL was administered before commencing the 6 week stress reduction program. A posttest consisting of the same tests were administered at the end of the 6 week program. Data was analyzed using SPSS version 8.0. A matched t test was used to analyze the pre to post differences.

Results

The 100 subjects demonstrated significant reductions in the MSCL, BAI, and the GSI, PSDI, PST of the SCL-90-R scores of postinterventions at 6 week follow up. All reductions had p-values of less than 0.0001.

Conclusion

Large and significant overall improvements were recorded post intervention in physical and psychological states as measured by the SCL-90-R, BAI, and MSCL tests. A time-limited group stress reduction program incorporating mindfulness based practices and relaxation strategies has been found to be effective in the sample study.

O268

Psychological treatment of traumatized women in Kosova

E. C. Cesko, N. C. Cesko (Prizren, YU)

Depending on the fact that the whole Kosova population was involved in the war against discrimination, torture, psychical and

psychic suffering the personality has done through stress and emphasized trauma. The goal of this work is the treatment of women and children who suffer from the affects of war as from the different and difficult postwar situation. Very often, these stress situations people had to stay before and during the war like when people had to leave their homes and seek to for help, the threats, torture and loss of relatives as the loss of their properties etc. Another kind of stress rose when people moved back to their homes. In many cases returnees faced a total different situation f.i. burnt houses, disappeared neighborhood, sudden unemployment due to destroyed working places, poverty and diseases. With this group treatment and individual counseling we will offer the clients different kinds of coping mechanism. The treatment of women, children and their families will be with a psychotherapeutically approach. The direct beneficiaries are women and children who manifest psychical and emotional symptoms which are related as stress and trauma of all kinds. The target groups in this study will be women, young girls and children who are living in Prizren region.

O269

Group psychotherapy for domestic violence in Turkish women

S. Yuksel, K. Kora, N. Karali, M. Ozkan, S. Gok, D. Tunalı (Istanbul, TR)

Objective

Wife abuse is a social problem which occurs in all communities and across all classes, and has serious medical implications. This study aims to discuss the outcome of group psychotherapy focused on women who presented with varying psychological and marital problems especially related to domestic violence.

Method

The subjects were selected among women who were referred to the Psychiatry Department of Istanbul University, Faculty of Medicine. Psychiatric diagnosis were made according to DSM-III-R and the subjects were put into group settings, primarily using a cognitive approach. Symptom Checklist-90 and Target Problems Rating Form were given to the subjects before and after the treatment, and during follow-ups. Depending on the existence of domestic violence, the subjects were divided into two groups, violence exposed (VE) and non-violence (NV) group.

Results

40 married women included in this study, 27 of them were exposed to domestic violence in their relationships. Most frequently, the target problems including partner-children relationships, symptoms and developing confidence were selected by patients. There were no significant differences in pretreatment target problem scores between VE and NV groups. There were statistically significant changes in target problem scores found in both groups at the end of the treatment. According to the criteria for outcome of the patients, 11 of them (27.5%) showed remarkable improvement, 15 of them (37.5%) showed moderate improvement at the end of the treatment. There were 10 patients (25%) who dropped out during the treatment. Overall, 69% of patients in NV and 63% in V group showed remarkable or moderate improvement.

Discussion

To establish a regular psychotherapeutic relationship with women having traumatic life experiences, like domestic abuse, is a difficult and slow-developing process. If the presence of abuse and its effects on woman's mental health are recognized and accepted, then it will be possible to encounter with domestic violence.

Key words

women health, women and domestic violence, group psychotherapy.

Childhood experience and child sexual abuse

O270

Child sexual abuse, poor parental care, and depression in women: evidence for different mechanisms

J. Hill, A. Pickles, M. Byatt, E. Burnside, L. Rollinson, K. Harvey, R. Davis (Liverpool, Manchester, UK)

Objectives

This study was designed to examine the role of adult intimate-sexual relationships as a differential mediator or moderator of risk for depression in women associated with a history of CSA and poor parenting in childhood.

Methods

Two phase sampling of a socioeconomically representative population of women aged 25–36 in the Wirral, Merseyside, UK was carried out. In the first phase questionnaires that included the Parental Bonding Instrument, CSA questions, and the GHQ-28 were returned from 1181 women (60.7% response rate). Subjects were identified for the second (interview) phase from three strata defined on the basis of a) CSA before age 16, b) low parental care on the PBI, c) the remainder. One hundred and ninety eight women were interviewed and interview data weighted back to the first phase sample. Structured interviews of recalled childhood experiences, and adult intimate relationships and DSM IV major depression in the age period 21–30 were administered.

Results

Logistic regression analyses were carried out taking account of the two phase design. Major depression in the age period 21–30 was associated with CSA alone (OR 8.76 (3.12–24.54)), with poor parental care alone (OR 11.77 (3.69–37.37)) and the combination of CSA and poor care (OR 17.61 (5.71–54.35)). When quality of adult intimate relationships was included in the model, there was a significant interaction between CSA and intimate relationships reflecting that risk for depression was associated with quality of relationships in the absence of CSA, but not among women who had experienced CSA. Following poor parental care, risk of depression was strongly associated with quality of adult intimate relationships.

Conclusion

The impact of CSA and poor parental care on risk for adult depression may be mediated via different developmental pathways. The context of close relationships appears to be crucial to the risk for depression among women who have received poor parental care, whereas following CSA there may be an effect of the trauma that is not modified by quality of relationships.

O271

Contextualizing child sexual abuse (CSA) in a non western society

S. Yuksel, U. Sezgin (Istanbul, TR)

CSA in the context of non Western societies is an area where there is a paucity of scholarly research.

Objective

In this study it was attempted to advance this discussion of CSA in the context of a non Western society using Turkey as a case study. Because of the cultural specifics of CSA our clinical methodology aimed to collect information about the whole family structure in

which the abuse took place. In societies like Turkey, family and kinship operate as a social and regulatory agency thus its cultural contextualization from a clinical perspective was necessary in order to develop an effective intervention strategy.

We looked at when and how mothers and other family members react to the situation; and discussed, the characteristics of the mothers, who could have been helpful to daughters, and the way they have intervened with the situation and supported their daughters.

Methods and materials

The study's participants included patients referred for psychiatric treatment who reported a history of CSA before the age of 16. The patients were evaluated at the Istanbul University, Medical school, IST-PSTP. The information collected is based on upon the victims' own testimony. We have limited the study group with fathers and daughters only. Our preference was based on the nature of the dynamics in f-d sexual abuse which is complex, specific and condensed as far as perpetrator, victim and nonoffending mother are concerned.

The cases evaluated in terms of sociodemographical features, histories of physical and sexual trauma, patterns of family relationship, psychopathology and other long term adjustments problems. Clinical diagnosis, were made on the basis DSM-R-III.

The mothers were interviewed when consent was given by their abused daughters. The mothers were also offered clinical treatment.

Results

The average age is 20, (80%) girls grew together with both mother and father. Mothers were mostly accompanying the girls. Some of the mothers who found out about the sexual abuse went through some radical changes in their life.

Discussion

Under the influence of this tendency to deny the incident, they come to seek help with ambivalent feelings. Nevertheless, the results obtained from this study do share and extend the findings of previous studies that sexual abuse of female psychiatric patients frequently exist in Turkey.

First difference is that most of the abusers were biological fathers. The second difference is related to virginity. The results indicate that while one third of the children suffered from penetrative sexual abuse.

O272

Chronic medical problems in women with a history of childhood sexual abuse

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Objectives

- To investigate in a random community sample of women
1. the relationship between childhood sexual abuse (CSA) and later chronic medical conditions.
 2. whether any relationship found was mediated by an increased tendency to dissociate in those who reported CSA, as previously suggested in the developing literature.

Methods

A random community sample of New Zealand women, reporting (case, n = 181) or not (control n = 173) CSA, was interviewed about a range of chronic medical conditions. They completed the Dissociative Experience Scale (DES) to determine the role of dissociation in their medical problems.

Results

CSA subjects were more likely to report a number of common chronic medical problems; these included arthritis (Odds Ratio

1.78), chronic fatigue (5.00), bladder problems (3.02), pelvic pain (2.76), headache/migraine (3.14), other pain (2.08), gastrointestinal disturbances (2.79), asthma (4.12), heart problems (7.22). Not different between non-CSA and CSA subjects were back pain, irritable bowel, and hypertension.

The DES mean score did not differ between those with CSA and those without, for most of these conditions. The exceptions were chronic fatigue ($p = 0.01$) and headache/migraine ($p = 0.005$) which were each associated with subjects' higher DES scores.

Conclusions

As these results were generated by a random community sample, cover a range of disorders and were compared to a control group, they are likely to be representative of the population.

CSA women in NZ experience more chronic medical problems than do their sisters. This higher rate of chronic conditions is not mediated through the mechanism of dissociation (as assessed by the DES). More recent hypotheses, such as dys-regulation of the HPA axis and autonomic NS hyper-reactivity have greater explanatory power. Future research should continue to combine precise biological measures with well-tested structured interview schedules.

O273

Correlations between personality development measured by the Temperament and Character Inventory and childhood experiences

T. Kitamura, Y. Kishida (Ichikawa, Izumo, J)

Personality may be developed genetically or environmentally. It is speculated that parts of personality can be divided into temperament and character. The relationships of the personality traits measured by the Temperament and Character Inventory (TCI: Cloninger et al., 1994) and early experiences (early loss of a parent, perceived parenting, and early life events) were investigated in 4,064 university students. Perceived rearing was measured retrospectively by using Parker et al.'s Parental Bonding Instrument (PBI). Bivariate analyses showed that not only character domains but also temperament domains were linked to early environmental factors. A series of multiple regression analyses revealed that (1) contrary to our expectation, achieving the first prizes in athletics and other school activities was linked with temperament domains – reduced harm avoidance and increased reward dependence, persistence, and self-transcendence; (2) low maternal care (a subscale of the PBI) was linked to female students' reward dependence and self-transcendence while low paternal care was linked to male students' novelty seeking and female students' self-transcendence. These findings suggest that (1) temperament is partly determined by the environment as much as character, and (2) the out-of-home environment, particularly life events that may increase self-esteem, is no less important than the home environment in personality development.

Gender differences and psychiatric disorders I

P274

The evaluation of chief complaints and psychiatric diagnoses in a group of patients with respect to gender

A. Polat, B. Yucel, A. Genc, D. Aksut, R. Tukul, D. Tunali (Istanbul, TR)

Objectives

Gender is an important factor in the diagnoses, clinical appearance and treatment of many mental disorders. Understanding the

epidemiological and clinical characteristics in similar psychiatric disorders would be helpful in determining the predisposing factors and the appropriate treatment modalities for both sexes. The aim of this retrospective study is to determine the sociodemographic characteristics, chief complaints, psychiatric diagnoses and prescribed treatment modalities in an university psychiatric outpatient clinic in Turkey.

Method

Outpatient clinical records of 900 patients who have applied to the psychiatry department of Istanbul Medical Faculty during 1999 were examined retrospectively. Sociodemographic data, chief complaints, psychiatric diagnoses made according to the DSM-IV criteria and the treatment choices were evaluated.

Results

67% of the patients were women and 56% were married. The mean age were 35.8 ± 13.9 and there wasn't any significant difference between sexes. However the duration from the onset of psychiatric symptoms to the hospital application was longer in women (32.9 months in women, 18.7 months in men; $p < 0.01$). Somatic symptoms in women and cognitive symptoms in men were more common among the self-expressed chief complaints ($p < 0.001$ and $p < 0.01$ respectively). Mood disorders were the most frequent psychiatric diagnoses in both sexes. The prevalence of somatoform disorders in women (11.3%) and that of psychotic disorders in men (11%) were significantly higher ($p < 0.001$).

Conclusion

These findings suggest that the outpatient population of our clinic is mostly composed of married women who have somatic complaints. Our findings should be verified with other prospective studies in Turkey and should be compared with those in Western countries.

P275

Women, work, and depression: challenges for future research

J. Blome, K. English (New York, USA)

This paper reviews literature on the relation of work to depression among women, and considers evidence related to four broad themes. These are: depression as a barrier to employment; depression as a consequence of unemployment; depression as a consequence of job characteristics; depression as a consequence of work/family stress. The notion that depression may be a barrier to obtaining a job has gained currency in the United States in recent years, following welfare reform legislation. Under the new legislation, women may not receive public assistance for more than 2 continuous years, without finding employment. As those who can find jobs do, attention has focused on women who remain on the welfare rolls, many of whom face various barriers to employment, including depression, substance abuse, domestic violence, and physical illness or disability. With this focus on depression as a barrier to employment, and a robust U.S. economy, other possible relationships between depression and work have been overlooked. These include the possibility that depression may result from job loss; that particular job conditions may contribute to the development of depression; and that the stresses of combining jobs and family life for women may be considerable and depressing. This paper reviews evidence for each of these possibilities, finding some support for each. Areas for future research are then outlined, including designing studies so that the social selection and social causation explanations may be contrasted; assessing the role of the social context, including broad economic circumstances and sexual discrimination in the workplace; and incorporating objective measures of occupational conditions into studies assessing the relation of job conditions to depression.

P276**Gender differences in unipolar depression: a general population survey**

M. Lucht, R. Schaub, C. Meyer, U. Hapke, H. Rumpf, J. von Houwald, T. Bartels, S. Barnow, H. Freyberger, H. Dilling, U. John (Stralsund, Greifswald, Luebeck, D)

Background

Several studies from different epidemiological backgrounds have shown that unipolar depression is more prevalent in males than in females. This study examines gender differences in depression in a sample of 4075 probands recruited representatively from the general population in the north German epidemiological catchment area of Luebeck.

Methods

Probands were interviewed with M-CIDI by lay interviewers.

Results

Motherhood was associated with increased risk for female depression, irrespective of being married or not, while higher education reduced female excess; both male and female risk for depression raised sharply in separated, divorced and widowed probands. Unemployment was associated with an increased risk in male depression whereas in females risk was nearly unchanged. Odds ratio for gender increased with number of depressive symptoms. Female excess was not reduced by subjective impairment (lifetime) and melancholic features. Females also preponderated in longer episode durations and recurrent depressions whereas gender ratio was nearly balanced in single episodes. Gender differences in the total group emerged beginning from adolescence with a tendency for a female excess in the prepubescent ages. No birth cohort effect was observed.

Limitations

The cross-sectional design of this study precluded causal analysis of reported associations and some retrospective assessments are error prone because of recall bias.

Conclusions

We support previous findings of variation of gender differences in depression, however observed social parameter influences underline the need for a more detailed analysis of subgroups and underlying psychological mechanisms.

P277**Posttraumatic stress symptoms and elective abortion: a comparison of U.S. and Russian women**

V. Rue (Stratham, NH, USA)

This research applied a trauma sensitive perspective to the understanding of how women coped with pregnancy losses, particularly induced abortion. Data are presented from a transnational retrospective descriptive study of 765 women in the United States and Russia. In this study, the average number of years since the abortion was 11 years for American women and 6 years for Russian women. Similar to preceding studies, the most common positive emotional outcome for women in both countries was relief with 11% of U.S. women attributing this positive feeling to their abortion compared to 8% in Russia. In the U.S. sample, 58% of women who aborted experienced 6–10 posttraumatic stress disorder (PTSD) symptoms following the abortion, compared to 12% in the Russian sample. Overall, the findings here indicate that women in the U.S. sample were more likely to experience post-traumatic stress related symptoms following their abortion than Russian women. Using Pearlman's Traumatic Stress Scale (TSI), Russian women who obtained an abortion had higher mean total TSI scores than U.S. women (276 vs. 260), indicating considerable disruption of cognitive schemas. Further research is necessary to

determine if this degree of posttraumatic cognitive disruption is due to abortion or other sociocultural factors.

P278**Women in out-patient group psychotherapy**

D. D. Jekova (Sofia, BG)

The specifics of women's participation in therapeutic groups for out-patients, led by the author, are analyzed in this paper. One of the classical projective methods – the Rorschach-test – is used to assess neurotic patients in these groups (n = 55). Gender differences are found for some content categories of the Rorschach and in the attitude towards the test. In the same time, it seems that common for both genders mechanisms and motivation predominate. The relation of these results with female versus male patient's attitudes in the group sessions is discussed.

P279**Sex differences in the effect of self-centredness on adolescent joy of living**

D. Hoenigl, G. Klug, N. Kriechbaum (Graz, AT)

Objectives

Perceived joy of living is an important component of the quality of life. Its absence may indicate depressive disposition. In a non clinical population of adolescents the influence of some psychosocial parameters on zest for life was investigated.

Methods

196 high school pupils (age range 14 to 19 years, females n = 85, males n = 111) answered questionnaires concerning joy of living, interpersonal distrust, sociability and self-centredness. The parameters influencing the zest for life were detected with multiple regression analysis.

Results

Interpersonal distrust was a strong negative predictor in both sexes (p = 0,0002). Sociability was predictive in males (p = 0,0474) and showed a positive albeit not significant trend in females (p = 0,0873). Self-centredness was a significant negative predictor in females (p = 0,0111) but had no influence in males (p = 0,5427).

Conclusions

Pathways to depressive symptoms may be different for male and female adolescents. In this investigation of Austrian pupils self-centred females were at risk for loss of zest for life while self-centred boys were not. The reason for this difference may be multifactorial (e.g. different social role occupancy, different coping strategies, different psychosocial resilience). As expected interpersonal distrust and to a lesser extent sociability had predictive influence on joy of living in adolescents.

P280**Psychiatric home treatment – a new service preferably for women (?)**

B. Bornheimer, A. Diethelm (Frankfurt, D)

Objective

Since March 2000 the psychiatric hospital "Bamberger Hof", Frankfurt, Germany, provides a home treatment service for patients with acute psychiatric disorders. This service is available for mentally disordered people with health insurance or on social welfare. Patients are admitted by their psychiatrist, practitioner, the outpatient department or other psychiatric hospitals.

Methods

Instead of being admitted to a psychiatric ward, the patients can stay at home and receive home visits at least once a day, seven days a week. At night (8 pm through 8 am) a on-call-service is provided. To the treatment team belong psychiatrists, psychiatric

nurses and a social worker. One treatment period lasts 30 days. After giving a diagnosis of their psychiatric disorder, the patients receive a specific individual treatment including application of drugs, psychotherapy, support in activities of daily living, social counselling, psychoeducation of patient and family.

Results

The psychiatric home treatment service is attended more often by female than by male patients. Data analysis performed at October 31st 2000 showed that 79 percent of all patients had been diagnosed acute schizophrenic, depressive or manic.

By Oct. 31st 115 patients have attended the treatment; 39 male and 76 female. 18 percent of the male patients and 8 percent of the females disrupted the treatment prematurely or got transferred to a closed psychiatric ward.

Conclusion

We see a need for this special service for those patients, who do not wish hospitalization or who need more than a "normal" (= once a week) outpatient treatment. We found the striking fact, that women attend this service two times as often as men. Probably women show, even during acute psychiatric illness, more compliant behaviour which leads to more frequent admission to this program – and/or they have a stronger wish to stay in the family at home. This is especially true for mothers with small children. They have a chance – with the support they need – to take care of their children or at least stay in a close contact despite of having intensive psychiatric treatment.

P281

Gender differences in quality of life and psychosocial parameters in alcohol dependent women after qualified alcohol detoxification

S. Kutscher, C. Meiering, H. Birkhahn, M. Banger (Essen, D)

Background

Alcohol dependency cannot be seen as a isolated psychiatric disease. In regard with the bio-psycho-social illness model alcohol dependency has got a great influence on health and psycho-social aspects. Questions concerning these aspects have not sufficiently been looked upon in the field of addiction research. This is especially true for gender differences.

Method

50 alcohol dependent patients (ICD-10 F10.25) undergoing detoxification (duration 14 + 2 days) were examined by standardised psychological self rating scales two days before discharge. 20 women and 30 men, mean age in years (SD), 44.1 (8.3) for women vs. 40.9 (8.6) for men, were evaluated by: STAI-State, STAI-Trait, BDI, Questionnaire for social support F-SOZU, SF-36 for Quality of Life and the Questionnaire of Abstinence Confidence.

Results

The perceived overall health status and the mental well-being were impaired in this population compared to the general population (SF36). Moreover, we found lower scores in SF-36 subscales Bodily Functional Status (mean 74.2 95% CI 63.3–85.2 for women vs. 87.4 95% CI 81.1–93.6 for men). For the subscale Pain the mean was 54.5 95% CI 40.2–68.7 for women and 73 95% CI 60–80 for men. In the F-SOZU women expressed higher scores for social burden with a mean of 3.0 95% CI 2.6–3.4 than men (2.6 95% CI 2.3–2.9). Women showed a lower confidence in resisting future drinking in emotionally unpleasant situations (mean 37.7 95% CI 36.2–64.9 for women and 67.5 95% CI 57.7–77.1 for men).

Discussion

Alcohol addiction as a chronic disease leads to marked impairments in quality of life and overall psychosocial aspects. The

preliminary results of this pilot study hint towards gender differences in these aspects. Possibly the gender differences might modulate the overall outcome. These results will eventually be more pronounced with the aimed number of 100 patients.

P282

Peer and Solveig in distress – gender aspects of consultations in a Norwegian emergency room

O. Lund (Tromsø, N)

In Norway de-institutionalisation has reduced the number of available psychiatric beds by 50% during the last 15 years. This has led to a shift in service provision – from the closed bed wards towards the open wards and outpatient facilities. The inpatient care is focused on those with severe psychotic or drug-induced problems. The majority of the consumers of the closed bed wards tend to be males. The outpatient facilities provides health services to less severe forms of mental disorders – a terrain where women are more heavily represented.

In the larger cities, the psychiatric emergency room (PER) has become the main point of entry into the general psychiatric services. The PER serves as a triage point for the disposition to further care. This process may be subject to bias, both by patient and psychiatrist gender. It is not known to what extent gender contributes to the decision to dispose to further treatment.

Objectives

1. To assess the gender distribution in a unselected clientele in a low-threshold, walk-in service.
2. To compare the way the two genders describe their own conditions, their needs for further treatment and expectations for the consultation.
3. To describe what contribution these factors play (in covariation with known demographic, contextual and clinical variables) in the psychiatrist's decision to further disposition (hospitalisation, outpatient care).

Setting

Bergen Psychiatric Emergency Room provides a walk-in, low-threshold service 7 days a week. Opening hours is between 18.0 h and 23.0 h every day. There is no waiting list. The Psychiatric Emergency Room does not offer overnight stays or short-time beds.

Method

The sample consists of 1506 consecutive visits to The Bergen Psychiatric Emergency Room from a period of two years. The psychiatrist on duty collected the data on a pre-prepared coding sheet allowing for these factors of these groups to be recorded: demographic, sociomedical, contextual, clinical and outcome variables (disposition).

Results

Gender contributes to the difference in reasons for referral, length of the present episode and drug influence. Men and women describe their problems differently, and they differ most as to the clinical diagnoses. However, there is no significant difference in the need descriptions and dispositions. Multway analyses does not reveal further patterns to shed light on the way gender contributes to the disposition process.

P283

Do depressed men and women recall past affective states differentially? A prospective in-patient study

C. Kuehner (Mannheim, D)

Objective

The recall-artefact hypothesis supposes that women have a better memory for past negative mood states than men. Sex differences

in recall may bias the estimation of lifetime and period prevalence rates of depressive disorders. Empirical evidence for a sex-related recall bias is mixed, and studies addressing this issue by means of prospective longitudinal data are lacking. Aim of the present study was to test the recall-artefact hypothesis in a larger follow-up patient sample.

Method

A cohort of 179 unipolar depressed in-patients (70 men, 109 women) was followed-up one (T1) and seven months (T2) after discharge. Subjective depression status at T1 was retrospectively assessed by the patients' recall data at T2 and compared with their interviewer-rated depression status at T1 (according to the Present State Examination, PSE-9).

Results

No indication of a sex-related bias in recall was found. "True" and "false" classifications by the patients were nearly identical in both sexes as was the overall agreement between the patients' retrospective assessments at T2 and their objective depression status at T1 (men 78.6%; women 78.9%). These findings also held true for the subsample of patients who were currently not in episode at T2.

Conclusion

The present data argue against the assumption of a differential recall of negative mood states in depressed men and women. In particular, there was no indication of a tendency in men to underrate their former symptom status retrospectively as compared to women. It is to note, however, that a rather short recall period of six months had to be assessed by the patients. Furthermore, the results should not be easily generalized to community-based samples, since in the present study data on severe episodes requiring in-patient treatment had to be recalled.

P284

Gender factor in seasonal depressions

M. Khananashvili (Moscow, RUS)

The aim of this research was the differentiation the forms and types of seasonal depressions depending on belonging of seasonal depressions to female or male gender. 50 patients (38 women and 12 men) with seasonal depressions in the age group of 20–50 years were investigated by clinical-psychopathological and clinical-follow-up methods. 2 forms of seasonal depressions were identified: fall-winter and spring-summer depressions. 5 types of seasonal depressions were described: anergic, melancholic-phobic, anxiety-psychotic, anxiety-agitative and classical melancholic. It was found that 3 former types of seasonal depressions are typical for fall-winter form, while 2 last types – for spring-summer form. There was established that spring-summer depressions were developed mainly in the picture of affective disorders (296.2, 296.5x, 296.89, according to DSM-IV), while the fall-winter depressions – in the picture of schizoaffective disorder (295.70) and delusional disorders (297.1x).

The comparison of clinical picture of female and male patients with seasonal depressions discovered the differences between them. In female patients the prevalence of spring-summer depressions (in 74%) and the even distribution of all types of seasonal depressions was found. In male patients, on contrary, the prevalence of fall-winter depressions (75%) and melancholic-phobic and anxiety-psychotic types was found.

Thus, the gender factor influenced on clinical picture of seasonal depressions, it might be considered in their diagnostics and might have a prognostic meaning.

P285

Depression in primary care: gender differences in the prevalence and detection

E. Gabarrón Hortal, J. Usall Rodié, J.M. Vidal Royo, J. M. Haro Abad (Gavà (Barcelona), El Prat (Barcelona), E)

Objectives

- To estimate the prevalence of depression in primary care related to gender.
- To identify the gender differences responses in the Beck Depression Inventory (BDI) items in primary care patients.

Method

A random sample of 400 primary care patients, who consult the family physician for different health problems, in an urban area of 19.071 inhabitants from Gavà (Barcelona).

We administered a sociodemographic questionnaire and the BDI, 21 items autoadminstrated version, cut off 16/17.

Finally we administered the Mini International Neuropsychiatric Interview (MINI) in a random subsample of 40 people, 20 with BDI < 16 and 20 with BDI > 17 to verify the BDI validity.

Results

The BDI cut off 16/17 shows: sensibility = 95%, specificity = 86%, PPV = 0.86 and NPV = 0.86.

The sample is constituted by 124 men and 276 women. The general prevalence of depression in primary care was 21.5%; 24% for women and 16% for men, OR = 1.63 (p = 0.08).

The more frequent symptoms observed in depressed women were: body dissatisfaction (97%), sleeplessness (94%), fatigue (94%), melancholy (91%), irritability (89%) and work difficulties (89%). Women with mild to severe body dissatisfaction show a 73% risk to be depressed, OR = 18.6 (p < 0.000).

Conclusions

We obtained items with a high capacity to screen depression in women who are attended in primary care. These results are similar to the results obtained by Carmin and Klocek. These items could be an interesting tool for the detection of depression in primary care. Is necessary to make a validity study to corroborate it.

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P286

Differences in stress coping in females and males with major depression

B. Schneider, B. Weber, K. Maurer, J. Fritze (Frankfurt, D)

Objectives

It is well known that patients with major depression show low stress adaptability. But differences in stress coping between male and female patients have not yet been assessed.

Methods

15 female patients (age: 57.3 +/- 19.1 [mean +/- SD] years) and 13 male patients with major depression (DSM-III-R; age: 53.9 +/- 12.3 [mean +/- SD] years) were assessed with the Stress Coping Questionnaire (SVF-114) and the Tridimensional Personality Questionnaire (TPQ). Before, during and after performance of a difficult task, the physiological parameters (EDA and heart rate) and the subjective well-being (BSE-14s) were monitored.

Results

Male patients significantly differed from female patients by higher scores of “seeking for self-confirmation” ($p < 0.002$; SVF) and “efforts for control of the situation” ($p < 0.008$) and by preference of psychotropic drugs ($p < 0.05$; SVF). Men and women did not show any differences in the subscales of the TPQ. Physical impairment ($p < 0.05$; BSE-14s) and drowsiness ($p < 0.005$; BSE-14s) were rated higher by male patients before, during and after performing the task. Electrodermal activity was significantly higher in male patients before ($p < 0.05$) and after the task ($p < 0.01$).

Conclusion

The results show that male patients with major depression have higher stress reactivity and feel more impaired by stress. Besides, male patients differ in stress coping from female patients. These gender differences should be regarded in psychotherapy of depression.

P287

Gender differences in schizophrenia: a three-year study on a sample of 193 outpatients

J. Usall, S. Ochoa, S. Araya, M. Marquez, G. Nedes (Barcelona, E)

Objective

To study gender differences for illness history, symptomatology, social functioning and course of illness over three years in a sample of schizophrenic outpatients.

Method

We randomly selected a sample of 193 outpatients (meeting DSM-IV criteria) among the people who receive psychiatric treatment in five community mental health centers (Sant Joan de Déu SSM) of Barcelona area. Patients were assessed with a sociodemographic and a services utilization questionnaire, and with Spanish versions of the Positive and Negative Syndrome Scale (PANSS), the Global Assessment of Functioning (GAF) scale and the WHO's Disability Assessment Scale (DAS). Female and male patients were compared, employing chi-square and Student's tests for statistical analysis.

Results

Distribution by gender was 120 men (62%) and 73 women (38%). Women were older and had a longer history of illness, and were more likely to be married and employed. Age of onset was earlier in men (23.5 versus 26.6) ($p < 0.05$). No differences were found between women and men in psychopathology, as assessed through the PANSS (global or subscales scores). The GAF scoring was also similar in both groups. However, the DAS showed less disability in women, on the global scale ($p < 0.05$), on the personal functioning subscale ($p < 0.05$), and specially on the occupational functioning subscale ($p < 0.001$). Number and length of hospitalizations during the prospective 3-year follow-up were found to be greater in men ($p < 0.05$).

Conclusions

In our sample of chronic schizophrenic outpatients, women were found to have a better psychosocial functioning and clinical outcome than men, in spite of being older, having a longer history of illness, and displaying similar psychopathological severity.

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P288

A gender comparative study of the needs of schizophrenic patients

S. Ochoa Güerre, J. Usall Rodié, M. Marquez Rowe, J. M. Haro Abad, J. Autonell Caldenteny, S. Araya La Rivera (Sant Boi de Llobregat, E)

Objective

We sought to examine possible gender differences in the needs of patients with schizophrenia

Methods

A sample was randomly selected among all patients diagnosed with schizophrenia (DSM-IV criteria) who attended five Mental Health Centers (Cerdanyola, Ciutat Vella, Cornellà, El Prat and Gavà) over a 6-month period. The instrument employed was the Camberwell Assessment of Needs (CAN), which assesses needs in 22 areas, both as self-rated and as evaluator-rated.

Results

A total sample of 231 patients was obtained, 147 men and 84 women. Overall, men obtained higher scores in the CAN questionnaire than women, indicating a greater level of needs. When self-rated, the men had 5.4 and women 5.2; when evaluator-rated, scores were 6.9 for men and 5.8 for women ($p < 0.05$). Schizophrenic men were found to have more needs in the following specific areas: feeding ($p < 0.001$), daily life activities ($p < 0.001$), household care ($p < 0.001$) and self care ($p < 0.05$). Needs were higher in women in only one area: help in transport ($p < 0.001$). The following areas showed gender differences when rated by evaluator but not when self-rated: drugs, alcohol, housing, social helps and children care.

Conclusions

Schizophrenic men seem to have more needs than women. These results may have important implications for rehabilitation and psychosocial treatments.

P289

Attitudes of female patients to the term schizophrenia in comparison to males

E. Hofer, I. Sibitz, M. Amering (Vienna, AT)

Objective

Prejudices against psychiatry and psychiatric patients are a well known issue. But prejudices in the patients themselves, especially in schizophrenic patients, leading to adverse therapeutic reactions, are existent too (Bechter 1993). It is also well known, that “when the therapy model is generally viewed with pessimism for a particular illness, there will be less pressure to behave compliantly than there would be if treatment chances were more favourably assessed” (Angermeyer 1988). In our research we wanted to compare the different attitudes of female patients suffering from a schizophrenic disorder to that of male patients.

Method

89 patients (40 female/49 male) with schizophrenic disorder diagnosed by ICD 10 criteria were asked with a structured questionnaire about their beliefs to aetiology, treatment and course of illness of schizophrenia. The questionnaire also included stigmatising and common statements.

Results

In our preliminary results we found that more females (73%) than males (53%) believed that schizophrenia is a well treatable disease and has a good course of illness (female 58% / male 35%). More females though, would rather not tell others about a schizophrenic disease (female 52% / male 49%) and furthermore find, that patients with schizophrenia mostly show a strange behaviour (female 60% / male 55%).

Conclusion

These results are of interest, as it is well known that the health belief model is predictive of health behaviour in general and of compliance in particular as well as female patients have different outcomes in comparison to males.

P290

Sex-related differences in autonomic neurocardiac function (ANF) of healthy subjects

M. W. Agelink, H. Ullrich, D. Ziegler (Gelsenkirchen, Düsseldorf, D)

Objective

Standardized, computerized measurements of the 5-min resting heart rate variability (HRV) including the frequency domain spectral analysis provide quantitative information on ANF differentiated into its vagal and sympathetic components (Task Force Report of the European Society of Cardiology 1996).

Methods

We performed standardized measurements of the 5-min resting HRV in 309 healthy subjects (151 men, 158 women). None took any medication regularly, only oral contraceptives and occasional intake of non-steroidal anti-inflammatory drugs were permitted (e.g. acetylsalicylate). Since both age and heart rate markedly influence HRV, a multivariate analysis was performed with age and heart rate as covariates and gender (male vs. female) as the independent factor. Dependent variables were the time- and frequency domain HRV-indices of the 5-min resting study.

Results

Multivariate analysis (MANCOVA) showed a significant influence of the independent factor "gender" on the absolute low-frequency power ($F = 8.06, p = 0.005$) and the ratio of the low- to high-frequency power ($F = 5.49, p = 0.02$): Women showed a lower absolute LF-power and a lower LF/HF ratio compared to men. There were no significant gender differences for the absolute HF-power and the total power. When calculating the percentage LF- and HF-powers as a proportion of the total power, women showed a higher relative HF-power ($F = 5.61, p = 0.019$) and a lower relative LF-power ($F = 8.91, p = 0.003$) compared to men.

Conclusion

We discuss clinical consequences arising from gender differences in HRV under special consideration of the well-known association between a reduced HRV with an increased risk of cardiovascular morbidity and mortality. Age- and gender-dependent normal values for each of the HRV-indices were computed.

P291

Clinical characteristics in psychogeriatric old women with orthostatic hypotension and low blood pressure

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Purpose of the study

Was the determination of the prevalence of orthostatic hypotension (OH), low blood pressure, dizziness, falls and fractures in old women with psychogeriatric problems.

Patients and methods

We have studied prospectively 53 psychogeriatric old women, and have tried to assess the prevalence of OH, heart disorders, diabetes mellitus and the use of medication possibly associated with OH. These patients have been admitted to our Department from emergency ward because of various other medical problems. The final clinical investigation of their dementia has disclosed.

a) Sixteen patients with Alzheimer's disease (AD), 10 patients with frontotemporal dementia (FTD) and 27 patients with

vascular dementia (VaD). The limit of information about the prevalence of OH in organic dementia forced us in this study to investigate a sort number of old women. However, our clinical impression indicated a higher prevalence of OH in organic dementia than normally seen in healthy elderly women.

Results

OH/low blood pressure was present in 42–55% of the old women. The majority reached their maximum systolic decrease within 3–5 minutes of standing, but in 19–38% the maximum blood pressure drop occurred after 5 minutes or later. In 43%, the systolic blood pressure drop was more than 45 mm Hg. Heart disease was found only in AD and VaD, with no difference between those with and without OH/low blood pressure. Falls and fractures were common in orthostatic and hypotensive women, with an incidence of more than 53% in AD and VaD.

Conclusions

These results support our clinical impressions that OH and low blood pressure are common and are an important factor in organic dementia.

P292

Depressive disorders frequency at old women the main carers in Alzheimer disease

C. Tudose, R. Pretorian (Bucharest, RO)

The study was a survey of the health status of the carers of the patients with Alzheimer Disease, registered at the Memory Center in Bucharest. There were used clinic observations, questionnaires, Hamilton Depression Scale and Geriatric Depression Scale. The majority of the main carers were women older than 65 years. A total of 120 persons were included in the study group. The authors tried to intervene, developing support group programmes, offering supportive psychotherapy as well as pharmacological treatment.

P293

An MRI study of subgenual prefrontal cortex in patients with familial and non-familial bipolar disorder

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Background

Over the past few years, there has been an interest in the use of magnetic resonance imaging (MRI) to study specific brain regions in patients with bipolar disorder. Studies of the prefrontal cortex are of particular interest because of its connections with cortical and subcortical circuits involved in the regulation of emotional behaviour and responses to stress. Recently, an area of decreased blood flow and glucose metabolism was localized using a positron emission tomography (PET) scan. This functional abnormality was partly explained with the use of magnetic resonance imaging (MRI) technology which showed reductions in the grey matter volume area relative to controls. We sought to replicate and extend these findings by comparing the grey matter volume in the subgenual prefrontal cortex (SPFC) in patients with familial and non-familial bipolar mood disorders and normal control subjects using MRI.

Methods

Magnetic resonance imaging was performed in 12 patients with bipolar I disorder (6 men and 6 women) with familial (6) and non-familial (6) bipolar disorder and a group of 8 psychiatrically normal controls who were matched on age, sex, race, handedness, and educational level. Grey matter volumes, white matter volumes, left subgenual prefrontal cortex volumes, full brain volumes, right subgenual prefrontal cortex volumes, and full brain volumes were obtained.

Conclusion

Results of this pilot study show that a reduction in the SPFC might underline the pathophysiology of bipolar disorder. Further studies with large sample sizes are required to confirm these findings.

Results

Significant differences in the ratio of right subgenual prefrontal cortex volumes to total brain volumes were obtained between the patients and controls after covarying age and sex ($F [1, 16] = 7.46$, $p = .015$). Although the sample sizes were too small to permit strong tests of specific sex and family history effects among patients, a sex by family history interaction that was marginally short of acceptable significance was observed for the right subgenual prefrontal cortex volumes after covarying age, height, and weight ($F [1, 6] = 4.45$, $p = .089$).

Perimenopause – psychotropic drugs

P294

Prevention on women's mental health and aging

I. I. Lieber, G. Ormaechea, N. M. Martinez, A. E. Epelbaum (Buenos Aires, RA)

The purpose of this work is how we can get older with a good quality of life and at home, avoiding to enter a geriatric institution.

We can prevent the elderly women of feeling old and useless, taking care of their nutrition, and stimulating their capacities and creativity, since they are young, to prepare them to age with physical and mental health.

It is convenient to educate since childhood to respect and value the older people, and the important function of the grandmother, because they are a help for family union and identity, a fountain of love, values, experience and wisdom of life. This can be done through the parents, programs of public health in schools and with massive medium of communication.

The elderly women have to learn to take the right attitude towards difficult situations and to find a meaning of life, following the principles of logotherapy from Viktor Frankl.

P295

Hormone replacement therapy evaluation, side effects and adherence in private clinic

G. V. Miranda, S.P. Miranda (Minas Gerais, BR)

Objective

To assess adherence to Hormone Replacement Therapy (HRT) in private clinic in Belo Horizonte-Brazil.

Methods

245 climacteric women, who spontaneously seek for gynaecological treatment in private office, were prospectively studied, using a standard interview at the second month of HRT and follow up interviews each 6 months, during 2 years in order to investigate reasons for interruption and for changes in HRT scheme. All women underwent complete clinical, gynaecological exam, biochemistry and radiological evaluation including mammography and endovaginal ultrasonography. Important side effects or any other medical criteria guided the changes in therapeutic schemes.

Results

During the 2 follow up years we observed that 52% of women maintained HRT, inside this group 35% had one scheme change and 12% had two or more changes. Side effects were the main reasons for interruption and scheme changes (weight gain, breast pain, headache, gastric intolerance, touching reaction, return of periods, withdrawal bleeding or spots. The adherence improved as the therapeutic scheme had been flexible and communication with

gynaecologist became close in order to relief anxiety and doubts on HRT.

Conclusion

Close communication with the doctor and flexible therapeutic schemes can guarantee an extended HRT adherence.

P296

Differential response of fluoxetine in premenstrual dysphoric disorder (PMDD) and catamenial exacerbation of depression

A. Lopez-Mato, A. Vieitez, C. Marquez (Buenos Aires, RA)

Background

Premenstrual dysphoric disorder (PMDD) affects 3–8% of women in reproductive age. Major depression (MDD) affects 15% of women at the same age. Serotonergic receptors and enzymatic systems have been shown to be abnormal in MDD and PMDD.

Objectives

The aim of this poster is to show that fluoxetine improves the affective (mood liability, irritability, anxiety) and physical (edema, mastalgia, craving for sweets, dizziness) symptomatology of PMDD earlier than its effect on depressive symptoms. A central action for fluoxetine in the synthesis of females sexual hormones is postulated.

Methods

10 patients diagnosed as PMDD and 30 patients diagnosis as catamenial exacerbation of endogenous depression entered this study. They underwent a structured interview and were diagnosed according to Beck Depression Inventory, Hamilton Anxiety Scale (HAM-D) and Visual Analogue Scale (VAS). All received 20 mg/day of fluoxetine. This was administered daily in the depressive group and daily or 15 days per month in the PMDD group.

Results

80% of de pure PMDD group showed an improvement (determined as a decrease of at least 40% in Beck, HAM-D and VAS) as early as the first menstrual cycle and all showed great improvement by cycle three. Depressive group showed improvement in three months, at the same time that they improved from their depression. Treatment is still maintained for six months after.

Conclusion

We postulate that fluoxetine and probably other SSRI must have some central action on behalf of its antidepressant action quicker than antidepressant action. Griffith M. showed as possible action for SSRI in augmentin pregnenolone synthesis by an enzymatic action. This can account for the quick improvement in pure PMDD. In depression other mechanisms are involved and their correction must be necessary to accomplice a full improvement.

P297

DHEA-S levels and depressive symptoms in women in the late reproductive years

M. Morrison, T. Ten Have, E. Freeman, M. Sammel, J. Grisso (Philadelphia, PA, USA)

Background

Low DHEA-S levels in the elderly and declining levels in midlife have been associated with an increased risk of depressive symptoms. We sought to elucidate the associations of DHEA-S levels and depressive symptoms in African American and Caucasian women in the late reproductive years.

Methods

Design: Cross-sectional study. Setting: Population-based urban sample recruited through random digit telephone dialing. Participants: The sample was 338 women between the ages of 35 and 47

years with regular menses. Half the sample was African American and half was Caucasian American. Depressive symptoms were measured with the Center for Epidemiologic Studies Depression Scale (CES-D).

Main results

The relationship of DHEA-S levels and depressive symptoms was a positive relationship for women at the mean age of the cohort, 41 (Beta = 0.04, $p = 0.008$, 95% CI = 0.010–0.068) for age and race adjusted linear regression of DHEA on CES-D, including interaction terms). Higher DHEA-S levels were associated with depressive symptoms in women in the younger half of this cohort. Lower DHEA-S levels were associated with depressive symptoms in the women in the older half of this cohort. The direction of the relationship of DHEA-S and depressive symptoms changes with age, being a positive relationship in younger women and an inverse relationship in the older women in this cohort. Estradiol levels mediated (were an effect modifier) the relationship of DHEA-S and depressive symptoms. At higher estradiol levels (75% quartile (52.58 pg/mL)), there was a positive association of DHEA-S and depressive symptoms ($p = 0.024$).

Conclusions

Younger women in this cohort have a positive association with DHEA-S levels and depressive symptoms and older women have an inverse relationship. This association appears to be impacted by estradiol levels. The transition to the inverse relationship occurred at a younger age in African American women. These preliminary findings suggest that changes in DHEA-S levels, depressive symptoms and the role of estradiol levels in this association needs to be better understood in aging premenopausal women.

P298

Fertility and number of children in patients with Alzheimer's disease

U. Ptok, K. Barkow, R. Heun (Bonn, D)

Objective

Estrogen therapy has been suggested to have protective effects against Alzheimer's disease. The effects of natural exposure to estrogen in cognitive disorders have rarely been studied. Assuming that nulliparous women have a higher exposure to natural oestrogen, it could be hypothesised that these women might have a lower risk of Alzheimer's disease than those that have had children. Methods: The fertility and number of children in 106 women with a diagnosis of Alzheimer's disease was examined and compared with that of 189 female subjects from two non demented control groups. Additionally, the same comparisons were carried out for 40 male Alzheimer's disease patients and 105 male control subjects. Results: In female subjects, having had children was found to be associated with a diagnosis of Alzheimer's disease. This was not the case in male subjects. The number of children did not seem to affect the risk of Alzheimer's disease, neither in female nor in male subjects. Conclusion: Natural exposure to estrogen seems to reduce the risk of Alzheimer's disease in women in late life.

P299

Mental health aspects of peri- and post-menopausal women. Attitudes, quality of life, and the role of HRT

Y. Zöllner, J. Piercy, J. Alt (Berlin, D; Bollington; Hannover, D)

Background

The mental health status of postmenopausal women is influenced by a host of factors, among which we find women's attitudes towards menopause, treatment, and the underlying ageing process.

Objectives

Exploratory part: to describe the characteristics, health state and treatment patterns of women aged 45–65 years. In particular, to explore the relationship between menopause and various mental health aspects. Confirmatory part: two hypotheses are to be tested: (1) whether treatment with hormone replacement therapy (HRT) is correlated with treatment for depressive symptoms, and (2) whether any perceptions regarding menopause influence mental health.

Materials

An extensive dataset generated through a large-scale observational study of women's health in Germany. The study includes 1296 women aged 45–65 consulting either gynaecologists or primary care physicians ($n = 118$) irrespective of disease or symptomatology. The dataset codes the primary reason for the visit, all actions initiated subsequently, the full medication profile and underlying medical conditions.

Methods

Exploratory data analysis, followed by correlational analyses into the relationship between (1) HRT use and treatment with antidepressants (stratified by time since menopause), and (2) items covering depressive mood and statements about the perception of menopause.

Findings

21% of women who consulted their physician had suffered from depression in the past, with 12% currently suffering. 30% of women cited menopause and 4% depression as reason for the visit. The proportion currently on HRT was 55%.

Among current HRT users within the first six years of menopause, 7.9% had symptoms of depression, compared to 12.9% of non-HRT users (chi-square = 3.5, $p < 0.05$). For women post-menopausal for longer than 6 years, there was no significant difference between users and non-users of HRT.

Women with a negative attitude experienced a higher incidence of psychological complaints than women with a more positive attitude.

Conclusions

During early postmenopause (<6 years since onset of menopause), HRT users consume less antidepressants than non-users of HRT. In later postmenopause (>6 years since onset), prevalence of antidepressant use decreases in non-users of HRT, to the same level as in HRT users. Negative attitudes towards menopause are a risk factor for higher incidence of mental health problems.

P300

Mono- and combined therapy for women with seasonal or non-seasonal depression: a Siberian experience

A. Putilov (Novosibirsk, RUS)

Non-pharmacological interventions, such as bright light exposure, physical exercise and sleep deprivation, may alleviate the symptoms of depression. They are the appealing alternatives to pharmacological antidepressants for low income Siberian women of childbearing age. In the present analysis we search for the most effective one-week non-drug treatment strategies for individuals with seasonal and non-seasonal depression. In total, we studied 257 female subjects with either winter depression or non-seasonal depression or without depression ($n = 113, 58$ and 86 , respectively). The results suggest that total night sleep deprivation did not improve mood in non-depressed subjects, whereas the significant improvements seen in seasonally and non-seasonally depressed subjects were similar. Any type of one-week mono- or combined treatment produces significant reduction of depression

scores in depressed and non-depressed subjects. Winter depression responded better than non-seasonal depression to treatments with physical exercise, bright light and combination of sleep deprivation with bright light. Although we found that all used treatments, including placebo, prevented relapse after sleep deprivation in winter depression, further significant reduction of depressive scores was observed after bright light exposure rather than after administration of either melatonin or placebo. In non-seasonal depression, the physical exercise alone or in combination with sleep deprivation was a significantly better treatment compared to bright light. The findings indicate that winter depression could be well-treated with either physical exercise or bright light, while for non-seasonal depression the combination of sleep deprivation with physical exercise seems to be a promising treatment.

P301

The safety of selective serotonin reuptake inhibitors (SSRI) in pregnant women and nursing infants

C. Popa, S. Nathan (Pittsburgh, OH, USA)

The reproductive years represent a time of increased vulnerability for the onset, exacerbation and recurrence of depressive and anxiety disorders. The use of psychotropics during pregnancy and lactation is a challenging option.

In order to assess the safety of SSRI's during pregnancy and lactation a computerized search of Medline was conducted (1990-present) and the literature was reviewed.

With respect to SSRI's exposure during pregnancy we identified four controlled prospective studies, five surveys, a case report and a number of review articles. The data available was reviewed with particular attention given to the teratogenic effect, neonatal toxicity and long-term neurobehavioral effects of SSRI's exposure during pregnancy. Few prospective studies and a number of case reports have examined the effects of SSRI's in more than 170 nursing infants and their mothers.

All studies suggest that SSRI's exposure during pregnancy does not appear to increase the risk of major malformations or pregnancy related complications. One study noted higher rates of minor malformations after first trimester exposure and an increase of perinatal complications after late pregnancy exposure to Fluoxetine. One case report of postnatal complications after in utero exposure to Fluoxetine was located. We found only one study on the long-term neurodevelopment of children exposed to Fluoxetine during pregnancy. The exposure did not appear to affect the IQ, language and behavioral development in preschool children. With the exception of few case reports of adverse effects, the use of SSRI's during lactation appear to be safe on the mother and infant. Undetectable or low concentrations of SSRI's and their metabolites have been found in infant serum.

The literature on safety of SSRI's is limited, but based on the data reviewed, the exposure to SSRI's during pregnancy and lactation does not appear to be associated with major adverse effects. However, long-term neurobehavioral effects are not known and further research is needed. At this time, the decision to use SSRI's during pregnancy and lactation should be based on a thorough risk-benefit assessment.

P302

Substance abuse following abortion and childbirth

D. C. Reardon, P. G. Ney (Springfield, IL, USA; Victoria, B.C., CDN)

A statistical association between a history of substance abuse and a history of abortion has been identified in at least seventeen published studies but this association has not yet been thoroughly analyzed. In one recent study, a significant minority of women

interviewed one month after their abortions reported using drugs or alcohol as a means of helping them to "deal with" their abortions. Several studies have shown that women with a history of abortion are more likely to continue using tobacco, alcohol, and hard drugs, such as cocaine, during subsequent wanted pregnancies. A shortcoming of most of these studies, however, have not reported on the pattern of substance abuse women prior to their pregnancy outcomes.

This study draws upon a subset of data from a reproductive history survey distributed to a random sample of American women (700 respondents) which included a self-assessment of past substance abuse. Analysis of these variables showed that women reporting a history of abortion were 2.7 times more likely to report a history of substance abuse than non-aborting women ($P < .000001$). To control for a prior history of substance abuse and subsequent abortions, we excluded all cases where substance abuse was reported to have begun before the first pregnancy or the first abortion occurred after the first pregnancy outcome. Among the remaining women ($n = 438$) differences in substance abuse subsequent to first pregnancy outcome were significant, with drug or alcohol abuse reported by 16.5% of women who aborted, 3.3% of women who carried to term, and 4.3% those who miscarried. Among the aborting women, 22% identified the onset of their substance abuse as being in the same year as their abortion and 67% within 3 years of their abortion. These results may have been effected by underreporting of abortion or substance abuse. Women with a history of abortion or a history of substance abuse were significantly more likely to describe the act of answering the survey as "emotionally difficult or disturbing."

The interactions between abortion and substance abuse deserve additional study. These findings may also have clinical and counseling implications.

P303

Provider advice to pregnant drinkers: rates, types, and implications

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Background

Maternal alcohol use during pregnancy remains a major public health and medical concern due to the potential for harmful effects on the developing infant. Many women who use alcohol are seen in primary care and obstetrical settings, providing an ideal opportunity for focused intervention efforts. Despite the risks of alcohol use during pregnancy and the availability of potentially effective alcohol screening and brief alcohol intervention strategies to prevent negative consequences, health care providers often do not take adequate steps to address this problem.

Objectives

This is a preliminary study from an ongoing screening and intervention project targeting alcohol use and depression among pregnant women in primary care. This study focused on the messages of health care providers to pregnant women who are using alcohol while pregnant. Methods: A total of 738 pregnant women were screened in the waiting areas of primary care and obstetrical clinics and asked about: 1) their use of alcohol during pregnancy and, 2) what messages they were receiving from physicians and significant others regarding alcohol use.

Results

A total of 15.8% of the pregnant women reported alcohol use during their current pregnancy. Fifty-eight percent of those women who were drinking indicated that their health care provider had talked to them about alcohol use at all; 25% of those were advised to quit drinking and 16% were advised that they cut down. This study also compares utilization data from the pregnant women who were using alcohol compared to those who were not.

Conclusion

These data suggest that there may be a substantial number of women who are using alcohol during pregnancy whose physicians may not inquiring or providing advice about alcohol use and that utilization may be affected by alcohol use status. This study provides critical, relevant data regarding the seriousness of this problem and the need to train providers in available, easy-to-use, cost-effective brief alcohol intervention models that can be readily implemented into clinical practice. Intervention methods and empirically based clinical implications are provided.

P304

Characteristics of women with drug problems

A. Turkcan, O. Saatcioglu, D. Cakmak (Istanbul, TR)

In this research, women drug users were determined at Alcohol and Drug Treatment Center (AMATEM) in Bakirkoy Research Hospital for Psychiatric and Neurological Diseases between 1998–1999. In the 1998, total inpatient cases were 1682. Eighty-six cases (5.1%) were female and 1596 cases (94.9%) were male. Also in the year of the 1999, total inpatient cases were 1483. Seventy-nine cases (5.3%) were female and 1404 cases (96.7%) were male. Although the quantity of the women drug users who were admitted for treatment was increasing in years, the rate of the women drug users in Turkey are lower than the world rates. The most treatment admission among women inpatients were for heroin and alcohol drug using. However, we found that women drug users were different from men against type of the drug.

P305

Psychotropic use during pregnancy and lactation

H. Gonzalez-Arriaza, M. Bostwick (Rochester, USA)

Objective

Growing use of medications to treat psychopathology during pregnancy and the postpartum period challenges clinicians, particularly when mothers choose to breastfeed. Lithium use continues to be discouraged, based on decades-old uncontrolled studies and case reports. We contend that the calculus for using lithium in these patients should weigh the risk of fetal/infant exposure against the risk to both mother and child of untreated psychopathology and the benefit to both of breast-feeding.

Methods

A woman with bipolar disorder was successfully treated with lithium during pregnancy and lithium/fluoxetine during lactation. Lithium/fluoxetine/norfluoxetine levels were obtained periodically from mother, breast milk, and breast-fed infant. Renal and thyroid functions for the pair were also measured. Cognitive and psychomotor development was assessed repeatedly with the Bayley's Infant Development Scale (BIDS) during the infant's first year.

Results

Mother's serum lithium level ranged from 0.7 to 1.0 during pregnancy, and required no dose adjustments. At delivery, the dose was halved and then returned to baseline two days later. The infant's blood levels of lithium/fluoxetine/norfluoxetine remained low or nondetectable despite breast milk levels that were at least half the mother's blood levels for all three. The infant was always asymptomatic, and BIDS were repeatedly normal.

Conclusion

Risks and benefits of drug therapy must be individualized, weighing the risks of behavioral teratogenesis against the benefits of breastfeeding and treated psychiatric illness. Because of physiologic changes during pregnancy and delivery, drug levels should be monitored and dosages adjusted as necessary. If psychotropics are elected with breastfeeding, the infant should be

watched for signs of toxicity. Controlled prospective studies of lithium exposure during pregnancy and lactation are needed as is long-term evaluation for enduring behavioral and cognitive effects.

P306

Atypical antipsychotics and pregnancy and breast-feeding

M. Trixler, Á. Gáti, T. Tényi (Pécs, H)

Objective

Both the rapid emergence of new antipsychotic medications and the increasing fertility rate among women with psychotic disorders have contributed to the growing clinical importance of the treatment of pregnant women who have psychotic illnesses. Many women with mental illnesses would like to breast feed their infants. In light of the limited but rapidly growing data, it seems that in some cases the possible physiological and psychological benefits may outweigh putative risks.

Method

We present data of four women with schizophrenia who have a total of six pregnancies during clozapine treatment. Additionally we report about a young female with schizophrenia who was treated with olanzapine after the 25th weeks of her pregnancy. The diagnosis was evaluated according to the DSM-IV criteria.

Results

In all observed cases normal babies without teratogenic or embryotoxic disturbances were born and the follow up of the infants gave the same result.

Discussion

Our result support the view that clozapine can be an appropriate alternative to classical neuroleptics in the treatment of schizophrenic psychosis during pregnancy. In the treatment of pregnant women with psychotic illnesses we must always take into consideration the effect of that treatment on the fetus. With regard to the high risk of decompensation during pregnancy and postpartum, continuous antipsychotic medication is needed using the minimum effective dose. Clinicians must always carefully weigh up the risks and benefits for each patient on an individual basis.

All antipsychotics are secreted into breast milk but the concentrations and effects vary. There is a subgroup of mothers with mental illnesses who want to breast feed their infants and who are receiving a single established antipsychotic drug at the lowest possible clinically effective dose. As a tentative conclusion, this group could experience benefits from being able to nurse which would outweigh the risk of exposing their babies to very small amounts of antipsychotic drugs. When mothers taking antipsychotic drugs do nurse close monitoring of the infant is essential, and monitoring drug concentrations in breast milk and in the infant themselves is desirable.

P307

Intranasally applied oxytocin: a novel route of drug administration?

R. Liedtke, R. Landgraf, I.D. Neumann (Munich, D)

The neuropeptide oxytocin (OXT) has been shown to affect various aspects of emotionality and stress responsiveness both in animal and human studies. In rats, OXT acts as an endogenous anxiolytic and exerts an inhibitory effect on the responsiveness of the HPA axis to emotional and physical stressors in dependence on the reproductive state. Sites of action within the rat brain include the olfactory bulb, the septum and the hypothalamic paraventricular (PVN) and supraoptic (SON) nuclei. Its potential therapeutic use is limited due to its restricted access to the brain via the blood-brain barrier. Here, in a series of preliminary studies,

we tested the hypothesis that OXT applied intranasally (i.n.) via a nasal spray (Syntocinon R) (i) gets access to the olfactory bulb, (ii) triggers local noradrenaline release, and (iii) alters various aspects of emotional behaviour in rats bred for high anxiety-related behaviour.

Following i.n. OXT (1 µg total), the peak concentration in plasma was reached after 50–80min whereas, in the same halothane-anesthetised male rats, microdialysis of the olfactory bulb revealed the OXT peak already 20min following treatment. In this brain area, the release of noradrenaline tended to be increased in response to i.n. OXT.

In male hyperanxious rats, i.n. OXT (applied under halothane [30s] 15min before testing) exerted an anxiolytic effect on the plus-maze and altered the stress-coping strategy towards higher activity in the forced swim test compared to vehicle treatment. In lactating rats, i.n. OXT reduced the maternal aggressive behavior towards a virgin female intruder in the maternal defence test.

These results provide preliminary and promising indications that OXT applied via the nasal route gets rapid access to the brain and modulates neuronal functions. Further, the anxiolytic, anti-depressive and anti-aggressive effects described after i.n. OXT make this route of administration potentially interesting for therapeutic use.

Gender differences and psychiatric disorders II

P308

Are women responsive to serotonergic rather than norepinephrinergetic antidepressants? A double blind trial of fluoxetine and maprotiline

F. Martenyi, M. Dossenbach, S. Metcalfe (Vienna, AT)

Objective

The pharmacodynamic effect of antidepressants may show gender differences. Significant differences in efficacy were detected between males and premenopausal females in the response to SSRI (sertraline) and non-selective tricyclic antidepressant (imipramine) treatment.

Methods

The antidepressive effect of an SSRI and a tetracyclic antidepressant with selective norepinephrine reuptake inhibitory effect (fluoxetine and maprotiline respectively) was compared in a 6 week double blind trial of 105 patients suffering from major depression which were diagnosed according to DSM-III-R. 34 female and 23 male patients completed the 20mg fixed dose fluoxetine treatment; 25 female and 19 male patients completed the 100–200mg flexible dose titration maprotiline arm. The mean age of female patients was 45.8 and 45.7 years in the fluoxetine and maprotiline group, and 44.6 and 43.97 for males respectively. No significant differences were detected in baseline severity of depression measured by HAMD17. The baseline HAMD total score (SD) for females and males was 26.26 and 26.0 respectively (fluoxetine) and 23.85 and 24.8 for females and males respectively (maprotiline).

Results

No significant difference was observed in the change of HAMD17 total score from baseline to week 6 between the treatment groups. A significant difference was observed in females between the fluoxetine and maprotiline groups respectively; however the difference failed to show significance for the males. Inside the female group the difference was significant for women younger than 45 years at week 6. The mean HAMD17 total score change from baseline was –18.44 in the fluoxetine and –12.9 in the maprotiline group ($p = 0.023$); however, the fluoxetine and

maprotiline treatments failed to show significant differences in women older than 45 years (–17.31 and –14.84 respectively).

Conclusions

The present data support the hypothesis that females in their reproductive period are more responsive to SSRI (fluoxetine) treatment than norepinephrinergetic tetracyclic antidepressant (maprotiline) treatment. Female gonadal hormones may have clinically relevant information with the serotonergic antidepressants.

P309

Comparative efficacy of Venlafaxine XR in male and female populations of GAD patients: a pooled analysis

V. Haudiquet, P. Meoni, D. Hackett (Paris, La Defense, F)

Objective

To determine the relative efficacy of venlafaxine extended release (XR) in female and male patients diagnosed with Generalized Anxiety Disorder (GAD; DSMIV).

Methods

Data from five 8-week, double-blind, placebo-controlled studies, two with 6-month extensions, were pooled. 1829 patients (1118 females and 711 males) represented the intent-to-treat population for the short-term and 765 for the long-term (459 females and 306 males). Missing data were handled according to the Last Observation Carried Forward (LOCF) approach.

Results

Venlafaxine XR treatment was associated with significantly more improvement in the Hamilton Anxiety rating scale (HAM-A) score compared with placebo after 8 and 24 weeks ($p < 0.001$). Adjusted mean changes from baseline for venlafaxine XR treatment were comparable between male and female patients after week 8 (–12.6 and –12.7 respectively) and week 24 (–14.1 and –14.7 respectively). Adjusted mean changes from baseline for placebo revealed a relatively greater improvement in male patients (–10.8 vs –9.2 for females at 8 weeks and –10.6 vs –9.6 at 6 months). The treatment by sex interaction was significant ($p = 0.045$) for short-term but not long-term ($p = 0.234$).

Response rates for venlafaxine XR treatment were significantly higher than those for placebo after both short and long-term. In females, response rates at 8 weeks and 6 months were 57% and 68% for venlafaxine XR and 38% and 32% for placebo ($p < 0.001$ at both time points). In males, response rates at 8 weeks and 6 months were 55% and 63% for venlafaxine XR and 42% and 43% for placebo ($p = 0.005$ and $p = 0.007$ at 8 weeks and 6 months respectively for placebo vs venlafaxine XR).

Conclusions

Venlafaxine XR shows equal efficacy in female and male GAD patients.

P310

An open prospective study of estradiol levels in schizophrenia and related disorders

T. J. Huber, U. Schneider, H. M. Emrich (Hannover, D)

Objectives

To explain differences in onset and recurrence of schizophrenia between genders, estradiol has been postulated to constitute a protective factor, which could provide women at risk with a relative protection in phases of high oestrogen levels (oestrogen hypothesis). Several studies have reported estradiol levels in schizophrenic women to be significantly reduced in comparison to the normal population. Our own studies could support these findings. However, an unspecific stress related effect can be discussed. The aim of this study was to test whether estradiol levels in women also under the stress of an acute hospitalization but

without a diagnosis of a psychotic disorder would differ from those of psychotic women.

Method

We examined estradiol levels in an open prospective study in three groups of women between the age of 18 and 50: 45 women were admitted for an acute psychotic episode. 40 patients were also admitted to an acute psychiatric ward but suffered from other disorders (like anxiety disorder, personality disorder, obsessive compulsive disorder). A third group consisted of ten healthy volunteers. Women in menopause or perimenopause were excluded from the study.

Results

There were no significant differences in between groups in respect to age or scores at the clinical global impression (CGI) scale. Estradiol levels were significantly lower in the psychotic patients in comparison with both the healthy volunteers and the patients suffering from other disorders. There was no correlation between prolactin level and estradiol level and estradiol levels were not significantly affected by medication received.

Conclusion

Previous findings of estradiol levels to be low in psychotic women appear to be independent of the stress of an acute psychiatric illness. Thus further support of the oestrogen hypothesis has been gained.

P311

The cognitive effects of estradiol in female rats with different level of thyroid hormones

J. Fedotova, N. Sapronov (St. Petersburg, RUS)

It is generally accepted that sex steroids are implicated in the pathophysiology of affective disorders, anxiety, depression, learning/memory processes. Also, there exists a connection between pituitary-gonadal system and pituitary-thyroid axis responses in cognitive performance, especially in female mammals.

The purpose of this pilot study was to examine the behavioral effects of acute or chronic estradiol treatment in female rats with excess or lack of thyroid hormones.

The excess of thyroid hormones was induced by triiodothyronine (T3) administration (50 mg/kg, i.p., 7 days) and the lack of these hormones was induced by surgical thyroidectomy. Estradiol (0.5 mg/kg, s.c., as oil saline) was administered 1 hour or during 7 days before the beginning of the behavioural tests. We used active (Y-maze) and passive avoidance tasks, open field and Porsolt tests.

Both acute or chronic estradiol treatment improved the active and passive avoidance performance and exerted stress-protective action in the thyroidectomized rats. Also, chronic estradiol administration modulated behaviour in the open field and Porsolt tests in these rats. In the T3-treated rats chronic estradiol treatment contoured the behavioral effects of these hormones in Y-maze and open field test, but failed to influence on stress response.

Thus, the results obtained indicate the connection between gonadal and thyroidal axes in their responses on cognitive functions and demonstrate the modulating role of estradiol on the behavioral processes in female rats with excess or lack of thyroid hormones.

P312

Event-related potential alterations over the menstrual cycle as indicators of the phase-related changes in visual data processing during the Continuous Attention Test

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Contradictory data on variation of psychomotor functioning during the menstrual cycle (MC) may be verified by neuro-

physiological studies. Twelve healthy women with natural and regular MC were examined during 4 sessions respective to the 4 phases: menstrual (3–5 day of MC), pre-ovulatory (11–13 day), luteal (18–23 day) and pre-menstrual (26–28 day). During each session they performed the Continuous Attention Test (CAT). The attended (standard and target) CAT stimuli were geometrical patterns (the target was a direct repetition of any standard pattern) while unattended stimuli were digits. Event-related potentials (ERPs) elicited by CAT stimuli were compared among the phases with the Wilcoxon test for related samples and the differences were referred to the results of the CAT. In order to avoid artifacts related to learning, the phase during which a woman entered the study was chosen at random. During the menstrual phase, in standard and target condition, the amplitude of the N160 (N1) component at occipital and posterotemporal leads was lower, and the amplitude of the posterior P220 (P2) was higher than in the other phases. In the pre-menstrual phase there was an increase in the N1/P2 amplitude following unattended digits as well as in amplitude of the early frontal P3 component in the standard condition. In that phase, in addition, spatial analysis of the N1 component following standard stimuli revealed an associated increase in frontal positive potential. The latencies of the components, especially those of the parietal P2, were the shortest in the pre-menstrual phase and the longest in the pre-ovulatory one. There were no phase-related changes in CAT errors but mean reaction time was the shortest in the pre-menstrual phase. Conclusions: (1) the alterations in amplitudes of N1 and P2 following attended stimuli in the menstrual phase may result from a decrease in the overlapping processing negativity and weakened selective attention; (2) the highest speed of processing as well as over-activation of non-specific attentional resources may be related to some pre-menstrual symptoms; (3) the ERP measures may be sensitive indicators of phase-related alterations in visual processing and attention.

P313

The effects of 17-beta implants on psychological symptoms during a 6-month implant cycle

E. W. Thornton, M. E. White (Liverpool, UK)

Introduction

The study examines the occurrence of menopausal symptoms in surgically derived post-menopausal women receiving estradiol implants. This paper focuses on affective response, especially anxiety and depression during a 6-month implant cycle.

Methods

Hysterectomised/oophorectomised women (N = 30) aged between 34–64 years who were attending a routine repeat implant clinic appointment were recruited into an open, prospective design study lasting 6 months between two consecutive repeat implants. Questionnaires were used to assess menopausal symptoms (Women's Health Questionnaire-WHQ), Menopause Specific Quality of Life Questionnaire (MENQOL), and affective status (General Health Questionnaire GHQ-30, Beck Depression Inventory- BDI).

Results

Psychological symptoms were more prevalent than the so called "typical menopausal" vasomotor or sexual symptoms. The numbers of subjects reporting psychological symptoms on the WHQ were: tiredness (N = 21), irritability (N = 17); panic attacks (N = 10); tense, wound up (N = 16). Fewer women experienced vasomotor hot flushes (N = 8) or night sweats (N = 10). Correlation analysis revealed anxiety was unrelated to vasomotor symptoms but was correlated with menstrual symptoms ($r = .36$, $p = .06$). Depression was unrelated to sleep or vasomotor symptoms

but was related to WHO domains: menstrual ($r = .57, p < .01$); sexual ($r = .44, p < .02$); and somatic symptoms ($r = .44, p < .02$). Pre-implant scores on the BDI ranged from 0–39 (Mean = 11; SD = 8.8) with over 50% of women achieving scores for clinical “caseness”. T-test comparisons showed estradiol reduced pre-implant MENQOL depression scores from 0.40 at pre-implant to 0.01 after 2 months. Thereafter, scores began to rise to a value of 0.49 after 6 months. Anxiety scores provided a similar pattern. Improvements in somatic symptoms did not account for the improved psychological symptoms.

Conclusions

Anxiety and depression are alleviated by implants independent of sleep or vasomotor symptoms. The 50mg implants begin to lose their effectiveness after 2–3 months producing early symptom return in some women.

P314

Cognitive functioning and hormone replacement therapy in postmenopausal women

K. A. Rice, C. A. Morse (Melbourne, AUS)

Increasing research attention has been given to mid-aged and older women’s mental abilities in relation to the changing hormonal status occasioned by menopause. The implications are that older women are at risk for diminishing mental functions due to “loss” of endogenous oestrogen and that “rescue” with exogenous hormone therapy is required to (i) maintain mental integrity and (ii) protect against longer term advent of dementia changes. Research to date can be criticised on methodological grounds of small samples, clinical treatment-seeking subjects and surgically induced vs natural onset menopause. This unique study is investigating cognitive abilities in a non-clinical, community-based Australian population of postmenopausal women. Unlike previous work, the current research examines several aspects of cognition including general and specific memory, attention and concentration, aspects of health such as depression, anxiety, and stress, and attitudes toward health, memory and menopause. In addition details of menopause symptoms, health status and history, body mass index, and objective hormone levels are also investigated. While previous studies have investigated various combinations of these, no other study has yet undertaken such a comprehensive examination of cognition and hormone replacement therapy (HRT) in postmenopausal women. A comprehensive analysis of the relationship between cognitive functioning, physical symptoms, psychological health and circulating oestrogen levels in HRT-users and non users will be presented. This analysis will include an examination of the influences of psychological (anxiety, dysphoria, attitudes) and physical states (hormone levels, blood pressure) on cognitive abilities in this population.

P315

Random study, double-blind evaluation of the effects of estrogen replacement therapy on the cognitive and psychomotor functions in menopausal women

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The estrogen interacts with neurotransmission systems involved in cognitive function.

Increasing biological evidence suggests that estrogen is related to cognitive function. However, fewer controlled studies have examined the relationship between postmenopause hormone use and general cognitive function in non-demented postmenopausal women.

The relationship between estrogen and cognitive function among postmenopausal women remains controversial, and several

methodological limitations have been found in a large number of studies.

In order to help clarify this matter, our goal was to verify the effects of estrogen hormone replacement (EHR) on the cognitive performance of 53 women measured at baseline and 6 months later.

We developed a double-blind, randomized, placebo-controlled study design, by replacing the hormone with equine conjugated estrogen (premarin*) 0,625mg per day or placebo, during six cycles of 28 days each, in hysterectomized women, who were normal in all other aspects. Both groups had similar demographic and anthropometric data, physical examination, menopausal symptom test scores, and mood and anxiety test scores.

The cognitive performance was measured using the following tests and scales: 1) Immediate and Delayed Verbal Recall; 2) Digit Span- Forward; 3) Digit Span- Backward; 4) Free Recall of Pleasant and Unpleasant Words; 5) Digit-Symbol Substitution Test (DSST); 6) Three Minute Reasoning Test; 7) Perceptual Speed and Accuracy Test from the battery “Differential Aptitude Tests- DAT”; 8) The Paired Associate Learning Test; 9) Subjective Memory Questionnaire (SMQ).

We also applied the Social Adjustment Scale (SAS) and psychometric tests.

Conclusions

The present study has not provided evidence that there are any beneficial effects of EHR given to healthy elderly women on their cognitive abilities. Both groups were similar ($p < 0.05$).

P316

Dehydroepiandrosterone, depression and anxiety

O. Boulosa, A. Lopez Mato, G. Illa (Buenos Aires, RA)

Objectives

The aim is to show that dehydroepiandrosterone (DHEA) as an adrenal metabolite, has an alteration of its circadian rhythm in endogenous depression and anxiety disorders with comorbid depression. This alteration has not been found in dehydroepiandrosterone sulfate (DHEAs), as an adrenal and gonadal metabolite. Alteration of circadian rhythm of cortisol secretion is for long known in depression

Methods

31 female patients, diagnosed according to Hamilton Anxiety Scale (HAM-D), Beck Depression Inventory and structured interviews either as major depression or anxiety disorder (general anxiety disorder and panic attacks with agoraphobia), with or without depression. All were drug free and underwent DHEA determination in blood at 8 AM and 5 PM. Many of them had new determinations after clinical remission due to successful treatment.

Results

100 % of depressive patients showed alteration of DHEA circadian secretion showing a reverse pattern (83,35%) (characterized by more morning DHEA), or blunted curve (13,63%) (characterized by no differences between both determinations). None showed DHEAs secretion altered. 66,66% of anxious patients also showed reverse patterns of secretion. Mostly of them presented comorbid depressive symptomatology.

Conclusion

Results indicate that the circadian rhythm alteration is a characteristic of depression, and of some anxious-depressive states and, that other substances rather than cortisol can be abnormal in its secretion. Their determination may be a state dependent biological marker of the illness. Treatment normalizes this alteration.

P317**Psychoneuroendocrinology of adolescent depression. Need for diagnosis and biological treatment**

A. Lopez Mato, O. Boullosa, C. Marquez (Buenos Aires, RA)

Background

Based on the fact that depression in adolescents can be a true endogenous disease, as in adult, it becomes a real medical urgency. A clear differential diagnosis with reactive and/or symptomatic depression is needed. Psychoneuroendocrinological test can help out with this.

Objectives

The aim of the study is to show that adolescent depression may show psychoneuroendocrinologic alterations, very similar to those described in adults since long, which confirm the biological basis of the illness.

Methods

Fifteen female teenagers patients diagnosed as endogenous depressive in first episode or recurrent episode, underwent DST and TRH/TSH test.

Results

Dexametason Supression Test (DST) resulted in 10 normal responses and 5 subjects with no supression. TRH/TSH resulted in 20% hyperespondance curves, 30% in blunted responses and 50% in normal responses. Hyperesponsiveness mostly corresponded to those with genetics of bipolarity. There was no correlation between the altered pattern of the two test. Nearly 90% of the patients showed altered response to one or both tests.

Conclusion

The psychoneuroendocrinological disbalance these tests show may be secondary to the central neuroamines disbalance in brain. It can be corrected with adequate antidepressant medications. If not treated the dysfunction may be lifelong and the obvious consequence will produce changes in maturation, growth and fertility forever.

P318**Abnormalities of thyroid axis response in female endogenous depression**

O. Boullosa, G. Illa, C. Marquez (Buenos Aires, RA)

Background

Thyroid is a fragile gland in the female gender due to diet and sexual hormonal influence. Pregnancy and menopause can trigger thyroid dysfunction. Relation between hypothyroidism and depression is classically described, but depressive women can show other gland functional alterations. These are an important clue to diagnosis and treatment.

Objectives

The aim of this study is to show thyroid hormone response to stimulation tests in women with endogenous depression.

Methods

Thirty female patients diagnosed by DSM IV criteria as unipolar first or latter episode and free of clinical or endocrinological pathology were included. All were drug free for at least 2 weeks. None had received lithium treatment. They were all submitted to TRH/TSH test with basal and 25 min. and 60 min. determinations after stimulation with TRH.

Results

36,66 % (11 patients) of blunted responses were observed, mostly belonging to unipolar depressions. Another 36,66% (11 patients) of exaggerated response was observed, mostly belonging to bipolar depressions. Antiperoxidase antibodies were detected

among many of these suggesting subclinical hypothyroidism. Only 26,66% (8 patients) of normal responses were detected.

Conclusions

The study of the thyroid axis functionality is imperative in depressive females. Lithium treatment can deteriorate thyroid function even more.

P319**The psychodynamics of pregnancy-aversive sexuality (PAS)**

M. Pedulla (Oklahoma City, OK, USA)

Objectives

Provide an evidence-based heuristic of the psychodynamics of contraception and sterilization (PAS). Contrast PAS with nonaversive methods.

Methods

Analysis of PAS psychodynamics uses insights from addictions, compulsions, and Skinnerian behavioral concepts. The sharp psychodynamic contrast between pregnancy-aversive and non-aversive pregnancy control is discussed, especially as it affects therapy.

Results

PAS practices constitute adverse behavior therapy. With sexual pleasure as positive reinforcer, PAS practices initiate intrapsychic conflict with aversion to pregnancy, thus also to the procreative self. PAS is found to share a self-destructive commonality with the eating disorders; nonaversive methods suffer no adverse outcomes. The rationalizations which dominate "family planning" discourse among clients and therapists suggest a dependency-codependency dynamic.

Conclusions

An authentically women-centered approach to pregnancy control mandates a reimagining of PAS by the health professions. Rationalizations must be reevaluated for their destructive effects on women's health. Scientific proof of efficacy and feasibility of nonaversive methods calls for a new gender-sensitive discourse, especially regarding the globally epidemic "unwanted pregnancy".

P320**A comparison of prolactin concentrations in the elderly during treatment with olanzapine, haloperidol, and risperidone**

B. Kinon (Indianapolis, IN, USA)

Objective

There is a paucity of published literature describing the potential prolactin (PRL)-elevating and PRL-sparing effects of antipsychotic drug (APD) therapy in the elderly. We report on PRL concentrations in elderly schizophrenics treated with the novel APD olanzapine (OLZ) versus haloperidol (HAL) and in elderly demented nursing-home patients with behavioral agitation and psychotic symptoms treated with OLZ compared to risperidone (RIS).

Method

Study I was a double-blind, randomized 6-week trial comparing the efficacy and safety of OLZ versus HAL in patients with schizophrenia. Study II was an open-label 8-week trial assessing the efficacy and safety of OLZ in the treatment of behavioral agitation and psychosis in elderly demented patients, a sub-group of whom were receiving RIS prior to being switched to OLZ. Baseline to endpoint PRL concentrations were analyzed in each of the studies.

Results

In Study I, 43 patients (OLZ: n = 22F, 11M; HAL: n = 8F, 2M) had baseline and endpoint serum PRL concentrations. The OLZ group (mean age = 69) had a mean PRL increase of 1.26 ng/ml whereas the HAL group (mean age = 69) had a mean PRL increase of 8.36 ng/ml ($p = .04$; between groups). In Study II, patients entering on risperidone (n = 12F, 4M; mean age = 84) had an overall mean decrease in PRL serum concentrations from 57.11 ng/ml to 21.38 ng/ml after 8 weeks of OLZ treatment ($p = .001$; baseline to endpoint). Patients who were not on APD therapy prior to study entry (n = 24F, 6M; mean age = 85) had an overall mean increase in PRL serum concentrations from 11.20 ng/ml to 20.76 ng/ml ($p < .001$; baseline to endpoint). In both Study I and Study II, patients receiving OLZ were found to have mean PRL concentrations within the upper limits of normal for either gender (F = 24.2 ng/ml; M = 18.8 ng/ml).

Conclusion

Consistent with previous findings in younger patients, OLZ appeared to be a PRL-sparing APD in the elderly with only modest PRL increases seen. Conversely, HAL and RIS in appeared in general to be PRL-elevating in the elderly.

P321

The difficult menopause experience: symptom phenomenology and psychosomatic implications of pregnancy-aversive sexuality (PAS)

M. Dominic Pedulla (Oklahoma City, OK, USA)

Objectives

A new approach to the menopause is described. The phenomenology of menopausal symptoms and the role of pregnancy-aversive sexuality (PAS) are explored.

Methods

Since 1998 all women referred for cardiovascular evaluation and currently taking HRT were considered candidates for our hormone discontinuation program (HDP). This includes aggressive treatment of vasomotor symptoms, sleep disturbances, incontinence, and other menopausal symptoms. Indications for HDP include history of thrombosis, severe edema, uncontrolled hypertension, chest pain, palpitations, elevated breast cancer risk, and disabling anxiety. From this experience a theory of menopause psychodynamic emerged and was prospectively applied: the success of HRT but also that of our therapeutic approach in controlling menopausal symptoms suggested a palliative psychotherapeutic rather than purely hormonal mechanism. The psychosomatic symptoms and intrapsychic conflicts which numerous authors attribute to PAS (contraception and sterilization) would present a menopausal challenge. A therapeutic approach establishing trust and directed at symptom meaning could uncover the intrapsychic conflicts responsible for symptom formation and be a needed component of the HDP.

Results

The majority successfully completed the HDP within three months. In failures the major limitation was the intractable "hot flash". In these patients, a strong history of PAS practices seemed most relevant, hysterectomy seemingly less important.

Conclusions

PAS practices cause affective-cognitive distortions; the repression of emotions associated with the procreative drive produces intrapsychic conflicts. The disabling "hot flash" is a psychosomatic symptom formation whose phenomenology includes desperation, urgency, and anxiety. Premenopausally "fear of pregnancy" dominates intrapsychically, but at menopause the psychic life is characterized by repressed grief, shame, anxiety, and hostility. It is

surprising that researchers have not explored PAS as etiology of the difficult menopause experience.

P322

Increased risk of sexually transmitted disease due to disregard of contraceptive methods in female psychiatric patients

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Introduction

Patients with chronic mental illness may be at higher than average risk for sexually transmitted diseases (STD). Studies on female psychiatric patients have shown that important numbers of these patients have multiple partners, and are vulnerable to unwanted sexual behaviours. Impaired autonomy is an important barrier for these patients to protect themselves from unwanted sexual relationships resulting in pregnancies and STD. In this study our aim was to delineate the sexual behaviour, contraceptive needs and the risk of STD in female chronic psychiatric patients.

Methods

Thirty-eight female outpatients with chronic mental illness (Schizophrenia, Bipolar disorder and mood disorders) completed an interview. They were individually matched for age and educational status with thirty-eight women who had never been treated for psychiatric illness. The questions involved their demographic characteristics and methods of contraception, pregnancy outcomes, their attitudes on child rearing, and their risk for STD.

Results

There was no difference in age and educational status between the patients and the control group ($p = 0.827$). The incidence of reliable contraceptive usage was significantly low in patients compared to controls ($p = 0.001$). Children of patients in our study were grown up by others and this differed significantly from the control group ($p = 0.001$). Statistical analysis revealed a higher incidence in the risk of STD in patients than in controls ($p = 0.003$).

Conclusion

This study demonstrates that female patients with chronic mental illness are threatened with an increased risk of STD due to ignoring of the use of reliable contraceptive methods. Chronic mentally ill patients should be educated in terms of STD and should be urged for proper use of contraceptive methods.

P323

Hypothalamo-pituitary-adrenal (HPA) axis responses to stress during parturition

A. J. Douglas, N. Toschi, I. D. Neumann (Edinburgh, UK; Munich, D)

HPA axis responsiveness to stressors is reduced during pregnancy in the rat; due in part to loss of endogenous opioid action on HPA activity. During parturition, basal HPA secretion falls compared to late pregnancy under inhibition by endogenous opioids. Central oxytocin is an anxiolytic in virgin rats as oxytocin antagonist increases HPA responses, but the blunted responses in pregnancy are not due to enhanced central oxytocin action. We have now investigated the effects of a mild stressor (airpuff startle; 3 blocks of 5×1 s, 30 s apart) on parturition and ACTH secretion between delivery of pups 2-5. Since central oxytocin release increases in hypothalamic and limbic regions in parturition, we have also studied the role of brain oxytocin on HPA responses during parturition. Virgin and pregnant rats were fitted with a jugular vein catheter and an icv guide cannula 5 days prior to the

experiment. Basal blood samples were taken 5 min after delivery of pups 1 and 2 in parturient rats or between 9–11 am or 2–4 pm in virgins (to control for time of day of parturition). Then, rats received an icv injection of oxytocin receptor antagonist (0.75 ug/5ul) or vehicle and a blood sample collected 10 min later. Rats were either directly exposed to the airpuff startle or were not stressed (in a neighbouring cage to a stressed rat) and further blood samples taken 5 and 15 min later. The airpuff startle increased ACTH secretion in virgin rats (2.3-fold, $p < 0.05$ vs. non-stressed), but there was no significant increase in the parturient rats (1.5-fold), despite a significant delay in subsequent births. Oxytocin antagonist elevated basal (3.2-fold, $p < 0.05$ vs. vehicle) and stress-induced (5.2-fold, $p < 0.05$ vs. vehicle) ACTH secretion in virgin, but not parturient rats (basal: 1.5-fold, stress-induced: 1.8-fold; ns). We conclude that stress-induced ACTH responses are strongly attenuated during parturition, but this is not due to an inhibitory effect of brain oxytocin on HPA axis activity. Therefore in late pregnancy, parturition and lactation the anxiolytic effect of brain oxytocin is absent and other factors, such as endogenous opioids, are responsible for the inhibition of stress responses in these reproductive states.

P324

Stressor responsiveness of the HPA axis and the oxytocin system: differences between virgin, pregnant, lactating and male mice

I. D. Neumann, A. J. Douglas (Munich, D; Edinburgh, UK)

In the rat, the responsiveness of the HPA axis and the oxytocin (OXT) system to a variety of stressful stimuli is blunted in the peripartum period, and may protect the developing fetuses from adverse stress exposure. For future work with transgenic mice, the characterisation of the neuroendocrine responses is essential also in the context of pregnancy and lactation. Here, the reactivity of the HPA axis (ACTH, corticosterone [B]) and the OXT system to an emotional (novel environment) or complex physical (swim) stressor was monitored in trunk blood collected from age-matched virgin (bw: 29–33 g), pregnant (days 19–21 of pregnancy), lactating (days 2–5 post partum) and male (bw: 33–39 g) outbred MF 1 mice. Basal ACTH concentrations did not differ between virgin, pregnant, lactating or male mice. Exposure to novel environment increased plasma ACTH in virgins; the response was significantly attenuated in pregnant, but not lactating mice, and was significantly enhanced in male mice; responses to forced swim were similar among groups.

Basal B concentrations were significantly elevated in pregnant (537 ± 51 ng/ml) compared to virgin (28.1 ± 6.6 ng/ml), lactating (58.2 ± 11.9 ng/ml) and male (24.9 ± 4.0 ng/ml) mice. Exposure to novel environment increased plasma B levels in virgin mice; the response was significantly blunted in pregnant, but not lactating mice. The B response in males was significantly attenuated compared to virgin females.

Although basal OXT concentrations of lactating mice were significantly lower (5.8 ± 1.0 pg/ml) compared to virgin females (11.7 ± 1.0 pg/ml), the OXT system was not activated in response to the emotional or physical stressors in female mice, independent of the reproductive state. In contrast to female mice, there was a significant OXT secretory response to the novel environment in male mice.

The results indicate key differences between neuroendocrine responses in mice and rats which depend on the gender and the reproductive state of the animals.

Supported by DFG, DAAD and the British Council.

P325

Maternal defence as an emotional stressor in females: behavioural and neuroendocrine characterisation of intruders and residents and involvement of brain oxytocin (OXT)

S. A. Kroemer, N. Toschi, F. Ohl, L. Torner, I. D. Neumann (Munich, D)

Social defeat in males is well recognized as a relevant emotional stressor. Here, we established the maternal defence test (MD) as a relevant emotional stressor for female rats by characterization of neuroendocrine (HPA axis, OXT system, lactate, prolactin) and behavioural responses of both the lactating resident and the virgin or lactating intruder. We investigated whether the attenuated stress responsiveness seen in lactation is dependent upon the relevance of the stressor.

Blood samples were taken in the home cage under basal conditions and 5, 15 and 60 min after MD from both resident and intruder rats. During the 10 min MD observation period, offensive, defensive, explorative and maternal behaviours displayed by the resident and intruder rats were monitored. Lactating rats were either exposed to virgin or lactating intruders of the same size. Compared to those defeating virgin intruders, residents defeating lactating intruders displayed similar amounts of offensive and maternal, but a higher amount of explorative behaviour ($p < 0.05$). The defensive and explorative behaviour of lactating and virgin intruders was indistinguishable, and was correlated to the offensive behaviour of the resident ($p < 0.02$). Exposure to MD elevated plasma ACTH and corticosterone (B) levels in virgin and lactating intruders as well as lactating residents although to a different degree and in dependence on the reproductive and social state. Thus, the stress-induced increase in plasma ACTH and B levels was lower in both lactating residents and lactating intruders compared to virgin intruders ($p < 0.01$). Plasma ACTH was higher in residents exposed to lactating compared to virgin intruder ($p < 0.05$) and was correlated to the offensive behaviour they displayed. Further, MD increased OXT secretion in virgin intruders only ($p < 0.05$), whereas plasma OXT tended to decrease in lactating residents and intruders. Plasma lactate remained unchanged indicating that MD is an emotional rather than physical stressor for both resident and intruder female rats.

In summary, MD represents a relevant emotional stressor for female rats useful for studying stress responses in females and their physiological adaptations in the peripartum period.

P326

Effects of lithium on thyroid functions

D. Tunali, B. Yucel, A. Polat, O. Canbek (Istanbul, TR)

Objective

In this study thyroid function of male and female patients under prophylactic lithium treatment were investigated.

Method

The study group consisted of 81 female and 54 male patients who were diagnosed with bipolar mood disorder according to DSM-III-R criteria and who have been under lithium treatment. Thyroid hormone levels and thyroid size of the patients were assessed and compared between males and females.

Results

Although there was no significant difference in thyroid size between male and female patients, TSH levels were significantly higher in female patients compared to male patients ($p = 0.008$).

Conclusion

The tendency for subclinical hypothyroidism is greater in women and lithium use may aggravate it.

P327**Alterations in cerebrospinal fluid levels of neuropeptides in fibromyalgia syndrome**

F. Nyberg, M. Welin, Z. Liu (Uppsala, S)

Objectives

Fibromyalgia syndrome (FS) is a common pain disorder most frequently seen in women in their third to fifth decade. It is characterised by fatigue, morning stiffness, disturbed sleep, musculoskeletal aching and generalized tenderness. Although extensive research has been directed to this disease during the past years the pathophysiology of fibromyalgia is still unknown. Analysis of cerebrospinal fluid (CSF) samples has revealed that the levels of metabolites of serotonin, norepinephrine and dopamine are reduced, whereas the substance P (SP) concentration is enhanced. In this study CSF samples collected from groups of patients diagnosed with FS and aged matched controls were analysed for nociceptin, calcitonin-gene related peptide (CGRP), SP, as well as the enkephalyl heptapeptide Met-enkephalin-Arg-Phe (MEAP).

Methods

Lumbar CSF was collected from 26 patients and from 15 healthy controls. In the patient group all subjects fulfilled the diagnostic criteria for FS. The controls consisted of healthy subjects without any history of pain or neuromuscular disease. The levels of the individual peptides were assessed by radioimmunoassays.

Result

The levels of the various neuropeptides were significantly changed in samples collected from the FS patients. For instance, a significant elevation of SP was contrasted by a decrease in the level of MEAP. The level of CGRP was significantly reduced in FS patients, whereas the level of nociceptin was slightly affected.

Conclusions

Since SP is believed to facilitate the transmission of nociceptive signals from peripheral sensory afferents and MEAP is postulated to inhibit these impulses, it is suggested that the observed increase in SP results from an impaired secretion of the enkephalin heptapeptide leading to a decreased pain threshold in FS patients. The reduction seen in CGRP may account for a decreased activity in descending motor neurons expressing CGRP and is compatible with a decreased motor activity seen in FS patients.

P328**Gender differences in the adjustment to type 1 diabetes**

P. Enzlin, C. Mathieu, K. Demyttenaere (Leuven, B)

Objective

To examine the influence of gender on psychological adjustment to type 1 diabetes.

Sample and methods

280 outpatients (141 men) of a diabetes clinic completed psychological questionnaires to evaluate coping, depression, marital satisfaction and cognitive and emotional adjustment to diabetes.

Results

Cognitive adjustment to diabetes is easier for men; women report more depressive symptomatology. Men use more active coping, are less avoiding, less social support seeking and use less depressive coping. Longer duration of diabetes was significantly correlated with worse emotional adjustment and more depressive symptomatology in men but not in women.

In men and women better emotional adjustment to diabetes was significantly related with better cognitive adjustment and lower depression scores for men and women. Men and women with lower depression scores reported better cognitive adjustment to diabetes and higher quality of marital relation.

Conclusion

There are important gender differences in the psychological adjustment to diabetes. Although the factors negatively influencing the psychological adjustment to diabetes are the same in men and women namely being: depressive coping and depressive symptomatology. Protective variables are different for men and women. Men use a coping style reflecting "mastery" and "autonomy", while women's social support seeking behaviour reflects "dependence on others". This has implications for the doctor-patient relationship since improving adjustment to diabetes in men and women necessitates addressing other -gender related- themes.

Menstrual and postnatal psychiatric disorders**P329****Treatment-resistant case of menstrual psychosis**

T. Okano (Tsu, Mie, J)

Introduction

It has been well known that the acute psychotic episode among young female associated with menstrual cycle. The characteristics of this periodic psychosis is 1) symptoms are manifested by mood and psychomotor disturbances and, sometimes disturbance of consciousness, 2) alternate between opposite states such as manic-depressive and excited-stuporous. But the course of this illness is sometime prolonged and treatment-resistant.

Case report

A patient from Mie presented in 1976 and followed for 24 years. At 25 she suddenly developed depression with psychotic symptoms. From that date, for 8 years, she suffered almost regular spells of alternating excitement and stupor synchronised with the menstrual cycle. Before menstruation she was talkative, restless, sleepless and incoherent, with some clouding of consciousness. After the onset of menstrual flow she developed sadness, perplexity and stupor.

BBT showed no biphasic pattern. Laboratory findings showed an absence of luteinising hormone, follicle stimulating hormone and oestrogen peaks at the expected time for ovulation. There were poor levels of luteinising hormone-releasing hormone. Thyroid function was also subclinical. Although electroconvulsive therapy had some effect, anti-depressant and neuroleptic drugs had none, nor did lithium or carbamazepine. Thyroid hormone improved excitement and stupor, but did not affect the periodicity. A combination of reserpine with thyroid and lithium caused the symptoms to disappear completely.

After 6 years admission in hospital, she suffered some fatigue in the pre-menstrual phase after discharge for a while. She had no further episodes until present time, and was able to undertake full time work, with small dose of maintenance medication.

Discussion

Hypothalamo-pituitary dysfunction is the most important factors in the recurrent psychoses related to menstrual cycle. Anovulatory menstruation and metabolic abnormality of sex steroids as well as dysfunction of the thyroid axis are the prevailing concomitants of hypothalamo-pituitary dysfunction.

The success or failure of each treatment initiative should be established by prospective measurements.

P330

Fluoxetine treatment improves social functioning in women with premenstrual dysphoric disorder

M. Steiner, P. Trzepacz, E. Brown, J. Dillon (Indianapolis, IN, USA; Hamilton, CDN)

Objective

A previously reported, placebo-controlled, multi-center trial found fluoxetine effective in improving PMDD mood symptoms; these data are now used to determine fluoxetine's effectiveness on social functioning during the luteal phase in women with PMDD. Though cyclical mood disturbance is the pathognomonic feature of PMDD, a marked impairment in functioning is required for the DSM-IV diagnosis.

Methods

Social functioning was assessed in 320 women with prospectively determined PMDD who were randomized to fluoxetine 20mg/day, fluoxetine 60mg/day, or placebo. Symptoms were measured by 13 questions on the self-rated Premenstrual Tension Syndrome Scale (PMTS-SR). Items rated on the PMTS-SR included: avoid social commitments, avoid family activities, cancel scheduled social activities, stopped seeing best friends, poor coordination, doubt own judgment, diminished efficiency, difficulty completing household/job routine, more forgetful or unable to concentrate, more accidents in daily household/job, marked increase or decrease in sexual drive, and marked change in sexual behavior. Three derived subtotals were calculated representing the areas of work, family, and leisure social functioning. The outcome measure for each woman was her change from mean baseline luteal phase scores to mean treated luteal phase scores over the 6 months of treatment.

Results

Fluoxetine treatment (20 and 60mg/day) significantly improved work, family and leisure components of social functioning compared with placebo treatment when measured on the PMTS-SR (all comparisons, $p < .05$). For the family subtotal, improvement with fluoxetine 60mg/day produced greater improvement compared with fluoxetine 20mg/day; however, each fluoxetine dose was superior to placebo.

Conclusion

Daily fluoxetine treatment was statistically significantly superior to placebo in improving three components of social functioning in women with PMDD.

P331

Premenstrual dysphoric disorder and work efficiency: response to fluoxetine in a randomized clinical trial

M. Steiner, P. Trzepacz, E. Brown, J. Dillon (Indianapolis, IN, USA; Hamilton, CDN)

Objective

A DSM-IV diagnosis of PMDD, a severe form of premenstrual syndrome (PMS), requires interference with social and occupational functioning (school, home, job). Survey studies of PMS find that women have varying degrees of difficulty with work efficiency. However, there are no studies of perceived work efficiency for PMDD separate from the larger PMS population. We studied 320 women who met criteria for late-luteal phase dysphoric disorder (LLPDD) – the DSM-III-R version of PMDD – after 2 months of prospective daily symptom charting.

Methods

We measured baseline follicular vs. luteal phase presence of patient-rated work efficiency-related symptoms on the Premenstrual Tension Scale-Self Rated (PMTS-SR) for: doubt-

ing own judgment, diminished efficiency, difficulty completing household/job routine, forgetful/unable to concentrate, more accidents with daily household/job, clumsier, distractibility, and negative/hostile toward other people. Women were then randomized to double-blind treatment with either fluoxetine 20mg/day, fluoxetine 60mg/day or placebo for 6 menstrual cycles. Data within the fluoxetine 20mg/day and the placebo group is presented here. McNemar's test was used for all analyses.

Results

All 8 work efficiency-related symptoms were more likely to be present in the luteal phase than in the follicular baseline phase ($p = .001$). Baseline luteal scores compared with 1st cycle of treatment luteal scores showed significant improvement within the fluoxetine 20mg/day group on 7/8 items and a trend on one of the items, whereas placebo showed no improvement. Fluoxetine response occurred quickly – by the 1st cycle of treatment.

Conclusion

Women with PMDD have significant psychological and physical symptoms that they perceive impact their work efficiency at home or outside work in the luteal phase. The burden of illness that these women suffer premenstrually potentially impacts their work satisfaction and productivity. Fluoxetine 20mg/day is effective and well tolerated in this population and quickly reduced these symptoms. Better recognition and treatment of this disorder has the potential to improve women's work lives.

P332

Effects of bright light treatment in premenstrual dysphoric disorder

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In the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders, the "Premenstrual Dysphoric Disorder" (PMDD) is classified as a cycle-related affective disorder. These time-related criteria make special demands on diagnostic procedure which has to include retrospective and prospective elements. Following this procedure, we could verify the disorder in 4% of our sample of 300 women.

There is a lack of research about PMDD, in particular treatment related studies. The main purpose of our controlled single-case study with 12 women suffering from PMDD was to investigate whether treatment with bright white light could be beneficial and help to reduce depressive symptomatology during the menstrual cycle. Physiological and psychological symptoms were assessed by daily ratings (diary) over at least 5 months. Data were evaluated by time-series analysis that facilitated to show intraindividual differences related to cycle phases and in cycles with and without intervention.

After two months of baseline, subjects were treated during two consecutive menstrual cycles with light therapy. The treatment was given for 10 days either twice in the symptomatic or alternately in an asymptomatic cycle phase.

Light therapy during two consecutive symptomatic phases was more effective than given only once, or given during asymptomatic phases. These results suggest that bright light therapy could be an effective treatment for affective symptoms of PMDD.

P333

Pattern of physical, psychological symptoms over the menstrual cycle phases of Korean adolescents

S. H. Joe, H. C. Song, S. D. Ko (Seoul, Suwon, KOR)

Objectives

The purpose of this study was to examine the extent or nature of psychological and physical symptoms over the menstrual cycle phase in adolescents with prospective method.

Methods

The author investigated the pattern of mood, behavior and physical symptom changes in the menstrual cycle for 230 high school students in Korea who reported premenstrual symptoms by using Daily Rating Form (DRF). The scores on 21 symptoms of DRF were recorded daily for at least one menstrual cycle.

Results

1) 1.7% of the subjects who reported premenstrual symptoms met criteria for premenstrual dysphoric disorder by 30% change criteria. 2) The pattern of symptom changes in the menstrual cycle showed a clear increase in mean daily symptom score at last 2 days of premenstrual period, and reaching a maximum scores at the first day, rapidly decreased at the 4th day during menstruation. 3) The mean daily symptom score in the menstrual phase were significantly higher than those in the premenstrual and postmenstrual phase. And the scores of the subjects with longer duration of menstrual bleeding were higher than those of the subjects with the shorter duration, particularly in the menstrual phase, there was a significant difference on the mean scores of physical symptom cluster not in psychological symptom cluster between the longer and shorter group. 4) 38.7% of all participants was confirmed by 30% premenstrual increase in severity at one or more symptoms. There were most common changes in the following; low energy, tired and weak, less or impaired works, anxious, jittery, nervous, and restless.

Conclusion

These results suggested that the adolescents might experience more physical discomfort than the other symptoms in the menstrual phase. Especially the subjects with longer duration of menstruation were more likely to report more physical discomfort than those with shorter duration. A substantial number of Korean adolescents who reported premenstrual symptoms have apparent premenstrual changes. Longitudinal studies for course of premenstrual symptom with age will be needed in future.

P334

Postpartum Capgras syndrome

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New-onset OCD emerging with pregnancy or delivery has been reported in recent literature. Capgras syndrome is a belief that other people, usually closely related to the affected person, have been replaced by exact doubles. We report here the case of a 34 year old female patient who developed obsessive-compulsive disorder with postpartum onset involving the doubt that her child may have been switched with an identical one in the maternity ward. Although she believed this obsession to be irrational she indulged to extensive compulsions to rid herself of the obsession. Following a subsequent delivery the patient described worsening of her obsessional idea, which in the course of time, transformed into the firm delusional belief that her first child (a girl) had indeed been replaced by an identical one which was not her own. She only developed passing obsessive doubts regarding the genuineness of her second child (a boy) for only two months postpartum. This subsided spontaneously. She was admitted to an inpatient psychiatric unit when she was 34 years old due to persistent feelings of "strangeness" towards her daughter. Tests included blood analyses, EEG and cerebral CT scan, all normal. Psychometric tests (WAIS, Wechsler Memory Scale, Bender Visual Motor Gestalt Test and MMPI) were also administered and yielded no positive results. There was only mild improvement with treatment. To our knowledge only three cases of Capgras delusion have been reported in the literature in the context of postpartum psychosis. It

is even rarer to have a non-delusional obsessional variant of Capgras syndrome. Here we present a case of non-delusional obsessional Capgras syndrome with onset after the first delivery turning into delusional Capgras after the second delivery.

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P335

Clomethiazole as an adjunct in the treatment of postpartum psychosis with the clinical feature of confusional psychosis

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We report the successful treatment of 32-year old female inpatient suffering from severe postpartum psychosis with the clinical features of confusional psychosis. The clinical picture of this case was characterized by lability of mood, disorientation, delusions, hallucinations, misidentification of person, severe thought disorder and impaired memory. There was no clinical history of psychotic episodes. After nonresponsive treatment with neuroleptics and mood-stabilizers, she responded rapidly to additional medication with clomethiazole within a week, exhibiting a marked reduction in clinical signs and symptoms. We propose clomethiazole as a possible potential adjunct in the treatment of postpartum psychoses.

P336

Venlafaxine in the treatment of postpartum depression

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Background

Though postpartum depression is a highly prevalent illness, antidepressant treatment studies are sparse. Incomplete recognition and treatment of puerperal illness places women at risk for chronic depression and may have adverse effects on child development.

Method

An 8 week, flexible dose open study of venlafaxine (immediate release – mean dose 162.5 mg/day) was performed in a group of 15 women suffering from postpartum major depression. Patients were assessed at baseline and every two weeks across the study. Measurements of outcome included the Hamilton Depression Scale (17 item), Kellner Symptom Questionnaire, and Clinical Global Impressions Scale.

Results

Despite baseline scores of depression which were particularly high, response to treatment was robust. Twelve of 15 patients experienced remission of major depression (Ham-D < 7, CGI < 2). Dramatic decrease in anxiety paralleled the decrease in depression across the sample.

Conclusion

Venlafaxine is effective in the treatment of postpartum major depression. Early identification of women who suffer from postpartum mood disturbance is critical in order to minimize the morbidity associated with untreated mood disturbance and the effect of depression on children and families.

P337**Can critically timed sleep deprivation be useful in pregnancy and postpartum depression?**

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(La Jolla, CA, USA)

Objectives

The aim of this study was to test the efficacy of critically timed sleep deprivation in major depressive episodes (MDE) occurring during pregnancy and postpartum.

Methods

Nine women who met DSM-IV criteria for a MDE with onset during pregnancy or within one year postpartum underwent a trial of either early-night sleep deprivation (ESD), in which subjects were deprived of sleep in the early part of the night and slept from 03:00–07:00h, or late-night sleep deprivation (LSD), in which they were deprived of sleep in the latter part of the night and slept from 21:00–01:00h. Trained clinicians, blind to treatment condition, assessed mood using standardized ratings before the night of sleep deprivation, after the night of sleep deprivation and after a night of recovery sleep (sleep 22:30–06:30h).

Results

More patients responded to LSD (9 of 11 trials: 82%) compared with ESD (2 of 6 trials: 33%) and they responded more after a night of recovery sleep than after a night of sleep deprivation (6 of 11 nights: 55%). Pregnant women were the only responders to ESD and the only nonresponders to LSD.

Conclusions

Although the findings are preliminary, the results suggest that with further study, critically timed sleep deprivation interventions may benefit women with a pregnancy or postpartum MDE and potentially provide a viable alternative treatment modality for those women who are not candidates for pharmacological or psychotherapeutic interventions. Such interventions are needed to help prevent the devastating effects of depression during pregnancy and the postpartum period on the mother, infant, her family and society.

P338**A case study: establishing a universal screening program using the EPDS – the Tasmanian experience**

E. Bennett (Launceston, AUS)

The purpose of this paper is to provide information for other service providers on the management of issues encountered in implementing a universal service model in a child health service.

The paper draws on: a historical analysis of Child Health Nursing and current location of services in Tasmania; a literature search of Family, Child and Youth Health Service (FCYHS) evaluation projects and data submitted over the past and comparison with national trends; a critical analysis of the change management process; identification of issues to take into account in management of implementation of PND processes.

Data revealed, that following the birth of a baby 61% of women in 1994 and 50% in 1996 were being screened for PND. Again in 1999, 13–73% were being screened.

Child Health Nurses have overall been committed to the screening and management of PND, although a number of issues emerged through practice that reduces the number of women screened. These are consistent with the international literature provided around use of the EPDS.

Issues arising in the implementation of a management plan to increase the frequency of screening towards best practice family health care have been:

- a requirement to increase the screening from once to twice in the first postnatal year;

- an increased need for improved coordination and care of women with PND;
- a need for strategies to engage the partner;
- a need for strategies to assess and manage the maternal-infant relationship;
- early identification of women at risk to PND through antenatal services;
- a need to consider population health outcomes for women with PND;
- differing professional views/ theoretical models of family, women and health care, professional roles, etc.
- securing resources and commitment from senior management;
- building effective partnerships with related services such as mental health.

The ability for a small state such as Tasmania to monitor progress of the project is an advantage. The current model and implementation addresses gaps for service delivery and provides an evaluation framework which is a strength for further work in the area of postnatal distress and depression.

P339**Validation of the Edinburgh Postnatal Depression Scale (EPDS) in Spanish mothers**

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(Barcelona, E)

Objective

The aim of the present study is to validate the Spanish version of the Edinburgh Postnatal Depression Scale (EPDS) in a large sample.

Methods

The subjects selected were 1202 women attending the routine postnatal check-up at six weeks after delivery in the Department of Obstetrics and Gynecology in a public maternity hospital “Hospital Casa Maternitat (HCM)” between September 1997 and September 1998. A two-stage method was used: in the first stage, all women selected completed the EPDS; in the second, “probable cases” (all the women who scored 9 or above in the EPDS) and a random sample with EPDS score less than 9 were interviewed by a psychiatrist using the Structured Clinical Interview (SCID) to establish DSM-IV criteria for major and minor depressive episode. The interviewer and the subjects were blind to the EPDS score. Sixty-eight women refused the interview and ten women were excluded due diagnosis of mourning or organic factor. Finally, 100 cases and 234 controls were confirmed.

Results

The best cut-off of the EPDS Spanish validation was 10/11. For combined major and minor depression, the sensitivity was 79%; specificity was 80.3% and the positive and negative predictive values were 63.2% and 89.9% respectively. The area under curve ROC (AUC) was found to be 0.90 (95% CI: 0.86/0.93).

Conclusions

The EPDS is a useful screening instrument for detecting postnatal depression in Spanish mothers. The 10/11 cut-off identified all the mothers with a major depression.

P340**The Edinburgh Postnatal Depression Scale: validation in a Norwegian community sample**

M. Eberhard-Gran, A. Eskild, K. Tambs, B. Schei,
S. Opjordsmoen (Oslo, Trondheim, N)

Objective

This study was undertaken to validate a Norwegian translation of the Edinburgh Postnatal Depression Scale (EPDS).

Method

The EPDS was validated against the DSM-IV criteria for major depression, derived from the Primary Care Evaluation of Mental Disorders (PRIME-MD), in an interview study of 56 women selected from a community based questionnaire study of 310 women at six weeks postpartum.

Results

A score of >10 on the EPDS scale identified all women with major depression, giving a sensitivity of 100% (95% confidence interval; 72%–100%) and a specificity of 87% (95% confidence interval; 77%–95%). The EPDS scores were strongly correlated with the Montgomery-Åsberg Depression Rating Scale in the subsample of women interviewed (n = 56) and with the Hopkins Symptom Check List (SCL-25) scores in the questionnaire study (n = 310).

Conclusion

Our results of the sensitivity and specificity estimates are comparable with prior validation studies, however the confidence intervals around the estimates are wide. Nevertheless, the results suggest that the Norwegian EPDS is a valid clinical screening instrument for detecting postpartum depression.

P341

Postpartum depression: prevalence and determinants in Lebanon

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Background

In Lebanon as in many developing countries, the focus of the prenatal and delivery phase is on women's medical and obstetrical problems and the well being of the fetus. The social and psychological needs of the pregnant women are rarely addressed.

Objectives

This study assesses the prevalence and determinants of postpartum depression (PPD).

Methods

396 women delivering in Beirut and a rural area (Beka'a) were interviewed 24 hours and 3–5 months postpartum. During the latter visit, they were screened using the Edinburgh Postnatal Depression Scale.

Results

The prevalence of PPD was 21%, but was significantly lower in Beirut than Beka'a (16% vs. 26%). In bivariate analyses, lack of social support and prenatal depression were significantly associated with PPD in both areas, whereas stressful life-events, lifetime depression, vaginal delivery, low education, unemployment, and having chronic health problems were significantly related to PPD in one of the areas. In multivariate analyses, prenatal depression (OR = 6.7), and more than one chronic health problem (OR = 2.4) increased significantly the risk of PPD. C-section decreased the risk of PPD, particularly in Beirut (OR = 0.14) but also in Beka'a (OR = 0.86).

Conclusions

Findings from this study are consistent with other studies. Caregivers should use pre and postnatal care to identify and address women at risk of PPD.

P342

Depression during pregnancy and in the postpartum in an Italian sample: preliminary results

S. Rosi, C. Feroci, G. Pacini, S. Bellini, I. Favini, V. Valoriani, P. Benvenuti (Florence, I)

We report preliminary results of a study aimed at the evaluation of the prevalence and of selected risk factors for depression during pregnancy and in the postpartum in an Italian sample.

Sociodemographic data, early and recent stressful life events (SLE, by means of a semistructured interview), parental bonding (by means of the Parental Bonding Instrument), past and current psychopathology (by means of the Structured Clinical Interview for DSM IV axis I disorders – SCID-I) and level of depressive symptomatology (by means of the Edinburgh Postnatal Depression Scale – EPDS) were assessed in 30 women during the last month of pregnancy. The SCID, the EPDS and the assessment of recent SLE were repeated at 10 weeks postpartum.

The onset of a minor or major depressive episode during pregnancy and in the postpartum was detected in 5 women (16.66%). A significant association was found with previous divorces and with a history of anxiety disorders. Postnatal EPDS scores correlate with an intermediate level of education and with the number of recent SLE.

While the prevalence of depression in our sample is consistent with previous studies, the profile of risk factors shows some interesting findings. The importance of a history of anxiety disorders is not completely unexpected in the light of the present tendency to refuse a categorial separation between depression and anxiety, but it is surprising that a history of depressive disorders or antenatal EPDS scores did not predict either the onset of a depressive episode or postnatal EPDS scores. If these findings are confirmed by further research, they might indicate a peculiarity of Italian women with important consequences, for instance, for early screening procedures for the identification of women at risk for antenatal and postnatal depression.

P343

The influence of paternity leave concerning postpartum depression

T. Eberle, S. Link, M. Lanczik (Erlangen, D)

Introduction

The etiology of postpartum depression is still not known. Factors are of gynecological, hormonal and psycho-social nature.

Objectives

Is there a relationship between the duration of paternity leave and the appearance of postpartum depression? Are there any differences between primipara and multipara in this point?

Methods

We interviewed a hundred women who live in a defined region in Franconia between the fourth and the ninth month after delivery with support of the "Birmingham Interview for Maternal Mental Health" directed by Ian Brockington.

Results

45% of the interviewed women gave birth for the first time. Generally it was found out that 24% had a postpartum blues and 15% had a mild depression. Three of the women suffered from a severe depression. The connection to the duration of paternity leave was made due to fact that approximately 50% of the fathers, whose partners were afflicted, stayed at home for up to 14 days after delivery.

Conclusion

Apparently there is a link between paternity leave and postpartum depression, which must still be discussed by a multifactor analysis in order to be able to judge the findings.

P344**The role of physiological problems during pregnancy in the development of postpartum depression**

S. Link, T. Eberle, M. Lanczik (Erlangen, D)

Objective

The aetiology of postpartum disorders is apparently heterogeneous. The aim of our study was to investigate whether physical problems during pregnancy have any aetiopathological influence on the development of postpartum depression.

Methods

We have interviewed 100 women who delivered from July 1999 to November 1999 in the District Hospital of Roth in Franconia according to the Birmingham Interview of Maternal Mental Health. The interview, created by Ian F. Brockington and translated into German by Alice Etle and Mario Lanczik, is a list of 175 questions about pregnancy, parturition and the postpartum period. All women were interviewed between the 4th and 9th month postpartum.

Results

34 (34%) of the 100 women showed definitive signs and 15 women (15%) indefinite signs of the maternity blues. 42 women (42%) suffered from depressive symptoms, 24 (24%) mild, 14 (14%) moderate and 4 (4%) severe. 59 of the mothers (59%) complained of physical disorders during pregnancy; 6% of them were severe. 29 of the 59 women (49%) with physical problems had postpartum mood disorders, and 30 of the 59 women (51%) were without any depressive symptomatology postpartum. Of the remaining 41 mothers (41%) without any physical problems during pregnancy only 13 (32%) were depressed and 28 (68%) had no depressive symptoms after delivery.

Conclusion

Women without any biological problems during pregnancy seem to become less depressed in the postpartum period, while in our study the risk of getting postpartum depressive symptoms for women with physical problems during pregnancy is around fifty percent.

P345**The Munich evolution-psychological postpartum study: hypotheses, design, and first results**

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Introduction

Postpartum affective disorders are etiologically unclear disturbances. The evolutionary theories on PPAD are mostly based on a sociobiological interpretation of all appearance types being adaptive. PPAD is seen as signal or as a tendency towards infanticide. In our work we emphasize that industrialized society, (opposed to the development driven by paleolithic/neolithic living conditions), has imposed such changes that the compensation capacity of human beings have been overwhelmed. This has expressed itself in the increase of PPAD in Western society.

Hypotheses

PPAD are understood as reactions to an alienation from human-ethologically proven forms of birth and the postpartum period settings. Based on studies of the Eipo and Trobriandians, among whom PPAD appear unknown, we submit that the traditional setting is characterized by: 1. Permanent mother-child body contact 2. Early and problem-free latching on and nursing 3. Protection from disturbances (seclusion room) 4. Support from an experienced woman 5. Mothers are honored (gifts) 6. Natural childbirth (freely chosen birthing positions, few medical

interventions). Design: 1. To evaluate prevalences a total of 1000 women from two clinics were given a questionnaire, 3 to 6 months after giving birth. The questionnaire included two instruments assessing depression (BDI, EPDS) and items of interest to us. 2. Based on the pilot study, we developed an interview. Women were interviewed on the 3rd, 4th or 5th day. The interview included instruments measuring postpartum dysphoria. Six weeks later, subjects were mailed a questionnaire containing: EPDS, BDI, STAI, instruments for social support (SSQS) and partner problems (PL). These studies were already undertaken: 100 German, who gave birth in three different clinics; 82 German (cesarean deliveries at a university clinic); 50 Turkish/Kurdish immigrants; 28 women, who had home births.

Results and conclusion

Although some hypotheses could not be proven (lower prevalences in Turkish women), some of the evolution-psychological factors we examined as relevant (esp. breast feeding) were highly significant for the development of postpartum dysphoria and powerful predictors for the development of depression.

P346**The role of dysfunctional gender role beliefs in a cognitive model of postnatal depression. Piloting of the Pregnancy Related Beliefs Questionnaire (PRBQ)**

S. Moorhead, J. Owens, J. Scott (Newcastle upon Tyne, Glasgow, UK)

Introduction

Postnatal depression (PND) is often a woman's only episode of depression. Adequate aetiological explanations and prospective identification of vulnerability remain elusive. We wished to develop a questionnaire that might identify underlying beliefs in PND.

*Method**Derivation*

Interviews and literature search identified themes which were presented to professionals working with women suffering from PND; salience was confirmed. A content analysis was carried out by SM leading to the 54-item questionnaire. Each was a statement of belief with a 7-point scale, anchored from "totally agree" to "totally disagree." Higher scores indicated greater dysfunctionality.

Pilot study

Attendees at an antenatal clinic (n = 150) were asked to return a questionnaire pack. This included the PRBQ, the Beck Depression Inventory (BDI), the Dysfunctional Attitude Scale (DAS) and the Cognitive Adaptation to Stressful Events scale (CASE). The CASE is a 37-item, childbirth-specific measure of the frequency of thoughts and feelings where higher scores indicate greater distress.

Results

The PRBQ demonstrated adequate internal consistency, achieving a Cronbach alpha of 0.85 among the returned questionnaires (n = 42). Scores were significantly correlated with scores on the DAS (r = 0.66, p > 0.001), BDI (r = 0.43, p > 0.01) and CASE (r = 0.40, p = 0.01). The BDI scores also significantly correlated with all measures: CASE (r = 0.58, p > 0.001), DAS (r = 0.38, p = 0.01). The CASE and DAS scores did not correlate with each other (r = 0.24, p = 0.13).

Conclusions

With increasing depression, the beliefs measured by the PRBQ become more dysfunctional. Its correlation with the CASE provides a measure of concurrent validity. Its advantage over the CASE is that it identifies underlying beliefs. Its greater salience in

pregnancy and childbirth is an advantage over the DAS. These are supported by the lack of correlation between the CASE and the DAS and the fact that the DAS was not significantly elevated among those with moderate depression. This questionnaire is thus able to detect beliefs which may underlie depression occurring at this time and may be helpful during therapy or in identifying vulnerability in the antenatal period along with other tools.

P347

Depressive disorder among women: the impact of the postpartum period and other reproductive factors

M. Eberhard-Gran, A. Eskild, S. Opjordsmoen, S. Samuelsen, K. Tambs (Oslo, N)

Objective

The aim of this study was firstly to estimate the prevalence of depression in postpartum women as compared to the general population of women. The second aim was to assess the impact of the postpartum period and other reproductive factors on the risk of depression.

Method

From November 1998 to September 1999, all women 18–40 years old ($n = 4303$) in two Norwegian communities were included in a questionnaire study. A subgroup of the women ($n = 485$) gave birth during the period.

Results

The prevalence of depression (Edinburgh Postnatal Depression Scale (EPDS) score >10) was significantly lower among postpartum women (9%) than in the general population (13%).

High score on the life event scale, a history of depression and a poor relationship to the partner were strongly associated with depression in both postpartum women and women in the general population. Among postpartum women not breastfeeding the baby and being a first-time mother were also significantly associated with a high EPDS score. Among the women in the general population severe premenstrual tension, other somatic diseases and previous spontaneous abortion were significantly associated with a high EPDS score. When controlling for the factors associated with depression the odds ratio of depression was increased for being in the postpartum period (adjusted odds ratio 1.6; 95% CI: 1.0–2.6), suggesting a selection of non-risk women to delivery.

Conclusions

Our results suggest that there is an increased risk of depression in the postpartum period as compared to non-postpartum women. However, the factors associated with depression were almost the same in postpartum women and non-postpartum women.

P348

Prenatal depression and longterm family adversity: a 3 year followup of transition to parenting

C. A. Morse, J. Kuras, F. Perri (Melbourne, AUS)

Research on mood disorders related to child bearing has overly focussed on depressed affect in mothers after the birth has occurred. Much less work has considered mood problems as a couple's issue that operates throughout the pregnancy during the total transition to parenthood. A longitudinal study of 251 couples going through their first pregnancy found 20% women already depressed on the EPDS by mid-pregnancy (26 weeks) and 12% men were similarly distressed. The women's mood problems in pregnancy and post-natally were predicted by young age (<24 years), poor relationship quality, negative moods of partner, low social support, and gender role stress reported by the men. Sixty couples were followed up three years later (30 age-matched

couples either previously depressed or not depressed). In addition to quantitative measures of moods, relationship quality, social support and parenting stress, qualitative in depth interviews were conducted with each partner from 10 randomly selected couples (5 previously depressed, 5 not depressed). All couples reported reduced satisfaction with the marital relationship. Previously depressed women reported greater stress in the Child Domain of the Parenting Stress Index; previously non depressed women reported greater stress from the Parent Domain of the PSI at the 3 year followup. The 'contagion of distress' identified in the initial study appeared to persist for those couples at risk into the later years of early family life. The qualitative reports revealed young families struggling to function in a family environment of low harmony or satisfaction, that impacted adversely on each partner, the child and subsequent children. Closer monitoring and early supportive interventions are clearly warranted for these women, their partners and children.

P349

Adverse childhood experiences, and antenatal predictors of post-natal depression

B. Bende, H. Sharp, P. Bell, J. Hill (Liverpool, UK)

Aims

This study was designed to add to our understanding of the role of child sexual abuse (CSA) and low parental care in relation to post-natal depression, and to test whether childhood adversities add to the risk for post-natal depression after accounting for ante-natal risk factors.

Methods

The sample is comprised of primiparous women at 32 weeks gestation, under the care of midwives in Liverpool, UK. We report here on the first 130 of an eventual sample size will be 500. Antenatally subjects complete the Edinburgh Postnatal Depression Scale (Cox et al. 1987), the post-natal depression predictive index of Cooper, Murray et al. (1996), the Parental Bonding Instrument (Parker et al. 1979), and questions covering childhood experiences of sexual and physical abuse. The EPDS is repeated 6 weeks post-natally.

Results

In a logistic regression with risk for post-natal depression as the dependent variable, both CSA (OR 3.91, 1.71–8.91) low maternal care on the PBI (OR 2.77, 1.40–5.48) made independent contributions. Post natal depression defined as >12 the EPDS was predicted by low maternal care (OR 4.78, 1.46–15.69) and – short of the conventional significance level – by high risk on the predictive index (OR 2.81, 0.87–9.16). In a linear regression with EPDS scores as the dependent variable both the predictive index ($p = 0.001$) and low maternal care ($p = 0.011$) were significant. Within the group that neither were high on the predictive index nor had experienced low maternal care, there were 6 subjects reporting CSA, and their mean post-natal EPDS scores were significantly higher than those without CSA (two sided t-test, $p = 0.01$).

Conclusions

Thus far we have limited statistical power to examine all the variables of interest, however it seems that risk for post-natal depression assessed on the antenatal predictive index is associated with CSA and low maternal care in childhood, and that low maternal care adds to the risk of post-natal depression after accounting for antenatal risk. A history of CSA may add to risk of post-natal depression among women who do not have ante-natal risk factors, nor report low maternal care in childhood.

P350**Mourning and miscarriage: the cardinal role of yearning for the lost child in the grief process following reproductive loss**

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Depressive symptoms and yearning for the deceased are cardinal features of bereavement, but yearning is rarely studied empirically. We interviewed 304 women at two weeks, six weeks and six months after miscarriage, using the Perinatal Bereavement Scale (PBS), a grief scale developed for this study that focuses on yearning. Grief/yearning declined over time for the sample as a whole. In controlled analyses, Hispanic women had higher PBS scores than non-Hispanic women, as did women with public rather than private payment status. Married women resolved their grief more rapidly than single women. Grief/yearning scores did not vary by number of living children or number of prior losses. Results are compared to those for depressive symptoms and discussed in the context of attachment theory. Our study supports the utility of attachment theory's focus on yearning. Like the literature on spousal bereavement, our study shows that yearning seems to be related to depression but separate from it. Grief and yearning seem to be as relevant to these miscarrying women as to women who lost any other type of family member.

Postnatal disorders and mother-infant relationship**P351****Infant self-regulation at sleep onset**

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Objective

Past infant and child attachment studies show that parental separation elicits emotional distress and that transitional objects provide infants with comfort and security in the absence of the caregiver. The purpose of this study was to examine the relationship between parental assistance to infants falling asleep, self-soothing behavior of infants, the preferences and consistencies of object type and its use by infants over time at sleep onset, and whether gender is a defining factor in differences in parental assistance and self-soothing behavior.

Method

Thirty-one infants were monitored at six and twelve months of age for two consecutive nights of sleep in their normal sleep environment using infrared time-lapse video recordings. Infant self-regulation at sleep onset was observed in relation to object manipulation, self-soothing behavior, and assistance of sleep initiation. Differences in infant object choice compared to parental assistance were longitudinally compared at six and twelve months.

Results

Analysis of sleep state shows infants enter their crib awake sixty percent of the nights at both ages, but the awake or asleep state becomes less consistent from night to night at twelve months. Parents assist their infants at sleep onset at both ages (67%), but with increasing age their interactions become less consistent from night to night. Gender predicted a higher rate of sleep assistance for females at six months (53%) compared to males, which reversed at twelve months (26%) ($p < .015$). Children of parents who provided assistance at bedtime significantly self-soothed more at both ages ($p < .001$). Object use by infants showed a preference for hard objects at twelve months (53%), than at six months (25%), as well as older infants using more objects at twelve months (97%).

Conclusions

These findings suggest that even though parental assistance at bedtime is greater for females than males for the first six months of life, self-soothing behavior was observed to be similar for both sexes at both ages.

P352**Psychotic symptoms and infanticide in postpartum psychosis**

P. S. Chandra (Bangalore, IND)

Psychotic symptoms and their relationship to possible harm to the child were studied in 76 women with postpartum psychosis.

P353**Some considerations about attachment theory and the relationship between mentally ill mothers and their infants**

H.-P. Hartmann (Heppenheim, D)

It will be demonstrated that a secure attachment pattern is a protective factor in development. In contrast mentally ill mothers have themselves mostly insecure attachment patterns. Because of the transmission rate between attachment patterns of the mother and that of the infant (more than 70–80%) it can be expected that the same patterns of attachment will be developed in the infant. Despite that it will be discussed that a lot of other behavioural disturbances of the mentally ill mother will affect the development of the infant. At last it will be shown that postpartum mental disorders of the mother can be understood as a consequence of the activation of her attachment system in the face of the danger of being responsible for an infant. Therefore it is suggested to treat the attachment anxiety of the mother as well as to facilitate an intuitive parenting. To form a more secure relationship of mother and infant both will be supported by mother-infant-psychotherapy on the ward. Eventually a few case studies can be demonstrated and help to illustrate the attachment based psychotherapy on the basis of videotaped material.

P354**Hospitalized mothers with mental illness: perceived needs and difficulties of parenting**

I. Savvidou, V. Bozikas, S. Pitsavas, A. Karavatos (Thessaloniki, GR)

Objective

This study explores the parenting experiences and the problems facing mothers with mental illness.

Method

Eleven (11) women diagnosed with schizophrenia (5), bipolar disorder (4), and borderline personality disorder (2), mothers of 3.5–17 years old children, were interviewed during their hospitalization after the remission of their symptoms. The interview was semi-structured and focused on their perceived needs as mothers and on difficulties of childbearing in relation to their mental illness. Their thoughts and representations of parenthood were explored as well as their mental illness.

Results

Seven (7) out of 11 mothers are living with their children, besides, they all reported feeling that the mothering of their children was important. The majority of the mothers (9 out of 11), despite their mental problems, had clear representations of their children and were well functioning as mothers within a supportive environment. However, problems of custody loss and of contact with their children were common. Mothers identified the main sources of conflict in the stigma of mental illness and the lack of supportive environment. Five mothers also reported problems in day-to-day parenting, because of mental illness and/or medication.

Conclusion

Matters concerning motherhood remain important for women with mental illness. The question of compatibility of severe mental disturbance with provision of safe and adequate parental is yet unanswered, but the role of mental and social supportive systems in developing standards for clinical and rehabilitative care, proves important for reservation of quality of life for these patients.

P355

A longitudinal study of child characteristics and maternal mental health

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Objectives

Little is known about how normal age-related behaviour patterns and medical status in children affect maternal mental health. The present study explored this issue longitudinally from children's age 1.5 to 4 years. The study investigates: a) the effect of changes in general predictors (sociodemographic variables, chronic strains, life-events, maternal somatic health and social support) on changes in maternal symptoms of anxiety and depression; b) whether there are differential effects associated with changes in specific types of child related strains (child problem behaviour, handicaps, physical health problems and child care-taking problems) on changes in maternal mental distress; and c) possible interaction effects between the strain and support variables.

Methods

The sample is population based and data were collected via questionnaires. Maternal mental distress was measured with The Hopkins Symptom Checklist (SCL-25). Multiple regression analyses were used to assess the extent to which changes in the various predictors explained changes in maternal symptom scores.

Results

Changes in strain related to children and child care-taking predicted changes in maternal mental distress stronger than the other explanatory variables. Only changes in child care-taking showed significant effects during both the first (1.5 \cong 2.5 years) and the second (2.5–4 years) time period, whereas the effect of changes in specific child related strains varied. Changes associated with children's activity level and mood during the first time period and with children's worries and allergy problems during the second time period were related to changes in maternal mental distress symptoms. The social support variables acted additively with the risk factors.

Conclusions

Changes in maternal symptoms of anxiety and depression are influenced by changes associated with children's behaviour, their medical status and child care-taking arrangements.

P356

Psychosocial impairment of single mothers and their children

M. Franz, H. Lensche, L. König, N. Schmitz (Duesseldorf, D)

In Germany nearly 20% of all children get raised in single-parent families. About 90% of the lone parents are women. Financial shortcome, insufficient support, job discrimination and as a consequence psychological impairment are frequently determinants of the life situation of mothers and children.

Subsequent to the examination of school aptitude by the local Health Authority of Düsseldorf, in 1999 we performed a survey with the mothers of 5200 presented children (age 5–7). All of the 529 single parent mothers who fulfilled the inclusion criteria of our study were compared with a control group of married mothers regarding social criteria and psychological impairments of themselves and their children (SCL-90 R, CBCL).

Lone mothers and their children showed higher social and psychological impairment than the control group. Their socioeconomic status was markedly worse. Compared to the mothers from the control group they had statistically significant higher scores when measuring anxiety, depressivity and somatoform complaint. Assessed by their mothers especially boys of single mothers showed increased behavior problems.

P357

Process mechanisms linking parenting self-efficacy beliefs to parenting competence and toddler development

P. K. C. Coleman, S. B. Bryan, A. T. Trent, B. K. King (Sewanee, TN, USA)

Current research supports an association between high maternal self-efficacy beliefs and positive parenting practices including responsive, stimulating, and non-punitive care taking (Teti & Gelfand, 1991; Unger & Waudersman, 1985), active maternal coping orientations (Wells-Parker, Miller, & Topping, 1990), and low levels of maternally reported child behavior problems (Johnson & Mash, 1989). Given the empirical support for the central role that maternal self-efficacy beliefs play in the quality of actual parenting behavior, further research is needed to examine the extent to which maternal self-efficacy beliefs are likewise related to child outcomes. Investigative efforts should also be devoted to examining mechanisms through which self-efficacy beliefs potentially influence parenting and child outcomes. Without a comprehensive understanding of how self-efficacy beliefs operate, the meaningfulness of relationships to parenting quality remain limited. Therefore, this study was designed to examine the degree to which parenting self-efficacy beliefs among mothers of toddlers are related to parenting quality and child outcomes through associations with two types of mediating process mechanisms (parenting stress and expectations about future role behaviors). Data derived from 26 mother-child dyads did not reveal an association between maternal self-efficacy beliefs and parenting behaviors observed during a semi-structured mother-child interaction session. However, there were a number of significant correlations between maternal self-efficacy beliefs and child behaviors coded during the laboratory session (affection, avoidance of mother, enthusiasm, and compliance). Maternal self-efficacy beliefs were also significantly related to toddlers' scores on the Mental and Motor Scales of the Bayley Scales of Infant Development (BSID-II). The results further indicated that parenting stress mediated between maternal self-efficacy beliefs and both Mental Scale scores on the BSID-II and toddlers' displays of affection toward their mothers during the laboratory session.

P358

The interaction between infant temperament and maternal depression

H. Ko, Y. Hsieh, C. Chang (Tainan, Kaohsiung, RC)

Text not available

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The impact of maternal depression during pregnancy and postpartum on infant development: No evidence of adverse effect on intellectual functioning of 12-month-old infants

H. Ko, Y. Hsieh, C. Chang (Tainan, Kaohsiung, RC)

Objectives

This study was designed to examine the effect of maternal depression during pregnancy and postpartum on the intellectual functions of 12-month-old infants among Chinese Han population.

Methods

A sample of 568 Chinese Han women were initially recruited during a prenatal visit at the 36th week of pregnancy from a public obstetrics and gynecology clinic in Tainan, Taiwan. They were interviewed with MSADA and MSADS-L and followed up at the 8th, 18th weeks, 12th months of postpartum. The subjects were classified into four diagnostic groups according to their lifetime psychopathology, including a healthy group without any psychopathology, a prepartum depressed group, a postpartum depressed group, and a previously depressed group. Fagan Test and Bayley scales were administered to evaluate the intellectual functions of their infants at 12 months. There were 172 infants participating in the examination of Fagan Test and 184 in the assessment of Bayley scale. The infants were divided into four groups according to maternal psychopathology. There were no significant differences on maternal education and age, and infants' gender, parity, and body weight.

Results

The scores of novelty preference for the Fagan Test or the MDI scores for Bayley Scales were analyzed in a 2×4 analysis (ANOVA) of variance with infants' gender and maternal diagnostic status as two between-subjects factors. The results showed that neither the main effect of infants' gender nor the maternal diagnostic status was significant.

Conclusion

Our results suggested there was no evidence of adverse effect of maternal depression during pregnancy and postpartum on intellectual functioning of 12-month-old infants.

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Mentally ill mothers who murder their children: three cases

O. Saatcioglu, D. Derin (Istanbul, TR)

Child murder appears to be a multifaceted phenomenon with various causes and characteristics. Although the announcement of murder of a child is likely to generate strong emotional reactions in the population, it is not a rare phenomenon. In this article, three mothers who murder their children challenge the empathic skills of evaluating clinicians. All cases were the natural mothers of the murdered infants, and all of them were married. The infants were killed immediately by various methods as chucking down, cutting throat and crushing head. All mothers have psychotic symptoms but they have different psychiatric diagnoses according to DSM-IV. Interestingly, they all have the same delusions and these delusions caused them to believe that their children were possessed by evil and could be delivered back to god only in death. This research, determined by detailed three cases histories and the characteristics of the psychiatric symptomatology, compares women adjudicated criminally responsible for the murders of their children with those adjudicated not guilty by reason of insanity.

P361

Historical and socio-cultural aspects of infanticide

I. Savvidou, V. Bozikas, S. Pitsavas, A. Karavatos (Thessaloniki, GR)

Offspring homicide is a complicated phenomenon, which should be examined within the historical, social and cultural environment that it emerges. Child homicide practices were widespread in the past, especially in the ancient years and until the middle-ages. The difficult conditions for childbearing and high mortality of children had probably influenced the parent-child relationship. Infants were often abandoned or given to nurses and children were sent to serve other houses. A historical review of the offspring homicide and maltreatment is attempted.

Parental attitudes are changing and the child as a human being with its own rights is a concept that emerged just in the last decades. The quality of mother-child attachment in our days has also been changed. In modern child-centered Western societies the preservation of protection and quality of children's life is proclaimed as a matter of great importance and tends to be self-evident. Thus, phenomena of child abuse and homicide attract interest and outrage. Child homicide in our days usually happens in the context of mental disorder (such as schizophrenia, bipolar disorder, major depression, Munchausen by proxy syndrome, etc.) or accidentally because of abuse or neglect. In the rest of the cases socio-economic and cultural factors drive mothers, usually young and unmarried, to kill their children. Infanticide in modern societies, and its relations with these factors are discussed.

P362

Maternal infanticide: epidemiological data, risk factors and prevention

V. Bozikas, I. Savvidou, I. Diakoyanni-Tarlatzis, A. Karavatos (Thessaloniki, GR)

The aim of the present study is to review the epidemiological data, risk factors for children homicide committed by their mother, with respect to her mental status (psychiatric history and substance misuse) and mother-child relationship.

The infants of unmarried, poorly educated, young mothers, especially adolescents, are in greater risk of infanticide. These mothers have usually low income, they do not have a supportive environment and a stable partner, and these factors also affect their parenting capacity. Besides, early childbearing with several young children is associated with the existence of mental illness.

The infant's temperament seems also to play a role. Infants of depressive mothers have been found more irritable, more difficult to soothe and with more irregular cycle of sleep-arousal than these of mothers without depression. These factors put the infants in a high risk for abuse. At these cases there is not usually intention to kill the child. The cases of intentional murder of the child when mother believes that it is the best for it and she intends to also commit suicide are rare. Domestic violence, especially between spouses as well as child abuse seems to be connected with child homicide.

Parental mental disorder is associated with the age of the child. Neonates, who are murdered immediately or shortly after their birth are usually unwanted and the pregnancy was hidden. The majority of these children were not born in a hospital. Their mothers seem to constitute a group with different characteristics than that of mothers who murder older infants or children, with the latter usually suffering of major depression or postpartum depression.

The development of specific maltreatment and infanticide prevention strategies is required, considering that the problem of child homicide is obviously more common than the vital statistics suggest and represents a profound moral and cultural offense.

P363

Matricide and parricide. Psychiatric forensic approaches in women

T. Udristoiu, D. Marinescu, A. Chirita (Craiova, RO)

Aggressiveness in psychopathology had always aroused a great interest for the researchers from medicine, justice and sociology, interest correlated to the pathological murder.

The paper suggests the study of matricide and parricide in women with psychiatric disorders, in order to highlight some different aspects that could allow the evidence of some risk and prediction factors.

We performed an epidemiological passive study in 420 cases hospitalized in the Hospital Poiana Mare for chronic psychiatric patients during 10 years (1990–1999). We had in view the files and the juridical documents, following some items, further allowing the evaluation of the phenomenon and the elaboration of some conclusions.

The items investigated to the female patients were: the age at the moment when the offence was committed, residence, profession, clinical diagnosis and triggering factors. Further, we searched for correlations between the items.

Conclusions

- the female patients which committed matricide and parricide represent less than 20% from the total of the patients hospitalized during the lapse of time;
- concerning the age, we observed the predominance of women older than 30 years;
- there is a predominance of the women from rural environment, with inferior briefing and without job, therefore with a low socio-cultural level;
- between the female patients that have committed the offences we noticed a high rate of psychoses (almost 60%), especially schizophrenia;
- in many cases alcoholism has been involved as triggering factor.

P364

2 years mother-child treatment in the psychiatric centre Nordbaden – past experiences evaluation future requirements

H. Kilian (Wiesloch, D)

The lecture describes the basic principles of the systemic therapy approach in a mother-child-treatment unit in general psychiatry.

From treatments in the past and first statistical evaluations we can recognize some trends of typical therapy orders and processes which are finally illustrated by some case studies.

Psychosomatic disorders in women

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Working with women and girls with eating disorders: the WHO Model Project: women's health centre F.E.M.

D. Kern, R. Gänzle, B. Wimmer-Puchinger (Vienna, AT)

Background

The Women's Health Centre F.E.M. (Frauen = women, Eltern = parents and Mädchen = girls) is Europe's first women's health centre set in a hospital. We offer counsellings, courses, workshops, lectures and therapy groups focussed on women's health issues and regard ourselves as advocates of women using health care services.

Eating disorders have become one of the most questioned topics of our work.

Nearly 200.000 women and girls in Austria suffer from eating disorders. F.E.M. offers information, counselling and therapy for women and girls with anorexia nervosa, bulimia and binge eating disorder.

Objectives

- Main objectives of our work with women and girls are
- to motivate the clients to come to therapy sooner
 - to reach them in an earlier stage
 - to reduce their fears of therapy
 - to come into contact in the forefield of therapy
 - to shorten the length of the therapies
 - to reduce the dropouts
 - to strengthen the selfcompetence of the women and girls

Methods

The Women's Health Centre F.E.M. has developed an own interdisciplinary therapy concept including medical assistance and psychological expert opinion, where the forefield of therapy is of great importance. Therefore we offer lectures about our therapy methods, open groups to get to know the psychotherapists, video-presentations about eating disorders and access to our technical literature.

There are also group sessions for family members.

Results

Our therapy concept takes into account the different phases of the disorder and so shortens the timespan between the first contact with the psychotherapist and the beginning of the psychotherapeutic group. Through focussing on the special needs of persons with eating disorders and adapting the therapeutic offer to the three phases of therapy (therapy motivation, therapy process, assistance after therapy) women and girls tend to come earlier, break off less often and have fewer relapses.

Conclusion

Throughout ongoing research and evaluation the F.E.M.-therapy programme is adapted on women's needs. Our great success shows the importance of taking into account the phases of the therapy process, from the first steps towards professional help until leaving therapy. 1999 there were 2100 telephone-contacts referring to eating disorders, 950 women and girls attended our courses, workshops and lectures about bulimia and anorexia nervosa.

P366

The importance of psychic trauma in anorexia nervosa and its therapeutic implications

Á. Gáti (Pécs, H)

Several publications have emphasized the frequent occurrence of "child abuse" in a broader sense in patients with eating disorders. The authors, based on their clinical experiences, attempt to explain some related questions:

- Should we talk about "trauma" or rather a series of traumas (cumulative trauma)
- what kind of other factors, family and life events have an impact on vulnerability and abuse
- what is the correlation between above mentioned fact and the appearance of transgenerational pathological attachment patterns.

The authors through the evaluation of the significant events of a psychotherapy demonstrate approaches (family interventions, hypnoprojective techniques, imagination etc.) which may represent a possible way in solving the problem. The goal of the therapy is to promote the work-through of such traumatic events, their integration into the personality, thus boosting the self-esteem and dignity. They emphasize, the importance of a multidimensional therapeutic approach, which requires the application of more therapeutic techniques.

P367

Sexual history and experiences of eating disordered patients – a controlled study

B. Mangweth, Th. Walch, S. Sepetavc, C. Danzl, A. Hotter, W. Biebl (Innsbruck, AT)

Objective

Individuals with eating disorders often report discomfort with their bodies, impairment of sexual functioning and sexual pleasure, and/or a history of childhood sexual abuse. However, it is not clear to what extent these phenomena are associated specifically

with eating disorders as opposed to psychiatric disorders in general. Therefore, we assessed sexual history in women with eating disorders as compared to women with substance abuse disorder and women without psychiatric disorder.

Method

We interviewed eating disordered patients (N = 36, defined by DSM-IV), patients with polysubstance dependence (N = 30, also defined by DSM-IV), and non-psychiatric, healthy controls (N = 32, with neither a history of eating disorder nor substance abuse). The interview covered demographic characteristics, the chronology of sexual development, parental attitudes towards the body, sex, and nudity, and history of sexual experiences including sexual abuse.

Results

Eating disordered patients were indistinguishable from non-psychiatric controls in age at various sexual milestones. However, on subjective ratings, eating disordered women perceived these experiences significantly more negatively than either of the two control groups. Also, with regard to familial attitudes towards the body, eating disordered patients reported significantly greater familial disapproval and taboos regarding bodily and sexual matters than either of the two comparison groups. Both psychiatric groups showed significantly higher rates of childhood sexual abuse than healthy controls, but did not differ from each other.

Conclusion

Eating disordered patients appear to differ from both normal controls and psychiatric controls on several aspects of their sexual histories, including both familial attitudes towards sexuality and personal attitudes towards various sexual experiences.

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Suicidal tendencies and body image and experience in suicidal and anorexia nervosa female adolescent inpatients

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Background

The aim of this study was to assess the relationship between cognitive and affective attitudes toward the body and suicidal tendencies.

Methods

Four groups of 11–20 years old hospitalized female adolescents – suicidal psychiatric, non-suicidal psychiatric, non-suicidal anorexia nervosa, and community control participants were compared with regard to suicidal tendencies (in the form of attraction to and repulsion by life and death), various aspects of body image and experience, depression and anxiety.

Results

The suicidal and anorexia nervosa patients showed less attraction to life and more repulsion by life, and more attraction to death and less repulsion by death compared with the two other groups. The suicidal and anorexia nervosa patients were also different from either one or both other groups in showing more negative attitudes and feelings towards their bodies, lower sensitivity to body clues, less bodily control, and elevated depression and anxiety. These between-group differences were retained after controlling for age, the influence of the different body image and experience dimensions, anxiety and depression.

Conclusions

Our findings suggest that female anorexia nervosa inpatients with no evidence of overt suicidal behavior demonstrate elevated

suicidal tendencies that are similar to those of suicidal psychiatric inpatients. These self-destructive tendencies are highly associated with a pervasive sense of disturbance of body image and experience.

P369

Atypical neuroleptics in severe anorexia nervosa

C. Mehler, Ch. Wewetzer, A. Warnke (Würzburg, D)

Objectives

Severe anorexia nervosa usually is characterized by overwhelming anxiety concerning food intake or weight gain. Body-image disturbances and thinking about food then often shows delusional quality. The administration of novel neuroleptics has been reported to be useful in order to reduce both those symptoms and the patients' denial of the seriousness of the illness. Thus, several desperate cases gave us reason to treat adolescent anorexic patients with olanzapine.

Methods

We used to start with 2.5mg olanzapine per day, increasing the dosage in 2.5mg-steps every second day. We reduced dosages when the maintenance of a satisfactory state of weight and psychopathology appeared possible without medication. Effective dosages ranged from 5 to 12.5mg daily.

Results

Based on our clinical experiences, the reduction of paranoid anorexic ideation has to be considered the primary clinical effect of olanzapine in anorexia nervosa. Delusional body-image disturbances, aversion of food-intake and rigidity of thinking were remarkably reduced within a few days, only. Our adolescent patients better related to reality, their cooperation increased, and the overall therapeutic process could advance. There were no serious adverse events in these cases.

Conclusions

With conventional therapeutic regimes failing in severe anorexia nervosa, the administration of novel antipsychotics seems to represent an important supportive approach. Similar to some recently reported single cases in the international literature, olanzapine treatment of our anorexic patients induced remarkable improvement. Paranoid ideation concerning body-image disturbance or weight gain decreased and sedative effects helped to reduce inner tensions and phobia with respect to food intake.

P370

Eating disorders and biology of amenorrhoea

A. Lopez Mato, A. Vieitez (Buenos Aires, RA)

Background

Eating disorders conform a complex psychoneuroimmunoenocrinological syndrome. Amenorrhoea is one of the most important symptoms. The role of leptins in this symptom, because of its interdependence with the gonadal system, is currently being studied.

Objectives

The aim of this poster is to determine some biological disturbances underlying amenorrhoea in eating disordered patients and the probable relationship between menstrual cessation, leptins levels and neurotransmitter state.

Methods

20 outpatients with restrictive or purgative anorexia nervosa diagnosed according to DSM-IV criteria, with Body Mass Index (BMI) between 18.0 and 15.2.

They underwent blood extraction to determine basal LH and FSH and 25 and 90 minutes values after stimulation with LHRH.

Normal responses were considered when LH responded earlier and greater than FSH.

Results

80% of the patients showed a reverse curve response (similar to normal prepuberal state) and 20% showed blunted curve response. 90% reassumed menses after antidepressive treatment. Normalization of the HPG axis was inferred. Most, but not all had normalized BMI.

Conclusion

The augmentation of central monoamines due to antidepressants can, at least in part, explain the normalization of the menstrual pattern, probably due to amine influence in the rhythmic secretion of hypothalamic LHRH. Cyclic rhythm of LHRH and amenorrhoea are specially linked with neurotransmitters disbalance, which can be normalized with antidepressive therapy. Central neurotransmitters also act, as down or up regulators, in the regulation of food intake, acting by themselves or interacting with central or peripheral neuropeptides. Our patients normalized the abnormal endocrine responses, although weight restoration was not always achieved. Leptins (dependant on total body fat) by themselves are probably not responsible for the amenorrhoea. The subjective and objective improvement was correlated with the correction of the neuroaminic disbalance, obtained with antidepressant medication.

P371

Depression, automatic thoughts, alexithymia and assertiveness in patients with tension-type headache: are there any gender differences?

B. Yucel, D. Tunalı, A. Polat, K. Kora, S. Ozyalcin, N. Alcalar, O. Ozdemir (Istanbul, TR)

Objectives

The role of psychological factors related to headache have long been the focus of many investigations. The aim of this study is to reviewate depression, automatic thoughts, alexithymia and assertiveness in tension-type headache sufferers and to investigate gender differences in this group.

Methods

One hundred and five patients who had tension-type headache with disorder of pericranial muscles, according to International Headache Society (IHS) classification criteria, and seventy normal controls were studied. Beck Depression Inventory, Automatic Thoughts Scale, Toronto Alexithymia Scale and Rathus Assertiveness Schedule were administered to both groups. The sociodemographic variables and the features of headache were reviewed by using a semi-structured scale.

Results

Compared to healthy controls, the patients with headache had significantly higher scores on measures of depression ($p > 0.0001$), automatic thoughts ($p > 0.0001$), alexithymia ($p > 0.0001$) and lower scores on assertiveness ($p = 0.007$). However, we did not find any significant difference between men ($N = 23$) and women ($N = 82$) in terms of depression, automatic thoughts, alexithymia and assertiveness scores were not found in the headache group ($p > 0.05$).

Conclusions

These findings suggested that tension-type headache sufferers both have high depression scores and various difficulties to experience and express their emotions. Although our clinical observations imply that patients with tension-type headache in our society face difficulties in recognizing and expressing their feelings and most of these patients are women, according to the results of this study, we could not say that these difficulties are specific to the gender.

P372

Gender differences in depressive symptomatology: fact or artifact?

C. Semmler, P. L. Klumb (Berlin, D)

The gender differential in the prevalence of depressive symptomatology is a frequently replicated finding with biological, psychological, and socio-economic explanations. To which degree characteristics of the assessment methodology can explain the differences is still poorly understood. Differences in reporting (e.g., use of scale anchors) or in self-disclosure may play a role as well as biased items or instruments. To establish bias, one has to show that a predictor item or construct (a) correlates with other variables while (b) failing to correlate with the criterion. Accordingly, a gender bias exists if an item is correlated with the sex or gender of an individual but not with a criterion measure—potentially resulting in a gender differential in the prevalence of false positives. The objective of the present study was to investigate gender bias in the items of a German version of the Center for Epidemiologic Studies Depression Scale (CES-D). For that purpose, the CES-D was administered in two samples, a student sample ($N = 107$) and a sample of elderly individuals ($N = 516$, first measurement occasion of the Berlin Aging Study). Five procedures were employed to test the individual items for gender bias: (a) expert ratings of gender-specific validity, (b) ratings of the willingness to disclose the respective problem in a questionnaire, (c) correlations with the sex as well as masculinity and femininity scores of an individual (Bem Sex Role Inventory), (d) correlations with dummy-coded diagnostic information (major depression according to DSM-III-R, depression not further specified), (e) confirmatory factor analyses testing measurement equivalence across gender groups. In this fashion, three CES-D items were identified as producing biased responses. In order to minimize artifactual gender differences in depressive symptomatology, the exclusion of the biased items is recommended.

P373

The frequency of depression – anxiety syndrome at women in the Liaison-Consultation Psychiatric Department

F. Tudose, A. Vasilescu (Bucharest, RO)

The study presents a broad description of the depression-anxiety syndrome at in-patients in the general hospital. The authors have tried to correlate the supposed somatic diagnoses that they were hospitalized for and the depression-anxiety syndrome. There is promoted the idea of the continuum anxiety-depression-somatoform disorders in the pathology of the general hospital.

P374

Gender related difference in symptom localization in somatoform disorders

A. Vasilescu, F. Tudose (Bucharest, RO)

The aim of our study is the assessment of some bodily regions that represent the election place for symptoms in somatoform disorders.

In our study group of 301 patients, there were prevalent the digestive, cardiac and renal localizations for women and the cardiac, digestive, pulmonary and renal ones for men.

We looked for explanations for these differences from psychoanalytical field and cultural traditions.

P375**Somatisation in Bahraini patients – a gender perspective**

C.A. Kamel (Manama, BRN)

Objective

This is a descriptive study designed to examine aspects of somatisation in a sample of male and female Bahraini patients.

Methodology

The study subjects included 99 patients attending general and psychiatric outpatient departments. The General Health Questionnaire and the Arabic Somatic Inventory were used as psychiatric tools. Clusters of somatic symptoms were grouped together and given the name of the predominant symptoms and labelled factors. These were compared to corresponding results of similar studies.

Results and conclusion

Somatisation was found to be more frequent in housewives of 20–30 years of age and with minimal education.

P376**Gender differences in the psychiatric emergency room**

K. Demyttenaere, R. Bruffaerts, P Enzlin, R. Huygens (Leuven, B)

Introduction

Deinstitutionalization and efforts of cost containment in mental health services lead to an increased number of psychiatric patients living in the community and consulting the psychiatric emergency room. This study aimed to assess whether there are gender differences in (1) sociodemographic characteristics, (2) symptomatology, (3) psychiatric history, (4) way of referral, and (5) variables predicting outpatient and hospitalisation in patients consulting the psychiatric emergency department.

Material and method

During ten months, all male (n = 462, 44%) and female (n = 588, 56%) psychiatric emergency patients in the University Hospital in Leuven were monitored with regard to sociodemographic characteristics, symptomatology (according to DSM-IV axis 1 criteria), psychiatric history, way of referral, and after care.

Results

We found no gender differences in (1) sociodemographic characteristics, and (2) psychiatric history. (3) Male patients present mainly with substance use disorders and mood disorder while female patients present mainly with mood and adjustment disorders. (4) Male patients are more referred by law enforcement while women are more referred by mental health professionals. (5) In male patients, psychotic symptomatology, mood symptomatology and being hospitalized before increases the probability to be hospitalised. In female patients, neurotic symptomatology and living within a family decreases the probability to be hospitalised.

Conclusions

We found considerable gender differences in patients consulting the psychiatric emergency room. Gender differences concern symptomatology, way of referral, and characteristics predicting hospitalisation and outpatient treatment.

P377**Sexual problems in women with type 1 diabetes mellitus**

P. Enzlin, C. Mathieu, A. Van den Bruel, D. Vanderschueren, K. Demyttenaere (Leuven, B)

Introduction

Although extensive research exists on male sexual function in diabetes, few data are available on the influence of diabetes on female sexual function.

Objective

The aim of this study was to study sexual function in women with diabetes.

Patients and methods

Questionnaires on sexual function (UKU) and depression (Beck Depression Inventory; BDI) were distributed to 101 consecutive women with type 1 diabetes on intensive insulin treatment in our diabetic outpatient clinic. Scores of 88 women (response-rate: 87%; 5 refused to join; did not send the questionnaires back) with a mean age of 36.9y (21–72y) were analysed. Mean duration of diabetes was 14y (1–44y) and mean HbA1c was 8.0 (5.3–12.4%). 44 women had diabetic complications. Using a score of 16 on BDI as cut-off score for depression, 1 in 4 women had significant depressive symptomatology.

Results

37% did not mention any sexual problem. 32% mentioned one, being increased libido (4%), decreased libido (18%), dry vagina (5%) or problems with orgasm (4%). 16% mentioned two (decreased libido + dry vagina: 11%; decreased libido + orgasm: 5%) and 15% mentioned three problems being a combination of decreased libido, dry vagina and orgasm. Analysis of the data of the depressive women revealed that 20% had no problems, 30% reported one, 20% reported two and 30% reported three problems.

Conclusion

Based on these results we conclude that women with diabetes – just as men – at risk for developing sexual problems. No obvious relation was found between the number of sexual problems and the number of complications (not shown) However, our data suggest a relation with depressive symptomatology.

P378**Risk-factors profile, clinical characteristics and angiographic findings in young post-infarction females**

R. Galiullina (St.Petersburg, RUS)

The aim of the study was to reveal possible causes of coronary heart disease (CHD) in young females because recent epidemiological data have indicated an increase in prevalence of CHD in this type of patients (pts).

40 premenopausal (10 and 40 postmenopausal (2) females who got an myocardial infarction (MI) were examined 3 months after the acute period. The mean age of pts was 41 and 55 years respectively. The serum lipid profile was determined, assessed the presence of the arterial hypertension and cigarette smoking, performed the exercise stress test (EST), coronary angiography. The main CHD risk-factors in (1) were cigarette smoking (revealed in 70% of pts) and arterial hypertension (AH) 62,%. Total cholesterol (TCh), triglycerides (TG) and cholesterol of high density lipoproteids (HDL-Ch) in (1) were 214,5+6,3; 191,0+14,4; 38,6+1,6 mg/dl, correspondingly. In (2) 80,7% of pts had AH; 27% were smokers. Their TCh, TG and HDL-Ch were 237,5+6,5; 241,2+14,8; 34,7+1,4mg/dl, correspondingly. Diabetes mellitus was diagnosed in 25% of (1) and in 26% of (2). Most of (1) pts had no angina symptoms and only 45% of them revealed an ischaemic response to an EST. Coronary angiography revealed atherosclerotic lesion only in 58% in (1). In contrast, nearly all (2) pts had post MI angina pectoris, 84% of them showed an ischaemic response to EST and 75% had severe coronary stenosis of one or more artery. Causes of the development of CHD in premenopausal females seem to be different from those in postmenopausal females or in males and could be mainly attributed to an endothelial dysfunction and lead to MI with or without severe coronary atherosclerosis. In postmenopausal females the main cause of MI was a severe coronary stenosis combined with the main CHD risk-factors. In this aspect, postmenopausal females are more similar to

males. A three-year intervention which included changes in the life style, blood pressure and lipid lowering in the randomly selected group of female showed a more favourable time course of CHD compared to the control group.

P379

Suicidal deterioration with recovered memory treatment

V. Sharma, J. Fetkewicz, H. Merskey (London, CDN; Philadelphia, PA, USA)

Background

Many patients who have been told they have Multiple Personality/Dissociative Identity Disorder (MDP/DID) seem to have deteriorated clinically after being so diagnosed. We report here the results of a survey of suicide attempts in patients diagnosed as having MDP and a comparison group hospitalized with a mood disorder.

Methods

Twenty individuals who have been diagnosed as having MDP, had developed false memories, and had relinquished them, were surveyed with respect to suicide attempts before and after the diagnosis. Twelve of those approached agreed to provide data and were compared with 12 patients from an in-patient mood disorders unit, matched for age and sex.

Results

In the MDP group more patients attempted suicide after being diagnosed than before and they made more separate attempts at suicide than before. The reverse was true in the comparison group with patients and suicide attempts before and after hospitalization. Comparing the numbers of attempts in the groups before diagnosis/hospitalization and afterward $\text{Chi}^2 = 20.177$, $\text{DF} = 1$, $P > 0.001$.

Limitations and conclusions

Both samples were highly selected, and the comparison group does not provide an exact control. Nevertheless, the results support a trend in the literature that finds the diagnosis of multiple personality disorder and the use of recovered memory treatment are harmful.

P380

Gender differences in prevalence, disability and pain management due to pain in a psychiatric population

B. Th. Baune, M. Buehrig (Bielefeld, Bremen, D)

Objectives

We tested the hypothesis in a psychiatric population, that women in the general population report significantly more pain complaints and are more disabled due to pain in comparison to men.

Methods

A cross sectional survey was done in a population of a psychiatric hospital. 106 patients were interviewed with a selfadministered standardised questionnaire.

Results

Most of the patients were female (59.4%), the average age for both female and male was 38.7 years. High prevalences of pain symptoms underline the importance of pain in psychiatric patients: point prevalence 50.9%; 6-month-prevalence 76.4%; annual prevalence 76.4%. All prevalence rates indicate no significant gender differences.

Specific pain complaints by region were associated with the female gender for pain in the head (OR = 1.39; CI = 0.64–3.1), pain in arms (OR = 6.1; CI = 0.73–50.75), back pain (OR = 1.44; CI = 0.65–3.18) and pain in the abdomen (OR = 1.67; CI = 0.62–4.17). The association of female gender and pain symptoms in the neck and shoulder was statistical significant (OR = 2.56; CI = 1.25–5.26).

Nearly two third of the patients with pain (63.4%) reported lifetime disabilities in daily activities due to pain without any statistical significance for gender (OR = 1.15; CI = 0.49–2.7). Male gender was significantly associated with lifetime incapacity of work due to pain for month or years (OR = 2.6; CI = 1.1–6.6). If women suffered from pain, their lifetime prevalence of incapacity of work was in most cases limited to days or weeks.

A specialized treatment of pain was run less extensively in women than in men. Women (44.7%) were more satisfied with the pain management in psychiatry than men (34.2%). In general, women postulated less often than men the need for a more effective pain therapy (OR = 0.55; CI = 0.2–1.54).

Conclusion

The results contribute to the reasearch of gender specific risk factors in patients with pain. Female patients in psychiatry do not have an elevated risk for pain complaints like in the general population. The results emphasize the need for a gender specific investigation of pain. Socioeconomic consequences in patients with pain seem to be less frequent in women than in men.

P381

Gender differences in the adjustment to diabetes Type 1

P. Enzlin, Ch. Mathieu, K. Demyttenaere (Leuven, B)

Objective

To examine the influence of gender on psychological adjustment to type 1 diabetes.

Sample and methods

280 outpatients (141 men) of a diabetes clinic completed psychological questionnaires to evaluate coping, depression, marital satisfaction and cognitive and emotional adjustment to diabetes.

Results

Cognitive adjustment to diabetes is easier for men; women report more depressive symptomatology. Men use more active coping, are less avoiding, less social support seeking and use less depressive coping. Longer duration of diabetes was significantly correlated with worse emotional adjustment and more depressive symptomatology in men but not in women.

In men and women better emotional adjustment to diabetes was significantly related with better cognitive adjustment and lower depression scores for men and women. Men and women with lower depression scores reported better cognitive adjustment to diabetes and higher quality of marital relation.

Conclusion

There are important gender differences in the psychological adjustment to diabetes. Although the factors negatively influencing the psychological adjustment to diabetes are the same in men and women and being: depressive coping and depressive symptomatology. Protective variables are different for men and women. Men use a coping style reflecting 'mastery' and 'autonomy', while women's social support seeking behaviour reflects 'dependence on others'. This has implications for the doctor-patient relationship since improving adjustment to diabetes in men and women necessitates addressing other gender related- themes.

P382

Treatment efficacy of inpatient program for women with eating disorders: behavioral, affective and attitudinal aspects

R. Pat-Horenczyk, A. Ram, B. Schwartz, E. Ravid-Shaltiel, E. Mitrany (Tel Hashomer, IL)

Objective

A new and unique center for adult eating disorders patients was established recently in Israel, in order to meet the specific needs of

young adult patients. The treatment plan is based on consented participation and a comprehensive and integrative model of therapy provided by a multi-disciplinary team. The purpose of the current study was to evaluate the treatment efficacy of this inpatient program from medical, behavioral and psychological perspectives.

Methods

Ninety-two female subjects (between the ages of 18–47, $M = 23.6$ $SD = 5.13$) were evaluated upon admission and discharge from the inpatient facility. All patients were diagnosed according to the criteria of DSM IV by a semi-structured interview (SCID): 22 were diagnosed with Anorexia Nervosa (restrictive type), 28 with Anorexia Nervosa (purging type), 33 with Bulimia Nervosa and 9 patients diagnosed with Binge Eating Disorder. A battery of self reported questionnaires comprised from the EDI2 (Garner, 1991), the BDI (Beck, 1961) STAI (Spielberger, 1970) were administered at admission and upon discharge from the inpatient unit. Physical examination, routine blood tests, dietician monitoring, and BMI assessment were performed weekly.

Results

Comparisons were made within and between the groups at admission and discharge. All patient groups improved their BMI scores and eating behavior. The levels of depression and anxiety also tended to improve across all four groups. The most dramatic change was revealed among the Bulimic group, followed by the Purging Anorexia and the BED groups. The smallest change was found among the Restrictive Anorexics. Eating attitudes and attitudes toward the self and the body image changed differentially in the four different clinical groups, and tended to be less prominent than the behavioral changes.

Conclusion

The inpatient treatment for eating disorders based on structured program aimed at weight restoration and psychological change proved to attain positive results in terms of symptomatic relief, affective improvement and attitudinal change. Long-term follow up is needed to examine whether the positive results sustain with the passage of time. Tailored treatment plans are needed for the different diagnostic groups focusing on their unique profile of their symptoms as well as to their unique profile of attitudes.

Psychosocial, cultural and ethnic aspects

P383

Cultural context of female genital self-mutilation, an instance of demonical possession admitted to psychiatric emergency service in Saudi Arabia

M. Nouh (Riyadh, KSA)

The nowadays situation in the treatment of mental disorders in Saudi Arabia is determined by the influence of various factors as: 1- lay beliefs about the etiology of mental illness, 2- stereotype negative image of the psychiatrist, 3- fear of the legal and administrative consequences of the label of the “mental patient”. As result of it, the popularity of traditional healers substantially increased. The paper will implement an example of female self-mutilation and the pragmatics of the different situations as an example of the traditional healing system implementation. The paper aims at detecting the contemporaneous erosion in the degree of the time-defying “patriarchal control” over the Saudi women’s self. The process is portrayed by relating to an example of spiritual healing during the possessing episode narrated and documented through a 35 years age woman. The paper analyses the process in its health efficiency aspects as well as in its gender-specific ground. The paper objective is to identify different cultural

attitudes about mental illness. The paper tries to give suggestions for easier implantation of the modern medical concept in this region. The paper also summarizes the existing mental facilities and the need to improve their performance.

P384

Health seeking behaviour in women with depression and outcomes

R. Sivaram, R. de Souza (Pune, IND)

Introduction

Status, gender, economic and socio-cultural constraints make Indian women a vulnerable group in a conservative patriarchal society. Women refer to clinicians for physical illness, who refer them to Psychiatry and Counselling OPD. Inadequacy of support services in the health sector, practical non-existence of mental health care, stigma and poor health seeking behaviour add to the growing numbers of depressed women and adolescents.

While counselling 2 different groups of patients and clients- women and adolescents we observed trends and outcomes of health seeking and non-health seeking behaviours in women and their adolescent children.

Objectives

To show an interface between the health seeking and non-health seeking behaviours of women with depression and its outcome on them and their adolescent children.

Method

Supportive, interpersonal, goal directed, free association, eclectic and behavioural therapies, case history (clinical, social, emotional, sexual), psychological testing when required (paper-pencil, SRQ, self-esteem) interview with spouse/children and intervention therapy.

Results and conclusions

Qualitative data and therapy with women and adolescents show a trend:

- 1) Women present similar symptoms, problems and causes, responses, coping skills and behaviour patterns. After initial rejection felt the need to come ventiliate and learn coping skills. Their children are more sensitized though hurt, mature and with more than average coping skills, self care and responsibility.
- 2) Adolescents with ‘depression’ we found bring the legacy from the mother; are products of mothers with masked depression who have not sought health care and support. Smiling mothers used coping mechanisms like using their children as focus and buffers in emotional seesaws. Long sessions with mothers than their teens helped recognize and accept their own depression and behaviours. There are two on the couch- one less self-aware and the other a parenting casualty. The health seeking behaviour for the self, the woman is seen to increase, though guilt and remorse continue.
- 3) Supportive counselling, parenting and gender sensitivity is an urgent homing/sharing need of these women and children they say.

P385

The main risk factors of Polish women’s mental health in last decade

A. Pietrzyk, A. Roszkowska, J. Trepka-Starosta (Katowice, PL)

The impact of poverty, disability of child caused by central nerve system defects, structure of family and marital relationships on women’s mental health will be analysed. The analyses of these phenomena demonstrate the feminisation of Polish poverty, isolation and lack of women’s awareness of their child laws and privileges. These facts influence familial and marital lives of

women, their child care, potential sources of social support and contacts with health services, welfare system, workfare programme, courts, public housing authority. These facts will be documented by statistical data.

P386

Body attitudes and weight during the transition to motherhood. A pilot study

R.-M. Quattraro, P. Grussu, M.-T. Nasta, T. Fedè, R. Cerutti (Padova, San Donà di Piave-Venice, I)

The profound changes that women experience as a result of pregnancy include not only social and psychological changes in shape and weight. For some authors the weight gain associated with motherhood, can lead to a form of distress which is also associated with high body mass index (BMI) and body image dissatisfaction. However, little is known about the relation between women's normal attitude towards their bodies during the transition to motherhood and the relation that they have with weight changes. The aim of the present pilot study is to explore whether women's attitudes to their bodies are related to the BMI. Body attitude and experience in 60 primipara women after a normal term pregnancy, normal delivery and healthy child were investigated. All women attended a prenatal course run by our Institute. At the 9th month of pregnancy, and at 1, 6, and 12 months after delivery, all subjects supplied their weight, height and completed the Body Attitude Test (BAT, which evaluates the subjects' body experience and attitude towards their bodies, as well as assessing any negative appreciation of the body size, lack of familiarity with their own body, and general body dissatisfaction. A person's correlation between the BAT scores and BMI at the four time points was analysed.

Results indicate that at all four time points, when BMI increases, negative appreciation of body size also increases. Furthermore, after the sixth month it emerges that general body dissatisfaction increases with the increase in BMI. This results indicate that the weight gain and modification of body shape that occur during motherhood can be a source of concern, in particular after the sixth month. At this time the greater autonomy of the child, a return to work and participation in social activities, and the resulting increased possibility of interpersonal comparison, can lead to living the body more negatively the more it is modified in shape and weight. In the light of this study and an analysis of the literature, it is important to underline the need to provide psychological assistance for new mothers, what also takes into consideration the months following the puerperal period.

P387

The influence of home, neighbourhood and work on the mental health of women and men in the Whitehall II study

V. Cattell, R. Fuhrer, J. Head, S. Stansfeld (London, UK)

Based on a qualitative and epidemiological study of a sample of 75 British Civil Servants, this paper explores factors which contribute towards psychological distress and well being and focuses on some of the unresolved issues in the relationship between psychosocial factors and gender related mental ill health. The study addressed a number of questions: do work characteristics have different meanings for men and women? What is the relative importance of home and work stressors and supports? Women both give and receive more support than men; women have a larger number of close persons than men, yet women have higher rates of psychological distress than men. Do obligations play a role? Or the quality of support?

Adopting a holistic approach encompassing the contexts of home, neighbourhood and work we captured a wide range of stressors and resources, identified values and experiences which help shape their meaning, and explored pathways involved in the

stress process. We emphasize the key role played by social networks as mediators in the relationship between gender, stressors, resources and health and well being.

We suggest that differences in influences on men and women's well being need to be understood alongside differences in experiences, culture and access to resources afforded by additional aspects of social stratification. Nevertheless, a number of differences in the overall experience of women and men were evident. Integration into a supportive and well resourced neighbourhood has particular meaning for women's lives. The family is an important source of emotional and practical support for both men and women, but makes more demands on women to provide it. Although gendered variation in job content and design played a role, some differences in the contribution made by work characteristics to job satisfaction were also evident, while work as a source of identity could have different gender related meanings.

Preliminary analysis suggests that structural (including density and strength) and normative characteristics of individuals' social networks play a role in various processes under investigation.

P388

Socio-demographic and clinical characteristics of patients attended in the Pro-Women Project (Projeto Pró-Mulher- IPQ-HC-FMUSP)

J. Rennó, D. Guimarães (São Paulo, BR)

The Pro-Women Project was established in 1991 at the Institute of Psychiatry, Medical Faculty of the Clinical Hospital (Hospital das Clínicas) of the University of São Paulo with the aim of offering assistance, education and research in the area of psychic disturbance related to the Female Reproductive Cycle.

The objective of this poster is to present the clinical and socio-demographic data of the population attended. The data presented comes from a data-base belonging to the SPSS Base 7.5 system. Presented here is the frequency of the following variables: age, level of education obtained, reason for referral, diagnosis, most frequent psychic and somatic complaints, and progress in the treatment centre.

P389

Physical health of women with mental disorders under Medicaid managed care

A. Hegedus, K. Grazier (Ann Arbor, MI, USA)

Research objective

To evaluate the impact of managed care on the delivery of healthcare services for high-risk female Medicaid recipients. Of particular interest are those women with co-occurring behavioral (mental and substance abuse) and medical conditions.

Background

The University of Michigan, Washtenaw County, and the state of Michigan have entered into a unique partnership to provide managed healthcare to Medicaid recipients. Medicaid provides healthcare to individuals who would not otherwise receive such benefits. The project integrates substance abuse (SA), mental health (MH), and primary care (PC) services through the creation of a new managed care entity. This natural experiment provides a unique opportunity to understand how the organization and financing of services impact on the availability, quantity, and quality of services delivered to an often under-served population. The presentation will be comprised of: 1) an organizational analysis that will focus on the development and initiation of this unique partnership and an account of the changes in the delivery system; and 2) preliminary results of an empirical study of the effects of managed physical health, substance abuse, and mental health services on a sample of participants.

Research methods

A sample of adult, female Medicaid recipients with mental health disorders will be compared to similar women without such disorders. The analytic model examines the effect of managed care on the provision of services to women with co-occurring medical and behavioral health problems. Specifically, the model will include the utilization and patterns of physical health and behavioral health services, costs of these services as well as pharmacy use and costs.

Principal findings

Preliminary findings reveal an effect on access to and use of specialty mental health services for those exposed to the managed care plan. We discuss the role of managed care in improving access for vulnerable populations, integrating behavioral and physical healthcare, and report on the organizational challenges in reorganizing delivery services, sharing primary and specialty care information systems, and evaluating care.

P390

The impact of managed mental health care on women

K. L. Grazier (Ann Arbor, MI, USA)

Background

There has been a swift expansion of managed care into the provision and financing of behavioral health services through mental health “carve-outs.” The carve-out creates a separate administrative structure to manage mental health services and costs separately from other medical care. For women who require minimal services, the carve-out’s incentives and simplified administrative procedures may increase access and utilization. However, for those who require more extensive services, the carve-out may constrain service.

Objectives

The behavioral health carve-out is the prevalent arrangement in the U.S. to control the private and public provision of and payment for mental health services. Research presented here seeks to determine whether, given gender differences in social and psychological needs, this form of financing and delivery arrangement disproportionately impacts, and perhaps disadvantages, women with mental health needs.

Methods

Within a 6-year pre-post quasiexperimental design, we use a multinomial logistic regression to detect plan effects on high-intensity and low-intensity utilization. To capture changes in women’s usage rates, we also estimate a fixed-effects negative binomial regression model. Data were collected as part of a multiyear study of a major national employer, one of the first to implement a carve-out. Provider, claims, and personnel records for 45,000 employees and dependents contribute sociodemographic, health services, and diagnostic data for those continuously enrolled.

Findings

For both men and women, the carve-out slightly reduced overall mental health costs and utilization, while expanding entry-level access to routine services. However, the managed care arrangement significantly reduced access to higher intensity service use to a greater extent for women than for men. Women with mental health needs were twice as likely as men to have health services curtailed beyond the minimal level.

Conclusions

This financing and organizational form of behavioral managed care is a blunt instrument particularly for women, and poorly suited to the care of women experiencing severe and debilitating psychiatric disorders.

P391

Bright light treatment for women’s mental health: four case reports

G. Tavormina (Provaglio di Iseo, I)

Background

Bright light therapy is the recommended treatment for SAD; in addition, light therapy have new applications, as an antidepressant modality. We used bright light therapy also for: PAD, social phobia, depression in bipolar spectrum, besides bulimia; two of these patients were pregnant.

Materials and methods

Four women between 26 and 31 years old were included in this naturalistic study; 4 cases report about bright light treatment (evening light treatments), with the following 4 diagnosis (meeting the DSM-IV diagnostic criteria): PAD (during pregnancy), depression in bipolar mood disorders type II (during pregnancy), social phobia and bulimia crisis. The following rating scales were adopted in determining the effect of the light therapy: the “HAM-A” for PAD; the “Zung SDS” for depression in bipolar spectrum; the “LSPS” for social phobia; the “BS” for bulimia crisis.

The patient with PAD (pregnant at 2 month) already took drug therapy till to two months before pregnancy. She began the light therapy when her symptoms were started again during pregnancy.

The patient with depression in bipolar spectrum (pregnant at 2 month) was taking drug therapy, then stopped because of the positive pregnancy test: she had obtained a good mood balance only for few weeks and began the light therapy when was presenting a new initial start of her previous symptoms.

The patient with social phobia had reached good anxiety and social adaptation balance for three months, but she wanted to stop the drug therapy wishing a pregnancy. In spite of the effected period of maintenance therapy was insufficient to prevent some possible relapse of her previous symptoms.

The patient with bulimia crisis began the bright light treatment as add-on therapy to drug therapy because her binge symptom was not controlled.

Results

All the four patients obtained very good results: all the rating scales presented a final score clear-cut. Besides, any treatment-emergent adverse events were not reported during this study.

Conclusions

In these 4 case reports bright light therapy confirmed its wide action spectrum with several new applications and above all its tolerability and safety for all patients, but especially during pregnancy.

P392

Psychological distress in women caregiver related to policy health

I. Montero, I. Ruiz, E. Tarazona (Valencia, Granada, E)

Due to the sociodemographic changes, the aging of the population and the increase in health costs, the health systems are developing assistance formulas wich improve patient care and guarantee a better efficiency in the use of resources. The hospital-at-home scheme (HaH) reduces or avoids hospital admittance, meaning that the majority of care is provided by the family.

With the objective of describing the profiles and characteristics of the main caregivers of patients attended by HaH and evaluating the factors related to the burden that could be generated in caring for a relative in today’s society, this study examines the main caregivers (n = 268) of relatives in a HaH setting. Two transversal measurements were made, one when patients begins HaH regime and the second one month later.

Eighty two percent of caregivers (220) are middle aged women (average age fifty eight years old), married, daughters or daughters in law and/or spouses, with low level of education and who keep house. Fifty seven percent of the caregivers report being overburdened, and the degree of over-burdening is associated with the cognitive deterioration of patient (OR = 3.08 CI = 1.28–7.45), the psychiatric morbidity of the caregiver (OR = 3.25 CI = 1.56–6.78), the lack of social support (OR = 5.92 CI = 2.09–16–79), the need for help to care for the patient (OR = 4.34 CI = 1.73–10.89), and self satisfaction with her/his own preparation to care for the patient (OR = 7.13 CI = 1.91–26.61). The degree of dependence of the patient, after accounting for other confounding factors, is inversely associated with the overburden of the caregivers (OR = 3.08 CI = 1.28–7.45).

The role of the main caregiver is essential for the development and implementation of HaH. Women have assumed the role of caregivers inherent to the socialization process, but the role conflict and the changes in the social structure, in the family and the job market, show that this situation is undergoing a changing process. The current tendency being to care for the patients at home, the institutions must acknowledge the social role of the caregiver, which implies the allocation of economical and the development of social and health services.

P393

Women workers, mothers and other women, what is so specific about their mental health?

N. Glangeaud-Freudenthal (Villejuif, F)

Why a “First international” congress on women’s mental health, at the beginning of the 21st century? Can women’s mental health be identified as something specific, calling for distinctive study? Is it legitimate to study at least some aspects women’s mental health separately from men’s mental health?

Women and men, although “persons”, are different; this much is almost unanimously admitted today. In the session “Women’s mental health and socio-medical contexts: Is there something specific about it?” we will not be concerned with aspects related to the biological differences between sexes, which are studied in other sessions. Rather, we will present data drawn from epidemiological and qualitative research, illustrating the specificity (or not) of women’s mental health.

Are mental health issues related to the workplace different for men and women? From a review of literature MC Lennon is considering not only the results of comparison between men and women but also what social concepts are used to set up hypothesis and conclusions.

When similar professional situations are compared, is mental health different for men and women and are professional risk factors different? If yes what is the meaning of the difference? From the data of an important survey (White Hall II survey), R Fuhrer and her colleagues have compare mental health of men and women at workplace from a quantitative epidemiological study (about 10,000 questionnaires) and from a qualitative study (80 interviews).

Considering mental health from an etiological point of view, one notices that there are contexts in which women are specifically at risk as women. Of special importance are life events related to reproduction. In cases of multiple birth (natural or medically induced), M Garel has shown that women’s mental health can be especially at risk. This problem is naturally becoming more consequential as the incidence of multiple birth is increasing in countries with a high-level medicine.

In France, although law guarantees equality between genders, women are still victim of violence, which calls for urgent study. MJ Saurel-Cubizolles has participate in a national data collection in France, in year 2000.

P394

Developing a better system of care for mothers with mental illness

N. Dickinson, A. McNaughton, D. Schmalkache, A. Weller (Brisbane, AUS)

In recent years health literature has documented the value of formal networks promoting appropriate referral of patients and service collaboration. However despite the significant psychiatric morbidity for women, perinatal psychiatry has to date not promoted the implementation of such networks.

The Mater Mothers Hospital (MMH) is a tertiary obstetric facility in Brisbane’s inner south. As the major centre for obstetric medicine in the region, the MMH Consultation Liaison Psychiatry Service proposed that referral pathways for mothers with mental illness should be developed.

Method

A goal of establishing a comprehensive regional network of services providing support to mothers with mental disorders and mental health problems was set. Agencies identified for involvement included government and non-government services in the areas of mental health, community health, women’s health and drug and alcohol, as well as indigenous, ethnic and migrant services, young persons services and support groups.

Service providers were invited to attend a half day forum whose stated aims were to improve and formalise linkages, to smooth referral pathways for patients and to identify gaps in existing service delivery.

Results

Attendees from a range of services and professional backgrounds provided information about their programs, waiting lists, service costs, accessibility and eligibility criteria. It was noted that substantial gaps existed in service availability for mothers with mental illness particularly when clients presented with multiple comorbid issues.

A representative working group was established aiming to improve cooperation between agencies in Brisbane to maximise service options. Identified tasks include government lobbying, establishing a service database and promoting professional development activities.

Conclusions

The Motherhood and Mental Health Forum and the resultant working group is an innovative response to the problem of providing services to mothers with mental illness. It has the potential to improve service outcomes, reduce service duplication and facilitate inter-service referral for women with perinatal disorders.

P395

Policy issues on women’s mental health

G. C. Valadares Miranda (Minas Gerais, BR)

Women are changing all over the world, including Brazil. Radical feminism branch would say that nominating a woman to highest court function, electing other as biggest Brazilian metropolis major, do not have importance as women continue to be discriminated and artificially maintained in second level by society. Fortunately, data showed that women improved their role at home, school, work, politics. In some fields women got advantage over men. The women income almost doubled between 1993–1999 improving 43% compared to men’s 19%. Women are majority of electors and during last major’s election were candidates in 7 capitals and won 6 increasing number of women majors 85% in the last decade. Women got jobs more than men 1.5% × 0.6%. In 1995 women were responsible for 23% and last

year for 26% of families. The women literacy improved since 1994 when 35% were high school graduated against 43% now. Women are 97% of social workers, nurses and nutritionists 91%, psychologists 89%, teachers 77%, lawyers 59% and medical doctors 54%. They are equal to men as justice servers, biology technicians, dentists, university teachers, architects, artists, journalists and are minority as engineers, agronomists, chemistries, masons, airplanes pilots, mechanics. The women participation in politics improves not only a group but also the society. These impacts on women's role as mother, house queen demand investigations, but from here, Brazilian women are worried on studying, compromise with their careers, empowering themselves, their work capacity and flexibility.

Our women's mental health problems: care resources are concentrated in big cities and insufficiently expertise. Improvement of interest of gynaecologists and psychiatrists demands interdisciplinary organization to gather results of social impact. Violence data including prejudice, social exclusion, crimes; sexual and family points reflecting feelings of being a second class citizenship; adolescence pregnancy, women health professionals work problems; prevalence of drug abuse, eating disorders, depression and anxiety, HIV infection, pre-menstrual dysphoric disorder and its treatment need concern.

Based on regional data, proposal of educational itinerant program and resource web was accorded during the last Brazilian Psychiatry Congress in Rio de Janeiro when Brazilian Section of Women's Mental Health was formally founded linked to Consultation Department.

P396

The road to Miltown: the gendered psychodynamics of psychopharmacology, 1954–1960

J. M. Metzl (Ann Arbor, MI, USA)

This paper examines the politics of Miltown, America's first psychotropic wonder drug. In the early 1950's, psychoanalysis enjoyed a near hegemony in the diagnosis and treatment of mental illness. Miltown was positioned on the outside of the power structure in American Psychiatry. As a result, Miltown was brought to the market in 1955 against the widespread resistance of the psychiatric community. However, after a brief period of public skepticism, the once-alternative treatment moved quickly into the mainstream. Miltown spurred a national frenzy of consumption. Patients flooded doctors' offices demanding the drug. By the end of 1956, one in twenty Americans was taking Miltown, Equanil, or a related compound in a given month.

Why did an unknown compound stimulate such mass appeal? Many psychiatric journals of the late 1950s and early 1960s, and indeed many contemporary histories of psychiatry, argue that Miltown symbolized psychiatry's first step toward becoming an objectifiable science. Specifically, Miltown was argued to herald the replacement of an outdated psychoanalytic paradigm, with a paradigm that saw beneath gender differences, to the level of the chemical imbalance.

Scientific sources, however, do not adequately explain the less-revolutionary aspects of the story: the ways a wonder drug became a wonder drug to women. Between 1955 and 1960, as high as 75 per cent of prescriptions were written to, and filled by, white, middle class women. My argument in this paper will explain this inequity through an analysis of popular magazine articles (Time, Newsweek, Cosmopolitan). These sources demonstrate the ways Miltown -and a seemingly gender-blind science- became discursively gendered as well. Here, Miltown is presented as more than just a treatment for an individual anxiety. Miltown is also quietly posited as the treatment for the anxiety of a culture facing a fundamental change in gender roles. The articles I examine hint at

the ways women had begun to voice unrest with the social pressures urging a return to the home, and the mystique of a new femininity. I thus argue that Miltown not only portended the revolution in psychiatry, it also portended the revolution of the women's movement.

P397

Gender bias in social psychiatry

H. Reinerth (Hannover, D)

Mental health care in Germany has been changed profoundly since 1975, when an expert committee set up by the West German parliament proposed reforms to improve in-patient, out-patient and non-hospital care. To meet the needs of former long-term patients to be discharged from state mental hospitals, additional so-called social-psychiatric services came into being as well as sheltered homes or apartments. The impact of these developments on mental health and life quality has been researched in numerous studies. But neither social-psychiatric policies nor policy evaluations did take care for gender specificity, therefore sex as a socially important variable in deinstitutionalization has been generally ignored. A close analysis of former and recent studies reveals several types of gender bias according to Margrit Eichlers description of sexist problems in research and policies. Since no evidence about difference between the sexes or lack thereof is worked out, there is a great risk of erroneous conclusions. Especially programs of community-based care established to meet the social needs of chronically mentally ill require evaluation research without gender bias, otherwise there might not be but questionable results.

Psychotherapeutic treatment programmes

P398

In-patient mother-child treatment in a psychiatric hospital

O. Schmidt (Cologne, D)

Since 1983 we are treating mothers with postpartal psychiatric disorders together with their children in our hospital – until today more than 70 mothers. The treatment takes place in a psychiatric ward together with patients with different diagnoses. We are working with a psychodynamic and group-oriented setting. Via family-therapy we try to involve partners and other relatives in our therapeutic concept. In the beginning the aim of the treatment is the support of the mother in the child-care, the coping with the new roles as mother, father or parents, and later to establish a supporting network at home. Our experience shows that both partners benefit of the treatment concerning attachment, social capacities and coping with the psychiatric disturbances. This had been proved in a catamnestic evaluation.

P399

The first year of experience with an integrative therapeutic concept of the Mother-Baby-Unit at the Westphalian Center for Psychiatry, Psychotherapy and Psychosomatic Illness Dortmund (WCPPP Dortmund), Department of General Psychiatry III (GP III)

L. Turmes (Dortmund, D)

Mother-Baby-Units are world-wide an established part of psychiatric institutions; only Germany's record with regard to the treatment (together with their babies) of mothers suffering from postpartum mental illnesses is at third-world level. This is due to the incurred and particularly high staff costs, involving an increase of one and a half to two times the standard daily cost of care.

Although data in literature are poor concerning the cost-benefit-effectiveness of treating both, mother and baby together, we point out the following 3 hypotheses with regard to medical-psychiatric indications and cost-benefit-effectiveness:

1. A postpartum mentally ill woman admitted with her baby needs to be treated for a shorter time than if she were admitted without her child. A significant number of those admitted alone break off their therapy, or suffer a relapse and are consequently re-admitted as in-patients. This means that the total cost of treatment is lower if the mother is admitted together with her child than if she is admitted alone.
2. Treatment without separation protects the mother-child relationship: mentally ill mothers who are treated in a MBU are able to look after their children competently after the conclusion of the therapy, as opposed to those who are admitted without their child.
3. Treatment in a MBU reduces the likelihood of the infant developing a mental illness at a later stage in life.

Until Nov.00 18 in-patients and 18 babies were treated. Duration of admission was (mean) 32.69 days; this is significantly shorter as described in literature; one mother and baby are in day-care treatment. Overall 39 mothers suffering from postpartum mental illnesses contacted the out-patient department. Of these 14 are in continuous individual psychiatric-psychotherapeutic therapy; 9 in continuous in-depth group therapy and 8 in relationship-oriented mother-baby physical therapy. Until now there was no therapy-break off; a full evaluation including CGI, GAF, IIP and SCL-90-R was carried out.

Our integrative therapeutic concept allowing the increase of cost-benefit-effectiveness and medical-psychiatric indications is based on favouring out-patient over in patient treatment, establishing in that way a chain of treatment alternatives and sharing a common goal: the re-integration of mother and baby into their usual familial surroundings as soon as possible.

P400

Preventive postnatal depression intervention process evaluation: a quantitative and qualitative assessment of adherence by "Preparing for Parenthood" facilitators

S. L. Wheatley, T. S. Brugha, D. A. Shapiro (Leicester, Leeds, UK)

Objectives

Intervention studies designed to prevent postnatal depression have failed to improve long-term outcome. Analyses carried out following one such randomised controlled trial (RCT) of "Preparing for Parenthood" (PFP) 1 systematically investigated the process monitoring employed in the manualised antenatal psychosocial intervention, an area recognised as important to the implementation of interventions 2. Three factors were explored: (i) the adherence of the facilitators to the intervention manual itself; (ii) the predictiveness of significant risk factor reduction upon increased participant perceived adherence of the facilitators to the manual; and (iii) the validity and reliability of the two methods of process monitoring employed.

Methods

The primary method used to monitor adherence to the manual by the facilitators during all nine intervention courses was quantitative (process forms). One course was also analysed using qualitative methods to observe the actual adherence of the facilitators to the manual via audio-visual recordings.

Results

(i) The facilitators of both the eight courses of the RCT and the additional course did not adhere to the manual consistently. (ii) There was no relationship between the perceived adherence of the

facilitators to the intervention and the impact the intervention had upon the targeted risk factors. (iii) Finally, the direct method of monitoring showed greater levels of adherence of the facilitators to the manual when contrasted with the indirect method of completing process forms.

Discussion

Direct process monitoring methods should be employed within manualised interventions where possible for greater reliability and validity to be assured. The possibility that risk factor reduction may influence perceived adherence (and vice versa) is discussed in relation to other exploratory variables such as participant perceived impact.

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P401

Detection and utilization of treatment in mothers with postnatal depression

C. L. v. Ballestrem, M. Strauß, S. Häfner, H. Kächele (Stuttgart, D)

Depressions often occur during the first months after delivery. They can cause these mothers many problems. Little is known, how many of the depressive mothers need treatment and what kind of care they accept. In the Stuttgart Postnatal Depression Screening Project from August 1998 until February 2000, German speaking mothers in the area of Stuttgart (560.000 inhabitants) were screened consecutively. Investigations were performed in cooperation with a department of obstetrics and community midwives.

At the beginning all women were investigated for obstetric and social parameters. The first screening on postnatal depressive symptoms was performed 2 months after delivery with the Edinburgh Postnatal Depression Scale (EPDS). Mothers with high scores were reexamined 3–4 weeks later. Women, who had high scores again were examined with the Beck Depression Inventory (BDI) and the Hamilton Depression Scale (HAMD). Outpatient or inpatient psychotherapy was offered to mothers with postnatal depressive symptoms longer than 3 weeks.

1102 mothers were asked to participate in the study. 772 of them decided to participate (70%). Comparison of obstetric parameters shows, that this group of mothers is representative. 17% (N = 132) of these mothers showed depressive symptoms 6–8 weeks after delivery. 4% (N = 28) had depressive symptoms longer than 3 weeks. Treatment was offered to those mothers. 5 of the 28 (18%) mothers with postnatal depression got adequate treatment. The rest of 23 mothers refused to have any form of treatment.

According to our investigations 4% of delivering mothers suffer from postnatal depressions that should be treated. In Stuttgart there are around 8,000 deliveries a year. That means that about 320 mothers a year should get treatment for postnatal depression. Only few of these mothers accept offers of treatment. Most of them have factual or practical reasons for refusal of therapy. The follow-up of those mothers, who show depressive symptoms only in first screening, is not clear so far. A detailed follow-up of those mothers is planned to answer this question.

P402**Can additional support from the voluntary sector make any difference to women with postnatal depression?**

B. Alder, J. Truman (Edinburgh, Dundee, UK)

Objective

To investigate the effectiveness of therapy offered by the voluntary sector for women with postnatal depression.

Method

A prospective follow up study over 6 months of 27 women with postnatal depression (EPDS score above 14) who received individual or group therapy in addition to routine care in the Church of Scotland Board of Social Responsibility Postnatal Depression Project. Five therapists/counsellors gave up to 12 sessions of one hour (or once a month for groups) of therapy based on gestalt, person centred and psychodynamic principles. The interventions were individually tailored but all were based on a holistic approach, which enabled the clients to look at the physical, mental, emotional and spiritual aspects of their lives.

Women were interviewed by an independent researcher, blind to their therapeutic group, in their own homes at baseline and 3 and 6 months after therapy. They were assessed on the following scales: Edinburgh Post Natal Depression Scale (EPDS), the Golombok Rust Inventory of Marital Satisfaction, Parenting Stress Scale Short form and the Maternal Self Efficacy Scale.

Results

At 6 months, 16 out of 27 (60%) of those in therapy had recovered (falling below the EPDS threshold of 14) compared with an expected 9 (33%), ($p = 0.002$). The median depression (EPDS) score before therapy was 19 and this fell to 13 at 3 months and 9 at 6 months.

From baseline to 6 months after therapy, the median scores on the Maternal self efficacy scale increased, and the Parenting scale decreased significantly. The median Marital satisfaction score showed no change.

Conclusion

The results showed that using independent standardised assessments, there was significant improvement in depression over time. Sixty percent recovered (scores below 14 in the EPDS), compared with an expected spontaneous rate of thirty three percent. There was also significant improvement in parenting stress and maternal self efficacy. There was no change in marital satisfaction. Support from the voluntary sector can make a significant contribution to the health of women reporting postnatal depression.

The study was funded by the Family Research Trust.

P403**Low rates of treatment for depression in pregnant women identified in obstetrics clinics in the US**

H. Flynn, S. Marcus (Ann Arbor, MI, USA)

Depression is very common among women of childbearing age and is associated with formidable disability. Despite evidence for the efficacy of treatments for depression, many cases remain undetected and under-treated. Inadequate treatment for depression during pregnancy can be particularly problematic due to its association with a number of health risks such as prematurity, low birth weight infants, pre-eclampsia and eclampsia. The present study examined rates of current treatment in pregnant woman who are at risk for depression based on screening in obstetrics clinics in the United States (State of Michigan).

Method

2,600 pregnant women completed screening measures while waiting for their prenatal care visit. The screening survey included measures of depression risk, past history of depression, current

treatments for depression, recent medication use, and measures of alcohol and tobacco use. Women at risk for depression are being interviewed and followed during pregnancy and postpartum to determine clinical outcomes of both the mother and infants.

Results

Overall, only 11% to 25% of pregnant women who are at-risk for depression (depending on definition of risk), reported receiving any current treatment for depression. Of women with Major Depressive Disorder, only 20% reported currently receiving treatment. Women who discontinued anti-depressant medication were significantly more likely to have elevated depressive symptomatology than those who remained on their medication and were more likely to rate their overall health as poor.

Conclusions

Clearly, a substantial number of pregnant women seen in obstetrics clinics who are depressed or at risk for depression are not receiving adequate intervention. This study has demonstrated that screening for depression in obstetrics clinics is feasible. Women with depression identified with this method may then be referred for appropriate treatment. This strategy is likely to lead to improvement of symptoms and prevention of health complications, negative birth outcomes and overall disability associated with depression.

P404**Stepped care and the management of postnatal depression**

M. E. Stein, J. A. Menendez, A. Petridis (Campbelltown, AUS)

The current research outlines an innovative stepped care program for the treatment of postnatal depression (PND). It consists of two stages of service delivery: an eight-week group program, and intensive case management and psychiatric contact.

The effectiveness of the first stage was evaluated using various assessment measures that were administered to all women at the commencement and end of the 8-week group treatment program, as well as at 6-month follow-up period. They included: the Edinburgh Postnatal Depression Scale (EPDS), the Stanley Coopersmith Self Esteem Inventory (CSEI), the Depression, Anxiety and Stress Scale (DASS), the World Health Organisation Quality of Life Scale (WHOQOL-BREF), the Dyadic Adjustment Scale (DAS), and the Client Satisfaction Questionnaire (CSQ-8). At the conclusion of the program, a significant improvement in depression was detected on the EPDS ($p < .001$). Similar improvements were also found on all 3 dimensions of the DASS ($p < .001$), the CSEI ($p < .001$) and the WHOQOL-BREF ($p < .005$). A trend towards improved marital relations was evidenced but this did not reach statistical significance. Results from the CSQ-8 indicated that the women were satisfied with the services they received. At the 6-month follow-up period improvements were either maintained or further improved on all measures, with scores on the EPDS, DASS & CSEI statistically significant ($p < .05$).

From these results, we can see that significant changes over time have occurred in the women attending the group treatment program for PND. They demonstrate a decrease in negative symptoms of depression, anxiety, and stress; as well as showing an increase in positive indicators of self-esteem, quality of life and marital relations. Data collected after a six-month follow-up period appear to indicate that the effects of group treatment are maintained and in most cases continue to improve. All of the current statistical evidence has been supported and enhanced by positive feedback from the women as to the benefits they received from the program. Further research aims to focus on the relative contributions of case management and medication to improvements in PND.

P405**The mother-and-baby unit of the department of psychiatry, University of Erlangen/Germany, 1997–2000**

J. E. Walloch, B. Khalife, M. Lanczik (Erlangen, D)

Abstract

In Germany surveys of mother-and-baby psychiatric care are still rare. An overview about historical development, actual dissemination and purpose of psychiatric mother-and-baby units will be given. Experience with the mother-and-baby unit, set up in 1997 at the Psychiatric Department of Erlangen University will be described, the therapeutic concept will be shown. From Mai 1997 until October 2000 32 patients have been admitted to the mother-and-baby unit.

Data of 30 patients are available. 26 cases suffered from a postpartum depression. In one case we found a borderline personality disorder, another suffered from schizophrenia. In nine cases we diagnosed a postpartum depression on another psychiatric disorder, such as personality disorder or dysthymia. Twice we were confronted with a depressive episode following a previous postpartum psychosis. Average age was 30.2 (24–36) years. The mean duration of hospitalisation ranged from 0.5 to 28 weeks (average duration 9,6 weeks). Further aspects concerning maternal diagnoses and anamnestic and therapeutic details will be illustrated and evaluated statistically.

P406**The course of delivery and nursing following an intervention program to promote prenatal mother-child-relationships**

S. Ditz, A. Hauer, M. Mikes, C. Schultze, M. Neises (Mannheim, Hannover, D)

Objectives

Pre- and perinatal phases have received increased attention with regard to individual development since the 1980's. Empirical observation has shown that prenatal communications exists bivalently between mother and fetus. The objective of our investigations was to determine to what extent well-defined verbal and non-verbal communication with the unborn can influence the course of delivery and subsequent nursing.

Methodology

Two groups of primiparas (n = 30) were compared in a prospective randomised study. The intervention group received acoustical tactile stimuli and relaxation exercises aimed at promoting the mother-child-relationships. The control group did not participate in a similar program. The first evaluation took place in the 20th pregnancy week. In addition to assessing the bio-social case history, contributing factors, such as fear at childbirth, self-competence expectation, and attitude toward bonding were evaluated with the aid of questionnaires. Further investigation followed in the 23rd pregnancy week as well as in the puerperium and in the 9th month after childbirth.

Results

The results clearly demonstrate the benefits of the intervention program, viz markedly reduced fear of delivery ($p < 0.036$), favourable effect on the duration of labor, essential pain-relief with a subsequent decrease in injuries and complications during the delivery as well as a beneficial influence on nursing. The neuromotor development of the infants has yet to be assessed.

Conclusions

Promoting a purposeful and positive mother-child relationship during pregnancy carries with two significant aspects, viz, a favourable influence on the course of the delivery and nursing, as well as beneficial effect on the actual subjective experience of childbirth.

P407**Family therapy treatment of women with personality disorder on a mother-child ward**

M. Nickel, K. Schirmacher, W. Rother (Simbach am Inn, D)

The aim of the study is to show the effect of a stationary family therapeutic treatment on borderline-patients on a mother-child ward.

The study carried out in 1999 focused on the psychosomatic symptoms as observed at patients exhibiting a personality disorder. We reported how these symptoms are perceived and changed by the treatment one year later. In order to decide on these questions we have investigated a group of probands comprising patients with a diagnosed borderline disturbance who have been discharged from the Inntalklinik at Simbach am Inn and two reference groups (n = 149). After treatment we found a reduction of physical and mental symptoms up to 60%, and the amount of patients taking medicine like psycho chemicals and painkillers decreased from 53% to 22%.

In the present study 38 mothers of the 149 probands were investigated further.

12 mothers with diagnosed borderline disturbance who were unfit for work up to 6 months were compared with 26 mothers with diagnosed borderline disturbance who were unfit for work for more than 6 months.

The comparison of the two groups of women showed that there are different significant items e.g. physical or emotional abuse in childhood, feelings of self-insufficiency and vague anxiety.

The group with longer time of invalidity had more often symptoms of vague anxiety ($p < 0.01$), feelings of self-insufficiency ($p < 0.01$), and were more often abused in childhood ($p < 0.01$) in comparison to the group of women with a shorter time of invalidity.

As shown in former studies the effect of a stationary therapeutic treatment is seen in statistical relevant reductions in times of invalidity, intake of psycho-chemicals and reductions of psychosomatic symptoms.

Stationary psychotherapy happens in a multipersonal field of relations, i.e. different ways of interaction between various professional groups and patients.

The treatment of patients with diagnosed personality disorders and their children demands a high level of activity from the therapeutically team and forces to concentrate on a plan of therapy, to reach within a very limited time an aimed and sufficient success of treatment. That way treatment becomes multimethodal and at the same time moredimensional. A high grade of flexibility of offers and behaviour is needed to get and stay in contact with every level of the contemporary experience and behaviour of the patients.

The very special psychodynamic of a mother-child ward demands reflection.

P408**A clinical study about the efficacy of a cognitive-behavioural group therapy program for patients with Multiple sclerosis**

N. Tesar, U. Baumhackl, V. Guenther (St. Pölten, Innsbruck, AT)

Several studies show that patients with Multiple sclerosis (MS) have problems coping with stress and accepting their disease. On the other hand there rarely exist psychotherapeutical treatments for these persons. The number of studies concerning the body image is also limited. The aim of this empirical survey was to develop a group therapy program to improve the clients' coping styles as well as to check the efficacy of such a treatment. Issues addressed within the program are among others: to learn strategies for better coping with stressful situations, relaxation training and

exercises to improve the body image. The experimental group consisting of 14 female patients who participated in a seven weeks program was compared to a control group consisting of 15 female patients who only got a standard medical treatment. The results point out, that a group program is very effective in helping patients with MS to cope with depression, anxiety and stress as well as body perception. The follow-up survey showed that psychological treatment had sustainable positive effects. During this symposium the different steps of the program together with the results of the study will be presented.

P409

Artistic therapies in psychosomatic medicine and women's health care

P. Petersen (Hannover, D)

Overview concerning the meaning and innovation of modern artistic therapies, i.e. mainly music, painting / sculpturing and moving. During the last eighty years a large variation of artistic therapies have developed in prevention, curative and rehabilitative medicine. I want to give a critical view on these variations – but yet I want to show the enormous chance and also the challenge for modern health practice and medicine theory: artistic therapies are a silent revolution of medical thinking. Concerning this revolution I will give some examples. For instance accompanying of dying patients, artistic therapies as supportive therapy, patients with impending prenatal birth, accompanying patients who have cancer.

P410

Psychotherapy training in Bulgaria: how do women participate in it?

S. Nikolkova, D. Jekova (Sofia, BG)

The paper is based on the 8 years experience of both authors as leaders of psychodrama training groups. There is evidence of extreme prevalence of women in them (81%). In the same time in the Bulgarian Association of Psychotherapy there is only slight numeral predominance of women, and its presidency has almost always been assured by men. Authors investigate personality factors behind this disproportion and discuss the trainees results on personality questionnaires (Guissen-test). Data from admission interviews and group process in female vs. mixed groups are also analyzed. In the paper specific Bulgarian cultural issues, related to this theme, are discussed.

P411

Mentally ill parents: issues for the health professional

A. Buist, B. Barnett (West Heidelberg, Sydney, AUS)

Of the ten leading causes of disability in the world, five are psychiatric illnesses (1. Depression, 4. Alcohol use, 6. Bipolar disorder, 9. Schizophrenia, 10. Obsessive Compulsive Disorder); most of these illnesses have significant long term effects on sufferers during their young adult lives. In addition, women with personality disorders, often present to psychiatrists with major life issues. Of those with these serious mental disorders, between 30% and 60% have dependent children. Studies have shown potential significant effects of these illnesses – particularly the severity and chronicity of the illness rather than the diagnosis -on the ability to be a competent parent, and the long term emotional and cognitive development of children. In addition, families reported to authorities for child abuse, have higher rates of mental illness and a family history of abuse, as well as other adversities such as poverty.

This workshop will look at

1. What do children need from their parents?
2. What is 'good enough' parenting?
3. Who does the parenting work?
4. What sort of partner does a mentally ill or disturbed person choose?
5. What if both parents are sick?
6. What is the illness, what are the risks?
7. What should health professionals look for?
8. How to intervene – what works?

Pregnancy, abortion and reproductive technology

P412

Sleep quality in the postpartum period

J. Ø. Berle, F. Holsten, T. F. Aarre, A. Mykletun (Bergen, Nordfjordeid, N)

Objectives

It is a common belief that women generally have a poor quality of sleep in the postpartum period. The aim of this study was to describe the quality of sleep in women in the postpartum period, both in depressed and in non-depressed women. Disturbances in sleep is known to be a common symptom in depressive illness.

Methods

Women (n = 411) attending their scheduled postnatal visit at 6–12 weeks postpartum filled in a Norwegian version of the 10-item self rating instrument Edinburgh Postnatal Depression Scale (EPDS). Women with high scores on the EPDS and a random sample of controls were administered a diagnostic interview, Mini International Neuropsychiatric Interview (MINI) and the Montgomery Aasberg Depression Rating Scale (MADRS) and were diagnosed by psychiatrist according to DSM-IV criteria for major and minor depressive disorder. In total, 100 women were interviewed, all interviews videotaped to establish interrater reliability between three psychiatrists. The women were then asked to fill in a one week sleep diary.

Results

72 women completed the sleep diary. 17 of these met the DSM-IV criteria for major depressive disorder and 8 met the DSM-IV research criteria for minor depressive disorder. Satisfying interrater reliability between three raters were measured. The women in the non-depressed group reported their sleep to be of normal quality. Significant lower total sleep time (TST) was seen in women having a major or minor depressive illness. Sleep efficiency (ratio between TST and time in bed) was also significantly lower in the depressed group.

Conclusion

Healthy women report a normal quality of sleep in the postpartum period. Women having a major or minor depression in the postpartum period, have a significantly disturbed sleeping pattern compared with non-depressed women. In women reporting marked sleep disturbances in the postpartum period, screening for depression would be advisable.

P413

Parental psychological reactions after childbirth – a population-based study

H. Skari, M. Skreden, U. F. Malt, M. Dalholt, A. Bjornstad Ostensen, T. Egeland, R. Emblem (Oslo, Arendal, N)

Objective

To assess parental psychological response following birth of a healthy baby and to explore predictors of parental psychological distress.

Methods

A prospective, population-based cohort study was conducted at a Norwegian district general hospital. One-hundred and twenty-seven mothers and 122 fathers were included during a two-month period in 1998. The assessments, which were performed 0–4 days after birth, at 6 weeks and at 6 months, included General Health Questionnaire-28 (GHQ-28), State Anxiety Inventory and Impact of Event Scale. The response rates were 97%, 85%, and 71%, respectively. The main outcome measures were symptoms of intrusion, avoidance, arousal and general distress including depression, anxiety, social dysfunction and somatization. The statistical analyses included multiple linear regression analysis.

Results

Thirty-four percent of mothers and 12% of fathers ($p < 0.001$) reported significant distress on GHQ-28 during the first days after birth. Ten percent of mothers compared to 2% of fathers ($p < 0.001$) acutely reported high level of intrusive symptoms. Being single parent, multiparity and a previous traumatic birth predicted acute distress. After six weeks and six months, the level of distress including symptoms of depression fell to levels found in the general population.

Conclusions

Despite an increased level of acute distress after the birth of a healthy child, particularly in mothers, birth does not seem to trigger long-term distress in most parents. However, single mothers, multipara and those who have experienced previous traumatic births should be offered additional emotional and social support.

P414

Birth experience and memory: a neglected phenomenon

W. Stadlmayr, H. Schneider, J. Bitzer (Bern, Basel, CH)

Backgrounds and objectives

Remembering a woman's own birth experience is an often anecdotally reported, but rarely systematically investigated phenomenon; moreover research in this field is mostly restricted to the experience of pain and its remembrance. Birth as a multidimensional experience so far has been investigated in qualitative studies with small samples only. The authors intended to design a study in which a large sample should be investigated systematically (including quantitative measurements) taking birth experience into account as multidimensional.

Materials and methods

251 pts were investigated at two time points using SIL-ger (Stadlmayr et al., in press) comprising 20 Items: the first time point was 2–4 days after birth and the second 12 to 18 months later. Similarities or differences between the two time points are analysed statistically using parametric and non-parametric correlation tests (Pearson and Spearman).

Results and conclusions

First results show that birth experience is a fairly stable experience in a woman's life. Therefore we conclude that

- 1) Birth experience should be taken into account while obstetric support including potentially traumatic procedures is administered;
- 2) There is no evidence that stressful or even traumatic birth experience will be changed over time by itself or by so-called "self-healing" processes: thus early preventive work should be offered routinely after birth.

P415

Women's mental health following a multiple birth

M. Garel (Villejuif, F)

In most developed countries the incidence of multiple birth is increasing dramatically as a consequence of infertility treatments. Many studies have emphasised the considerable medical, social and financial consequences of multiple births. Knowledge about the psychological consequences for the mothers of multiple children is limited. In one study, mothers of twins were 3 times more likely, than mothers of singletons, to experience depression 5 years after delivery. Other studies mentioned that the risk of child abuse and neglect was increased in twins. In a follow-up study of 11 families with triplets, we found that from birth to 4 years a majority of mothers had experienced considerable fatigue and stress. They also reported symptoms such as anxiety, irritability and asthenia. At 4 years 4/11 mothers of triplets had a high score of depression and used psychotropic medication. Considering these data and the increasing incidence of multiple births it seems relevant to include the topic in a congress on women's mental health.

P416

Profile of mood states and parental attitudes in motherhood: comparison between women with planned and unplanned pregnancies

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Despite the different contraceptive options available, most pregnancies are unplanned. On the basis of this evidence previous studies have demonstrated that unplanned pregnancies are at higher risk regarding inadequate prenatal care, perinatal morbidity, and significant postnatal problems. Little is known about maternal emotional suffering and the mother's educational style in the early years after delivery. The purpose of the current longitudinal study was therefore to assess the influence of planned and unplanned pregnancy on women's psychological well-being and on the maternal educational role. A random sample of primipara women attending prenatal classes at our Institute were recruited in the last trimester of pregnancy to participate in a prospective study on the psychological aspects of motherhood. Criteria for inclusion in the research included normal pregnancy, uncomplicated vaginal delivery and healthy baby. A total of 119 volunteers, ranging in age from 21 to 41 years, (88 planned and 31 unplanned pregnancies) completed two different self-administered psychometric questionnaires: the Profile of Mood States POMS in the 9th month of pregnancy, 1,6,12 months after delivery, and the Parental Attitude Research Instrument PARI 2 years after the birth. The POMS evaluates mood disturbance and the PARI assesses the mother's opinion about raising children and the couple's life problems. Results indicate that women with unplanned pregnancies have a significantly more disturbed mood from pregnancy to 1 year after the birth, showing in particular, greater suffering 6 months after delivery. There is no statistical difference in parental attitude scores at 2 years. These findings suggest that women with unplanned pregnancy may be at risk from a psychological perspective during pregnancy and in the first months after childbirth. Finally, it seems important to underline that these mothers are in greater emotional difficulty in the weaning period which generally begins when the baby is about 6 months old.

P417**Women profile in assisted reproduction treatment in Brazilian university service**

G. Valadares Miranda (Minas Gerais, BR)

Women lead with to ambivalence between professions and maternity, low self esteem versus harmony to coordinate activities during reproductive years. Procrastinating maternity and sexual transmitted diseases may explain the increasing number of infertile couples seeking for treatment (10–15% of total population). The infertile couple shares pressure towards parenthood but women frequently feel guilty, responsible and are the one who ask for invasive exams, treatments and hormones (1). Patients without previous psychopathological traits personality, anxiety or depression evaluation are at risk of developing disorders as adjustment, dystimia, conversive, somatophorm; anxiety and depressive syndromes worsened by treatment.

This study evaluated the incidence of social maladaptive problems, anxiety and depression symptoms in the population who demand treatment for infertility with assisted reproductive techniques as In Vitro Fertilization and Gamete Intracitoplasmatic Injection. Treatment is free of payment.

We evaluated 280 people, 66.7% women using a standard interview; Montgomery and Asberg Depression Scale (MADRS), Hamilton Anxiety Scale (HAMA), The Social Adaptation Scale (SAS) and the Mini-Mental.

Results

82.7% of women work out of their house and feel adapted to this situation; women have worse maladaptive answers to the item leisure in 37.5%, more complaints on marital and family relationship. They suffer more with children contacts. Only 5.3% of this population complaint about insufficient money to live. 25% have moderate to severe depression symptoms in the MADRS and 20% have severe score in the HAMA scale.

This population will be accompanied till the end of infertile treatment to evaluate the impact of reproductive techniques on mental health compared to control group.

P418**Toward an integrated understanding of the psychological adaptation to infertility – a 10 year review of the literature**

M. J. Hanigan, J. H. Cyr, K. A. Bickerstaff (Omaha, USA)

Background

Assisted Reproductive Technology (ART) has become a growing and successful subspecialty of Obstetrics, Urology, and Reproductive Endocrinology over the past 20 years, with new programs developing at a constant rate. However, as the highly technical science advanced, issues regarding the emotional and psychiatric considerations have emerged and are being newly explored.

Objective

To review the scientific literature addressing psychological and psychiatric manifestations in women with infertility and/or undergoing ART.

Method

A ten-year English literature review utilizing a Medline computer search with key words infertility, in-vitro fertilization, depression, anxiety, antidepressant and anxiolytic was conducted. References of selected articles were hand-searched for additional citations.

Results

The review yielded 75 pertinent citations. Most addressed women's pre-morbid psychological functioning and/or associated psychiatric adjustment to infertility and ART. Recent descriptive studies have identified common diagnostic symptoms of depression and anxiety associated with infertility and failure of ART.

Only a handful of reports compared treatment strategies to abate or ameliorate such manifested symptoms and most of them were non-pharmacologic approaches. Only one report described the use of a psychotrope as an adjunctive treatment to ART. Two reported development of assessment tools measuring psychological adjustment to infertility.

Conclusions

Conflicting information has been published regarding the impact of stress, anxiety, and depression on both infertility and its medical treatment. New and replicated studies are needed to understand fully these complicated relationships and to determine how adjustment/coping varies with factors of age, etiology of infertility or treatment history. A wide myriad of psychotherapy treatment approaches exist, but there is a paucity of controlled studies comparing these to the use of safe and efficacious drug therapies, especially for women identified as the most severely psychologically distressed. Integrating relevant information would help formulate practice guidelines in caring for women and their partners with infertility and undergoing ART.

P419**Psychological factor during sterility treatment**

V. V. Vasiljeva, V. I. Orlov, K. U. Sagamonova (Rostov-on-Don, RUS)

Numerous investigations have shown the essential influence of psychological factor on reproductive women functions. We studied the influence of emotional status in 72 women in the sterility treatment with the help of Auxiliary Reproductive Technologies (ART). We analysed the psychological status of women and concluded that 82% of them were experienced stress and depression. Besides they had agitation, anxiety-proneness, scepticism, irritability, intolerance of ambiguity, frustration, most of them were vulnerable personalities.

All women underwent ART medical care, but 35 of them received psychological therapy. The following methods were used: cognitive restructuring, client-centered therapy and gestalt therapy. During ART medical care, 35% of women who received psychological therapy and 15% of the women who did not, had viable pregnancies.

Thus, we may conclude that the following investigations may specify the degree of influence over reproductive women's health and work out the psychological programs of support and accompaniment of women during sterility treatment.

P420**Psychological profile of women in an in-vitro fertilisation programme in Bahrain**

C. A. Kamel, N. E. Riskalla (Manama, BRN)

Objective

The aim of this study was to investigate the psychological profile of Bahraini Women undergoing Invitro Fertilization at the Bahrain Defense Force Hospital between August 1999 and January 2000.

Methodology

Seventy (70) female patients attending the Infertility Center at the Bahrain Defence Force Hospital were interviewed via semi-structured questionnaires in Arabic language including: thirty (30) infertile patients on the waiting list to conduct an In-Vitro Fertilization treatment (I.V.F.) and forty (40) women who already completed at least one I.V.F. trial.

The following tools were used to measure different aspects of medical history, marital and personal functioning: (1) Medical history Questionnaire was used to measure sample characteristics like age group, level of education, occupation. Factors related to

infertility including the duration, underlying cause and type of infertility were noted. In addition to that socio-cultural and traditional characteristics such as motivation to seek help, keeping I.V.F. as a family secret, husband attitude towards re-marriage and traditional beliefs in herbal medicine and local healers were also explored. (2) Hospital Anxiety & Depression scale was used to measure both anxiety and depression. (3) Self-evaluation of psychosexual satisfaction and psychosomatic symptoms before and after I.V.F. treatment. The data were analyzed in terms of demographic characteristics as well as treatment procedures, using statistical package of social sciences.

Results

Prevalence of anxiety and depression in the above sample of Bahraini infertile women were determined as 32.5% of the I.V.F. group had depression and 55% had anxiety compared with 26.7% and 50% corresponding figures in the control group which were not significant.

Conclusion

Women at risk were identified as well as society characteristic attitudes towards infertility.

P421

Gender differences in the experience of infertility

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Introduction

It has been suggested that men and women differ in experiencing infertility. This study aimed to assess whether gender differences influence (1) the emotional impact of infertility, (2) coping with infertility, (3) depression due to infertility, (4) relational adjustment to infertility, (5) subjective attribution of the aetiology of infertility.

Material and methods

A questionnaire was administered to 200 subjects attending the Fertility Centre of the University Hospital and 66% (71 women and 61 men) actually participated. Emotional impact of infertility was measured by the 'Impact of Event Scale' (IES), coping with infertility was measured by the 'Utrechtse Coping Lijst' (UCL), depression was measured by the 'Zung' self-rating scale, relational adjustment was measured by the 'Dyadic Adjustment Scale' (DAS). The aetiology of the infertile situation was also taken into account.

Results

We found that (1) the impact of infertility (intrusiveness and avoiding) is higher in women than in men, (2) women seek more social support, men are more avoidant and active in coping with the infertile problem, (3) women are more depressed, (4) no gender differences were found in relational adjustment, (5) in couples with a male aetiology, both women and men tend to attribute the infertility more towards a mixed male-female etiology.

Conclusions

Our study confirms that the emotional experience of infertility is more pronounced in women than in men. Moreover, women feel (even in male infertility) partly responsible for the infertility problem while men feel (even in male infertility) that their spouses are also partly responsible.

P422

Predictive risk factors of psychological maladjustment after abortion: clinical, ethical and legal implications

D. C. Reardon (Springfield, IL, USA)

A substantial body of literature exists that has identified characteristics and situational factors that are predictive of

psychological maladjustment after an abortion. A schema for identifying and organizing these risk factors, as identified in over thirty statistically validated studies, is presented. In most cases, risk factors have been verified by multiple investigators.

A summary list of major risk factors includes: moral ambivalence, conflicting maternal desires, abortion to preserve the life of the mother, abortion for fetal indications, second- or third-trimester abortion, feeling pressured to abort by others, feeling the decision is not one's own or is one's "only choice," feeling rushed to make a decision, biased pre-abortion counseling, adolescence or immaturity, prior emotional or psychological problems, poorly developed coping skills, low expectations of coping well, a history of childhood sexual abuse, a history of unresolved trauma, social isolation, accompaniment to the abortion by the male partner, and a history of prior abortion.

Examination of the full constellation of risk factors provides insights into understanding of why a minority of women have severe psychological reactions to abortion. Prior psychological problems, developmental limitations, and compromised decision making are the principle organizing themes for understanding negative reactions.

Negative reactions can be mild or severe. A recent two-year follow up study of 442 aborting women found that 1.4% experienced post-traumatic stress disorder directly attributed to their abortions. Since predictive risk factors have been well documented, these factors define specific ethical and legal duties that therapists, counselors, and attending physicians owe to their patients. Attention is paid to the special issues raised in counseling a patient who is at heightened risk compared to the "normal" client. A knowledge of risk factors may also be beneficial to therapists who are counseling women who are struggling with unresolved issues regarding a past abortion since identification of risk factors will frequently expose core issues underlying the adverse reaction.

P423

State-funded abortions vs. deliveries: a comparison of outpatient mental health claims over six years

P. K. C. Coleman, D. C. R. Reardon, V. Rue, J. C. Cogle (Sewanee, TN, Springfield, IL, Stratham, NH, USA)

Although the majority of post-abortive women do not report substantial or prolonged post-abortion psychological suffering (Major & Cozzarelli, 1992), approximately 10% of women do report severe negative psychological consequences (Zolse & Blacker, 1992). Unfortunately, efforts to identify the risks of induced abortion have been limited due to complex research obstacles. Most post-abortion studies have been conducted with small samples, confined to one geographical locale. Further, initial consent rates are often as low as 60% (Cohen & Roth, 1984) with attrition rates as high as 60% (Major, Mueller, & Hildebrandt, 1985). Moreover, women will often conceal abortion experience, with the percentage reporting abortions estimated to be only 50% of published prevalence rates (Jones & Forrest, 1992). These problems provide strong incentives for the use of archival data to compare the psychological health of women undergoing an abortion vs. a delivery.

The current longitudinal record-based study entailed a comparison of mental health claims for up to 6 years following an abortion or a birth among women receiving medical assistance through the state of California. Women who had an abortion in 1989, possible subsequent abortions, and no births while eligible for services ($n = 24,274$) had significantly higher rates of total mental health claims than women with only birth experience ($n = 89,396$) in the target year and beyond. Age interacted with pregnancy outcome with the greatest discrepancy between the

groups occurring among women over age 30. Frequency analyses revealed that the relative risk associated with abortion(s) vs. birth(s) for 1 claim (1.26) was lower than that associated with 2–9 claims (2.07). Similarly, discrepancies in the number of claims for specific disorders (affective psychoses, depression, neurotic disorders, acute stress reactions, and adjustment disorders) between the groups were generally more pronounced with more claims. The results provide impetus for more focused analysis of the mental health risks of abortion in order to identify aspects of the experience that make it potentially more problematic than birth among low-income women.

P424

Child developmental outcomes associated with maternal history of abortion using the NLSY data

P. K. C. Coleman, D. C. R. Reardon, J. C. Cogle
(Sewanee, TN, Springfield, IL, USA)

Research pertaining to maternal psychological and experiential correlates of parenting and children's development is a vast literature. Perinatal loss is one variable that has surprisingly received very little attention. A few studies do suggest that a maternal history of perinatal loss is related to the tendency to be over-protective and excessively concerned about the physical health of surviving children (Forrest, Standish, & Baum, 1982; Phipps, 1985). Further, children are likely to have emotional and behavioral problems in relation to associated parental grief (Forrest et al., 1982). Unfortunately, much of this research is limited to miscarriages or stillbirths, with the effects of induced abortion receiving considerably less attention. However, with studies indicating that 10% of post-abortive women experience severe psychological problems (Zolse & Blacker, 1992), attention to potentially related parental and child effects seems in order.

The objective of this study was to compare child outcomes of aborting ($n = 209$) and non-aborting mothers ($n = 1,687$) after controlling for potentially confounding factors (child age, gender, race and birth order, maternal age, education, and depression, number of children, and family income). The data were derived from the National Longitudinal Survey of Youth (NLSY), funded by the U.S. Department of Labor. Four child development variables were employed: the math and reading subtests of the Peabody Individual Achievement Test (PIAT), the Peabody Picture Vocabulary Test-Revised (PPVT-R), and the Behavior Problems Index (BPI). Using a multivariate analysis of covariance, an overall significant difference was detected between the aborting and non-aborting groups, $F(4, 1800) = 3.28, p < .05$. Further, examination of the univariate tests revealed that children of aborting women had higher rates of behavior problems and higher scores on the PIAT math subtest. No group differences were observed relative to the PIAT reading subtest or the PPVT-R. These results provide impetus for more focused research relative to the association between maternal history of induced abortion and developmental outcomes of their children.

P425

Aggression and guilty feeling during a mourning work

C. Hasui (Chiba, J)

We performed in-depth interviews with 14 women who had lost an infant. The focus of our interview was on aggression and guilty feelings observed during their mourning work. Most of them reported experiencing aggressive impulses towards themselves, their partner, parents, relatives, health professions, and God. Their guilty feeling related to the child loss was often excessive although it was beyond their capacity to control the event. Their guilty feeling may be divided into two types, persecutory and

penitential. Their aggression and self-blame may be tightly linked. These women, however, reported the change of life style after the child loss. Applying Melanie Klein's theory, we think that women who had lost their infant lost "good object" internally went through paranoid schizoid position: this activated their aggression after the child loss tentatively. Then they felt being persecuted by others and God. Therefore their aggression and persecutory guilty feeling correspond each other. After a while the duration of which varies depending on each woman, they activated depressive position where aggression were ameliorated so that they could use them sublimate them. Hence their guilty feeling become more penitential. Mental health professionals should view aggression of these women not as an obstacle on the mourning work but as a means to lead to sublimation. However, the persecutory guilty feeling may be a sign of poor prognosis where intensive psychotherapy may be needed. We speculate that women in schizoid paranoid position, psychotherapeutic techniques used for borderline personality disorders may be useful addition to the grieved counseling.

P426

Suicide deaths associated with pregnancy outcome: a record linkage study of 173,279 low income American women

D. C. Reardon, P. G. Ney, F. J. Scheuren, J. R. Cogle,
P. K. Coleman (Springfield, IL, USA; Victoria, BC, CDN;
Arlington, VA, Sewanee, TN, USA)

Researchers in Finland recently linked death certificates from 1987–1994 for all women ages 15–49 to Birth, Abortion, and Hospital Discharge Registers to identify pregnancy events in the year prior to these women's deaths (Gissler et al., 1997). Women who gave birth had half the death rate of women who had not been pregnant. The apparent protective effect of childbirth held true across all categories of death including suicide. The age adjusted odds ratio of dying from suicide following induced abortion, compared to women who delivered, was 6.46. A subsequent record linkage study in Britain found a higher number of suicide attempts among aborting women than delivering women but no associations to the rate of suicide attempts prior to their pregnancies (Morgan et al., 1997).

The goals of the present study were to investigate whether the suicide findings in Finland would be replicated in an American population and to examine the extent to which any associations might persist past one year. The subject population consisted of 173,279 low-income women who had a state-funded delivery or induced abortion in 1989. Medical records were linked to death certificates.

Compared to women who delivered, those who aborted had a significantly higher age adjusted risk of dying during the subsequent eight years from suicide (2.54), accidents (1.82), and all causes (1.62). Higher suicide rates were most pronounced in the first four years. Notably, the average annual suicide rates per 100,000 in our sample, 3.0 for delivering women and 7.8 for aborting women, bracketed the national average suicide rate of 5.2 for women ages 15–44.

The difference in suicide rates between aborting and delivering low income women of California is substantially lower than that observed among the general population of Finnish women, but significantly different suicide rates were confirmed. Moreover, the differences in mortality rates between aborting and childbearing women appear to persist over many years. Abortion experience may operate as a causal factor in suicide or it may be a marker for other stress factors that increase the likelihood of suicide.

P427**Depression and attribution after spontaneous abortion**

M. Dorfer, M. Deutsch, M. Häusler, W. Hoenigl (Graz, AT)

Objectives

Spontaneous abortion is the early and involuntary loss of pregnancy and occurs in about 15 to 20 % of pregnancies. In this study Filipp's heuristic model for critical life-events was used to evaluate general and specific causal attributions and depressive symptoms after spontaneous abortion.

Methods

A sample of 100 women was investigated at four measuring points from diagnosis to five weeks after the spontaneous abortion.

Results

Two days after the miscarriage 50 % of the women were severely depressed and five weeks later 30 % of the women were still depressed. Depressive symptoms were increased in cases of a prior reproductive loss and when pregnancy was planned or desired. Concerning general causal attributions women who tended to attribute more internal, stable and global showed a significantly higher level of depressive symptoms than women who attribute external, unstable and specific. In the area of specific attributions concerning the pregnancy loss the same pattern of results was found.

Conclusions

Women should be told that they are not responsible for the spontaneous abortion. The information that the spontaneous abortion is unavoidable may be helpful in coping with the event.

P428**Suicide deaths associated with abortion: a record linkage study**

D. C. Reardon, P. G. Ney, F. J. Scheuren, J. Cogle, P. K. Coleman (Springfield, IL, USA; Victoria, BC, CDN; Arlington, VA, Sewanee, TN, USA)

Researchers linked death certificates from 1987–1994 for women ages 15–49 to Finland's Birth, Abortion, and Hospital Discharge Registers to identifying pregnancy events in the year prior to these women's deaths (Gissler, Kauppila et al., 1997). Women who gave birth had half the death rate of women who had not been pregnant in prior year. This apparent protective effect of childbirth held true across all major categories of death including suicide. Compared to women, who delivered, the age adjusted odds ratio of dying from suicide in the year following an induced abortion was 6.46. A subsequent comparison of suicide attempts before and after pregnancies in Britain found a higher number of suicide attempts among aborting women but failed to find any correlation to the rate of suicide attempts prior to target pregnancies (Morgan, Evans 1997). The goals of the present study were to investigate whether the suicide findings in Finland would be replicated in an American population and to examine the extent to which any associations between pregnancy outcome and subsequent suicide persist over an eight year period. The subject population was 173,279 low-income women who had a state-funded delivery or induced abortion in 1989. Medical records were linked to death certificates.

Compared to women who delivered, those who aborted had a significantly higher age adjusted risk of dying during the subsequent eight years from all causes (1.62) and, in particular, from suicide (2.54) and accidents (1.82). Higher suicide rates were most pronounced in the first four years. Notably, our sample bracketed the national average suicide rates of 5.25 per 100,000 American women ages 15–44 (Hoyert, Kochanek, & Murphy, 1997). The annual rates in our sample was 3.0 for delivering and 7.8 for aborting women.

Abortion experience may operate as a causal factor in suicide or it may be a marker for other stress factors that increase the likelihood of suicide.

P429**Depression associated with abortion and childbirth: a long-term analysis of the National Longitudinal Survey of Youth**

J. R. Cogle, D. C. Reardon, P. K. Coleman (Springfield, IL, Sewanee, TN, USA)

Most research indicates that while abortion is generally a stressful event, most women do not suffer from severe negative reactions at the time of postabortion assessment. Among the few studies examining reactions over a year postabortion, however, Major et al (2000) and Miller et al (1998) have and discovered that delayed reactions are not uncommon and the trend line over time is toward an increase in negative emotions and regret. They have recommended longitudinal studies. Our study employed the National Longitudinal Survey of Youth (NLSY), a general purpose study, which has interviewed 6283 women since 1979. It contains abortion information, the Center for Epidemiological Studies Depression scale and Rotter Internal-External Locus of Control scale. Compared to post-childbirth women, aborting women (n = 735) were found to have significantly higher depression scores as measured an average of 10 years after their pregnancy outcome. Higher depression scores could not be accounted for by confounding variables. Controlling for age, total family income, and locus of control scores prior to the first pregnancy event, post-abortive women were found to be 41% more likely than non-aborting women to score in the "high-risk" range for clinical depression. In response to a self-assessment question, aborting women were 73% more likely to complain of "depression, excessive worry, or nervous trouble of any kind" an average of 17 years postabortion.

Only 40% of the expected abortions are reported the NLSY population. Concealment is particularly common among non-whites and unmarried women. Analysis by race and marital status confirmed that the differences in depression scores were highest among the groups with the least concealment.

Pre-abortion and pre-childbirth locus of control scores were analyzed. As predicted, Rotter correlated well with depression scores for non-aborting women. However, Rotter scores did not correlate to depression among aborting women. This suggests that aborting women may be more likely to have a different type of depression than other women.

Additional longitudinal research is warranted. Implications for future research are discussed.

P430**Fertility in women with schizophrenia**

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Background

With deinstitutionalisation, the development of community care, and changes in attitudes to sexuality, women with schizophrenia are more exposed to the range of societal pressures and opportunities which affect those in the general population. They have improved social interactions and greater opportunity for developing relationships but may also be more exposed to coercive sexual experiences. There remains uncertainty, however, regarding whether women with schizophrenia have as many pregnancies and children as their unaffected general population counterparts. As parents, there is evidence to suggest that they are less likely to remain the primary carer of their children. Further information on fertility and parenting is essential for assessing

need for children and parents, devising interventions to enhance parenting skills, and for planning services.

Objectives

To compare the fertility and fecundity of patients with schizophrenia with that of the general population.

Methods

As part of an epidemiological study examining the lifestyles of patients with schizophrenia in three areas of Scotland, we assessed the fertility of patients when compared with age, sex and postcode matched controls.

Results

Results from the first 20 female matched pairs are presented. When compared with controls, patients were less likely to be parents (6/20 v 13/20), had fewer children (mean 0.75 v 1.3) and were younger at age of first pregnancy (mean 21.5 v 26.8). Confirming findings from previous work, mentally ill parents were more likely to be living alone and to be unmarried, divorced or separated than their healthy controls. In addition, termination of pregnancy was commoner in the schizophrenic group.

Conclusions

This preliminary report supports evidence to suggest that women with schizophrenia, when compared with matched controls, are less likely to become pregnant, more likely not to proceed with a pregnancy and, if they do have children, to have fewer. As parents they also are more likely to be unsupported.

P431

Neurophysiological correlates of normal uncomplicated pregnancy

V. V. Vasiljeva, V. I. Orlov, A. V. Chernositov
(Rostov-on-Don, RUS)

At present the demographical situation in Russia is critical as death-rate is twice as many birth-rate. In this conditions the search of new methods of prognosis and diagnostics of obstetrical pathology, allowing to decrease the perinatal death-rate, is rather important. According to present knowledge the process of the pregnancy (gestational) dominant formation as well as the gestational disturbances, which leads to the premature childbirth are reflected in the electroencephalographic (EEG) activity.

The investigation of EEG in 86 women at 25–38 weeks of pregnancy has been performed to find out EEG correlates in normal and complicated pregnancy. It has been shown that parametres of interhemispheric asymmetry of alpha-rhythm in central and temporal derivations correlate with two factors: lateralization of placenta and the threat of abortion. Lateral asymmetry with higher spectral power of alpha-rhythm in the right hemisphere was found in the women with right-side and ambilateral placenta and normal gestation. The higher spectral power of alpha frequencies was in the left hemisphere in the women with the threat of abortion. Exactly the opposite phenomenon was observed for the women with left-side lateralization of placenta. The increasing of spectral power of theta frequencies was indicated for the women with the threat of abortion irrespective of placenta localization. The increasing of beta-activity with high amplitude and low frequency in symmetrical frontal areas has been found in women at 37–38 weeks of pregnancy.

The results of our recent investigation together with other methods may be used for early diagnostics of abortion.

Posttraumatic stress disorders in women

P432

Posttraumatic stress disorder and pregnancy

A. Schwendke, I. Hösl, J. Bitzer, W. Holzgreve (Basel, CH)

The subjective experience of a pregnancy is strongly associated with the specific biography of the woman and the present circumstances. Concerning the individual's, the couple's and the generation's perspective, the following aspects are affected by a pregnancy:

From the individual's perspective considerable physical and physiological changes take place. The pregnant woman feels the growth of the baby directly. This process demands great adaptability. In particular, the first child quite often changes the relationship of the couple dramatically. The former dyade becomes a triad mother-father-child. Lastly, the aspect of the succession of the generations is addressed: memories of the own childhood and of the relation to the parents are revived.

From all these perspectives psychosocial problems may arise. Traumatized patients are at an increased risk to develop difficulties during pregnancy and to be re-traumatized giving birth. The experience of strong pain may evoke memories of the traumatizing situation. But even during pregnancy, dealing with the own childhood, oppressing pictures and feelings may rise.

In recent years, our department is increasingly confronted with women who were traumatized during the Bosnian or Kosovar war. Caring for these patients is especially difficult because of their unstable living situation.

Using three case examples, possibilities and difficulties in the care for women with posttraumatic stress disorders in pregnancy, during birth, and in childbed are described.

P433

Comparative study of psychotherapy effectiveness of acute life-events depression, acute and posttraumatic stress disorders in women and men

R. D. T. Rashit (Ufa, RUS)

The modern wide investigations of post-stress disorder's etiopathogenesis have revealed sexual differences. However, the problem of probable link between sex differences of psychotherapy effectiveness and post-stress disorders etiopathogenesis is not investigated.

We carried out comparative study of women and men psychotherapy effectiveness in cases of: 1) acute depressive disorders connected to ordinary life events (relatives death, loneliness, spouses divorce) (100 women and 27 men); 2) acute stress responses caused by disaster, violence (including sexual abuse in women) (12 women and 10 men); posttraumatic stressful disorders (15 women and 14 men). Complex psychotherapy had united base and included: individual psychological consultation, group study of post-stress disorders mechanisms, group and individual hypnotherapy. We have utilized the unisystem criteria estimation of high and average psychotherapy effectiveness for sex and age measures.

The women's psychotherapy has shown sufficient effectiveness, but authentic differences between groups haven't revealed. The men's psychotherapy has shown tendencies to authentic differences of acute depressive disorders (high effectiveness dominance) and posttraumatic stressful disorders (average effectiveness dominance) and authentic age differences in the given effectiveness groups.

The obtained data specify psychosocial and psychobiological sexual differences of the posttraumatic stress disorder etiopathogenesis and require the further research.

P434**Dissociation and symptoms of psychopathology in post traumatic stress disorder (PTSD) after the Izmit earthquake of 1999 in Turkey**

A. Yazici, O. Saatcioglu, P. Gokalp (Istanbul, TR)

Objective

The aim of this study was to describe the clinical characteristics of the psychopathology of symptoms and dissociative experiences in a group of Turkish people in Istanbul after the Izmit Earthquake of 1999.

Method

26 patients who were diagnosed as Posttraumatic Stress Disorder according to DSM-IV criterias were applied Symptom Checklist-90-R (SCL-90-R) and Dissociative Experiences Scale (DES). The descriptive analysis of the SCL-90-R and DES were carried out.

Results

All of the patients were women. The mean age of the group was 35.5 (sd = 11.1), most of the patients were married (88%) and housewife (70%), 92% had no previous history of the psychiatric trauma, 38% of the patients had an associated physical illness. The mean of the DES was 8.9%. In an analysis of the subgroups of the SCL-90, the scores of somatisation, obsessive-compulsive symptoms, anxiety, hostility, paranoid ideation, psychoticism and global severity index were high. The relationship between the scores of the SCL-90-R and DES score was analysed.

Conclusion

Our results suggest that among these patients dissociative experiences severity were very low, but the positive relationship between total DES score and the scores of the some subgroups of SCL-90-R, especially depression, obsessive-compulsive symptoms, hostility, phobic anxiety, paranoid ideation, psychoticism and interpersonal sensitivity was found in a group of disaster women with PTSD.

P435**Post traumatic stress symptoms in breast cancer patients**

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Introduction

For most women the diagnosis and the treatment of breast cancer is a trauma, comparable with other traumatic events like accidents, natural disasters or rape. Meanwhile some studies indicate that PTSD- (post-traumatic stress disorder) symptoms are relevant in breast cancer patients, and suggest depression as the most prevalent. However this study aimed at establishing the frequency of PTSD symptoms in breast cancer patients and to investigate what other clinical characteristics are associated with PTSD symptoms.

Methods

In a project funded by the European Commission, 156 breast cancer patients rated a comprehensive set of standardised psychological and quality of life scales. The relevance of different aspects of psychological distress and quality of life was examined. A short questionnaire (BC-PASS: Breast Cancer-Psychosocial Assessment Screening Scale) was developed for the use in medical routine care which can also be used as a screening scale for PTSD symptoms in breast cancer patients.

Results

Moderate and severe PTSD symptoms were reported by 36% and mild symptoms by 48% of the patients while more than 50 % did not show any relevant depressive symptoms.

Quality of life was significantly associated with the severity of PTSD symptoms but not with the severity of the breast cancer diagnosis or the treatment (mastectomy vs. breast conserving).

Conclusions

PTSD Symptoms seem to play an important role for women diagnosed with breast cancer. These symptoms are too little known in the medical routine care of breast cancer patients. Special therapeutic interventions must be developed, regarding the results from psychotrauma research.

P436**Follow up of women after breast cancer: quality of life after one year; a practical approach**

U.-S Albert, M. Koller, C. Heitmann, S. Thommes, W. Lorenz, K.-D Schulz (Marburg, D)

Background

Maintaining health is the main goal for women with breast cancer. Health status determined from a clinical external perspective is not always equivalent to the patients perspective. To improve and maintain health the issue of quality of life (QL) has to get more integrated into everyday practice. We introduce a way of making QL feasible and demonstrate the main problems women face one year after surgery for primary breast cancer.

Method

A prospective, longitudinal cohort breast cancer field trial started 04/01/1996 in the rural county Marburg-Biedenkopf, Germany. Patients with primary breast cancer diagnosed until 03/31/1998 have been assessed clinical and with the quality of life questionnaire EORTC-QLQC-30 and BR 23 after primary therapy and according to the german surveillance recommendations every 3 month since.

Results

In the county studied the incidence of breast cancer is 69.1 (world standard). 389 women are enrolled in the ongoing study. We illustrate the feasibility of such a research program by performance data as interim results after one year of follow-up. Emotions, worries about future perspective, fatigue, role functioning and arm symptoms are the main problems of the patient. Individual case presentations highlight at one glance the QL dimensions in which the patient faces particular problems by QL profiles.

Conclusion

QL-profiles allow depicting the status of a patient at a given time and show areas of which deficiencies may exist or changes take place. A problem solving concept of follow-up requires therapeutical options, and the shared decision of the clinician and patient to improve health.

P437**Gender differences in the association between family relationships and psychosocial impairment in adult survivors of childhood cancer**

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Aims

To assess gender differences in the role of family relationships as risk or protective factors for psychosocial functioning in adults who suffered from childhood cancer

Methods

102 adult survivors (82% of those eligible, 35 female and 57 male) of childhood Acute Lymphoblastic Leukaemia and Wilms' Tumour, and 102 matched controls (74% of those eligible) aged

19–30 were interviewed. Interpersonal and social role functioning, and current relationships with each parent were assessed in standardised investigator-based interviews with subjects.

Results

Adult survivors, both men and women, were more likely than controls to have impaired close relationships (love relationships and friendships) – OR 8.47, 3.14–22.86 – and poorer day to day coping – OR 3.65, CI 1.67–7.99. Cancer survivors were more likely than controls to experience current lack of encouragement from their fathers (OR 2.23 1.22–4.06), and to a lesser extent from their mothers (OR 1.92 CI 1.08–3.40). In women lack of paternal encouragement was strongly associated with impaired close relationships (OR 11.37, 2.33–55.6) but not in men (OR 2.97, 0.90–9.82). Lack of maternal encouragement was modestly associated in men with poor close relationships (3.33, 1.12–10.02) but not at all in women. Lack of paternal encouragement (OR 4.25, 1.56–11.57) and of maternal encouragement (2.84, 1.16–6.99) were moderately associated with poor coping in men, but not women. These effects were seen equally across the cancer and control groups.

Conclusions

Encouragement from fathers seemed to be particularly important to daughters' establishment of close relationships outside the family. There may be considerable implications for adult survivors of cancer who have a high rate of difficulties in this area. Prospective studies are needed to clarify whether the relationships with parents influence or reflect functioning in the young adults.

P438

Borderline personality disorder in women: symptomatology and stability of diagnosis

R. Gebhard, B. Renneberg, R. Schmitt, W. Barnett (Heidelberg, D)

In clinical settings a diagnosis of Borderline Personality Disorder (BPD) is given two to three times more often to women than to men. Although BPD is known as a chronic personality disorder, it is also characterized by fluctuating symptomatology due to the emotional instability of these patients. Thus, one important question is whether, in light of the unstable symptomatology, the diagnosis is stable. In addition we were interested in the extent of psychological impairment experienced by women with BPD. Female inpatients of the Psychiatric Hospital of the University of Heidelberg participated in the study. The complete Structured Clinical Interview for DSM IV (SCID I and II) was administered. To determine the stability of the diagnosis, two assessments were carried out. At first assessment (t1) women with BPD were hospitalized during an acute crisis. At follow-up assessment (t2) approximately 7 months later, when participants were no longer hospitalized and not in acute crisis, a follow-up interview was conducted to assess severity of psychopathology as well as presence/absence of diagnostic criteria for BPD. At both times the Beck Depression Inventory (BDI), Symptom Check List (SCL-90-R) and Dissociative Experience Scale (DES) were administered. The study is currently ongoing, data are available for a preliminary sample of 15 patients. On the BDI and the SCL-90-R, significant improvements from t1 to t2 are observed for the group. However, follow-up scores on these measures are still within the clinical range. No change occurred on severity of dissociative symptomatology. Concerning the stability of the diagnoses there were no significant differences in the dimensional BPD score nor in the number of BPD criteria met. Examination of individual criteria will be presented. So far, our data indicate that while symptomatology may change, the diagnosis of BPD appears to be stable over time. Furthermore, the study demonstrates the far-reaching and severe psychological impairment of these women.

P439

Stalking: consequences and treatment of victims

G. Erlick-Robinson, K. M. Abrams (Toronto, CDN)

Up to 1 in 20 women will be stalked during her lifetime. Stalking behaviours range from watching to aggressive actions. The majority of cases involve men harassing ex-partners. Victims may experience anxiety, depression, guilt and posttraumatic stress disorder (PTSD). In treating victims of stalking, the therapist must be aware of the effects of stalking and be able to support rather than revictimize. The therapist also needs to deal with countertransference issues such as fear, helplessness and frustration which may lead to rejection of the victim.

P440

Female specific approaches in the psychotherapy of PTSD patients in Hamburg

A. Moldzio (Hamburg, D)

Our general psychiatric hospital in Hamburg established a specialized unit for women with PTSD 3 years ago. Although meanwhile several other units for traumatised patients in psychiatric hospitals exist, there are no special treatment offers for women with PTSD. Statistic data show that most of the victims are women who were traumatised mostly by men. Such terrifying experiences can rupture the women's sense of predictability and invulnerability and can profoundly change their ways of subsequently dealing with their femininity, emotions, thoughts and with their environment.

Most scientific studies, especially therapeutical approaches, ignore the importance of the gender of victim and perpetrator. In order to meet the specific needs in the complex situation of traumatised women, our PTSD-unit offers a well-protected separate floor, where no man is allowed to enter. The traumatised women are treated exclusively by female psychiatrists and nurses, female social workers, occupational therapists and body and movement therapists. Beyond our standard psychotherapeutical concept, we also have a group therapy integrated in our general female specific attachment.

In a self-developed "Satisfaction-Questionnaire", we have evaluated the patients' content with our female specific PTSD-treatment and asked about any specific needs and possible wishes for better therapeutical treatment. The results of our study will be shown in the lecture.

P441

Implications of specialized mental health services for the therapeutical treatment of traumatized women

M. Rauwald, T. Schöenberg (Frankfurt, D)

Trauma destroys parts of the psychic structure and leads to a lack of the capacity to symbolize and metaphorize experiences. With that a genuine human possibility of protecting and preserving one's own integrity has been lost, respectively could not be created. As a result the digestion of severe traumatic defeats is a captive of concretism.

As a well known reaction, precipitations of traumatic experiences can be found in psychosomatic disorders. With a great regularity, traumatic experiences concerning womanhood and female development (like rape or sexual abuse) are related to various gynaecological disorders, though often this connection remains unknown. The study in hand traces these ideas and will establish a connection to specific correlating psychic processes.

The psychic tendency towards concretism hampers the processing of external realities which cannot be placed in a

symbolic space. In particular if traumatic areas are triggered, a volatile dynamic force will easily arise. Unintegrated traumatic parts (introjects) conduct again and again and with this erase an atmosphere of faint, rage and complete helplessness. Approaching traumatic areas – as gynaecological or other physical examinations, but in particular psychotherapeutical consultations or treatments will often do – women easily feel frightened by the rightly prospect of retraumatization.

In the background of a psychoanalytical understanding of traumatization and its aftermaths, the authors want to discuss in this study, to what extent specialized women's health services can be a particularly helpful way to deal with these problems.

P442

A specific treatment approach for post partum post traumatic stress disorder

S. M. Weeks (Auckland, NZ)

Post partum post traumatic stress disorder (PPTSD) is a relatively new concept as a particular form of post partum psychiatric disorder, different to both post natal depression and post partum psychosis, with different risk factors, diagnostic symptoms and treatment response. If undetected and untreated, PPTSD can lead to serious complications including depressive and dissociative symptoms, substance use, bonding disorders, tokophobia and litigation.

A specific treatment regime has been developed for use with women who present post partum with clinical features of PPPTSD, or during a further pregnancy with these symptoms. Specific symptoms targetted are: intrusive recurrent images and recollections of the trauma and the current cognitions associated with these; dissociative symptoms such as pseudohallucinations, boundary disturbance and depersonalisation/derealisation; dyad disruption, particularly lack of bonding to the baby or active blaming of the baby and; anxiety symptoms such as obsessive compulsive symptoms, phobic avoidance and panic.

Assessment tools were the Impact of Event Scale, the Dissociative Experiences Scale, the Edinburgh Postnatal Depression Scale and the Beck Depression Inventory.

The treatment strategy was tailored to each individual and her circumstances. Telling the story and making sense of it, particularly validation of the woman's experience and gently challenging cognitive distortion was an important initial step. Pharmacological intervention, if required, included antidepressant medication if indicated and low dose antipsychotic medication if intrusion or dissociation were severe. A gentle cognitive and experiential approach to the relationship with the baby was used, with careful and tactful modelling of appropriate play and interaction. Eye movement desensitisation and reprocessing (EMDR) was used as the primary treatment and distress tolerance and anxiety management strategies were taught to prepare for this.

Numbers are currently too small for statistical analysis, but initial findings will be reported.

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