

## ORIGINAL PAPER

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## The impact of work-related rehabilitation on the quality of life of patients with schizophrenia

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**Abstract** In a cross-sectional study of 60 outpatients with schizophrenia (mean age  $36.3 \pm 11.1$ ) the effect of a work-related rehabilitation programme on the patients' quality of life was investigated. A group of patients with the same diagnosis, but without rehabilitation, served as controls. Patients of the rehabilitation group had been attending the programme for a mean duration of 15.0 months. The programme focuses on occupational and everyday skills and also involves social aspects. The patients' quality of life was assessed using two self-administered questionnaires: the Munich List of Life Dimensions (MLDL, Heinisch et al. 1991) and the Everyday Life Questionnaire (Bullinger et al. 1993). Life satisfaction as well as functional quality of life were higher in the rehabilitation group in the majority of domains assessed. Difference between groups was highest for satisfaction with work, followed by leisure-time activities, independence and friendships/acquaintances. Results indicate that the rehabilitation programme acts like a "lever" which, applied to *one* point (work, day structuring), subsequently affects most domains of daily living.

### Introduction

The concept of quality of life has acquired increasing significance in different areas of medicine in the past few years. Two factors seem to be responsible for this development. On the one hand, there has been a shift in the illness panorama from acute incidents to chronic suffering; on the other, there has also been a change in the

awareness of both patients and physicians, who increasingly perceive the objective and clinical parameters as being one-sided and favour a more comprehensive approach to illness and treatment (Collins et al. 1991). Such an approach would take into consideration psychosocial aspects in addition to physical ones; it would also allow the subjective assessment by patients to complement the objective criteria of evaluation (Bullinger et al. 1993; Katschnig et al. 1997).

Quality of life is assessed by questionnaires or by structured or semi-structured interviews with patients. A careful look at these instruments shows that two differing aspects of quality of life are being assessed side by side.

1. Quality of life, in the sense of a subjective judgement of one's own physical, psychological and social well-being (Huber et al. 1988; Heinisch et al 1991; Oliver et al. 1997)

2. Quality of life in the sense of an assessment of physical, psychological and social functioning and their limitations in daily life (Bullinger et al. 1993).

The criterion of quality of life has been taken into account for nearly two decades in the study of somatic illnesses such as cancer, chronic disorders of the joints and cardiovascular diseases. It was only at the beginning of the 1980s, when a de-institutionalising of long-term care of psychiatric patients was undertaken within the context of psychiatric reform, that the concept of quality of life received attention for the first time. This concept was worked up by independent investigators, primarily in England and the United States (Bigelow et al. 1982; Lehman et al. 1982; Oliver 1991), and today it has begun to find a wider appreciation in psychiatric studies (Oliver et al. 1997). Thus, among other factors, the construct "quality of life" was taken into consideration in a long-term clinical trial with neuroleptics (Meltzer et al. 1990), the side-effects of which may diminish the patients' quality of life, physically as well as psychologically, and also cause compliance problems (Fleischhacker et al. 1994). Moreover, quality of life provides an important criterion for the evaluation of rehabilitation

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programmes, but, as yet, it has attracted little attention in this field (Lauer 1993).

In the treatment of psychiatric patients, rehabilitative measures form an important part of the provision of complementary care. These are intended to balance the deficits in many areas created during the course of mental illness, to give more structure to the daily lives of the patients, and to facilitate their reintegration into society. Since, in our society, employment is seen as the essential crystallisation point of social existence and, further, as an important precondition of self-realisation and of maintaining a stable, reality-oriented personality, job rehabilitation measures and occupational therapy experienced by the patients as being meaningful make a significant contribution towards re-establishment and maintenance of mental stability.

While evaluating rehabilitation programmes, objective criteria such as rate of relapse and cost/benefit aspects should not exclusively occupy the centre stage. In addition, improvements in the quality of life and in the specific life situation of individuals, however hard they are to measure, must also be taken into consideration. A few investigations along these lines are available. Within the framework of a study on "supervised community residence" (Lehman et al. 1986), the authors report, for instance, that there was an improvement in the quality of life of the participants (about two-thirds of whom had the diagnosis of schizophrenia), especially in the areas of "leisure-time activities" and "financial situation". According to other studies (Bigelow et al. 1982; Meltzer et al. 1990), improvements could be seen in the quality of almost all dimensions of life. In a study on psychiatric rehabilitation services in Ontario (Pikney et al. 1991), the authors showed that after 1 year of rehabilitation 96% of patients participating (most of them with a diagnosis of schizophrenia) reported that their quality of life had improved. The authors also provided a considerable amount of information on community living and socialization skills, but they did not give a detailed account of patients' subjective quality of life.

In the present study, we compare the quality of life of a group of patients with schizophrenia participating in a job rehabilitation programme for an average period of 15 months, to that of a control group of patients with the same diagnosis who were on a waiting list for this rehabilitation facility. The aim of this study is to examine whether participating in a rehabilitation programme has a positive influence on the quality of life of the patients and whether there are certain domains of life in which this is more clearly visible than others.

## Materials and methods

### Sample

Between December 1995 and February 1996 a total of 60 patients with schizophrenia were allocated to the study. Thirty-six of these were in the care of the rehabilitation facilities described below. The

remaining 24 patients were taken from the waiting list for work rehabilitation and served as the control group. They had been out of work for at least 2 years and had been, for instance, pensioned off early; they were not receiving any intensive rehabilitation care. The patients of both groups had a clinical diagnosis of schizophrenia (residual type; DSM-III-R 295.62) and received their medical treatment in the outpatient unit of the psychiatric clinic of Innsbruck University Hospital.

### Rehabilitation facility

The fact that mental disorders often manifest quite early in life has made the issue of professional rehabilitation a central one in the care of long-term psychiatric patients. The goal here is to save patients suffering from chronic mental illness from sliding into social misery by providing them with appropriate rehabilitation facilities as part of a comprehensive care programme (Häfner et al. 1986).

In the Austrian province of Tyrol, the Association for Mental Health has assumed the responsibility for this important task and has established several types of rehabilitation institutions. The Professional Training Centre (PTC) in which we conducted our study provides help to patients in re-entering working life. They are guided in acquiring skills in some occupational branch (garment industry, clerical work, kitchen and home economics, carpentry), while working in a real-life situation and drawing appropriate wages. Moreover, the participants are supported in structuring their day and encouraged to communicate in stable groups.

The PTC provides work-related rehabilitation to approximately 60 patients. The staff of the facility consists of ten mental health professionals including social workers, psychologists and occupational therapists. Patients attend the programme for an average duration of about 18 months, with a weekly training of 20–40 h.

### Methods of investigation and data collection

#### *Collection of psychopathological and other clinical data*

DSM-III-R diagnosis was established using the SCID (Structured Clinical Interviews for DSM-III-R, Wittchen et al. 1991). The psychopathological status of the subjects was determined by one and the same interviewer, using the Brief Psychiatric Rating Scale (BPRS, Overall et al. 1962). In addition, data on the amount of neuroleptic medication taken calculated in chlorpromazine equivalents (Rey et al. 1989), as well as the side effects of these drugs, measured using the UKU Side Effect Rating Scale, (Lingjaerde et al. 1987), were recorded. These data were collected at the same time as the quality of life measures.

#### *Measurement of quality of life*

In order to assess the subjects' quality of life, the following two questionnaires were employed: the Munich List of Life Dimensions (Munich List) and the Everyday Life questionnaire. Both of these instruments were developed by the Institute of Medical Psychology, Ludwig-Maximilians-University, Munich (Heinisch et al. 1991; Ludwig 1991) and can be used for patients with various diseases as well as for healthy persons.

The Munich List focuses on the subjective evaluation of the quality of life; the Everyday Life questionnaire tries to assess "quality of life" by an evaluation of the physical, psychological and social functions. We decided to employ these two questionnaires, since they have been developed for German-speaking patients (German being the mother-tongue of the subjects of our study), and have also been tested psychometrically. An additional advantage is the relatively short interview time required. The completion of each questionnaire usually takes no longer than 10–15 min.

The Munich List comprises 19 areas of life; satisfaction with and importance attached to these areas are assigned values on a

**Table 1** Items of the Munich List of Life Dimensions

1. Health
2. Physical fitness
3. Mental capacity
4. Well-being
5. Self-esteem
6. Ability to relax
7. Success and recognition
8. Support and security from others
9. Independence in everyday life
10. Marriage/partnership
11. Sexual life
12. Family life
13. Friends/acquaintances
14. Occupational situation
15. Financial situation
16. Housing situation
17. Leisure
18. Medical treatment
19. Attitude towards illness

scale ranging from 0 (very dissatisfied, completely unimportant) to 10 (very satisfied, very important). These areas of life are listed in Table 1.

The Everyday Life questionnaire consists of 42 questions pertaining to various everyday situations. The questions always begin with "Were you, in the last week, able to...", for example, "... do something with your leisure time?" or "... think clearly in making plans and solving problems?" Patients can assign to each answer one of five values on a Likert Scale (1 = not at all, 2 = only with difficulty, 3 = partially, 4 = quite well, 5 = without any problem). The questions cover the same areas of life as the Munich List, but relate to, as has already been mentioned, the functional aspect of the quality of life.

In a pilot phase, the usefulness and practicability of the questionnaires were tested on several patients with schizophrenia. Data could be collected without any great difficulty. The majority of the subjects appeared very motivated and did not have problems in completing the questionnaires or with subsequent interviews.

#### Statistical methods

The Mann-Whitney U test for independent random samples was employed for comparing the two groups with respect to continuous and ordinal variables. In the case of discrete variables, the systematic differences between the two groups were investigated by means of the Chi-square test. For the quality of life variables, simple comparison of the two groups was supplemented by an analysis of covariance to adjust for a possible influence of sociodemographic and clinical variables and to study this influence. Factor analysis for determining the structure of the subscales was carried out by the principal components method, with subsequent varimax rotation. Spearman correlation coefficients were used for describing relations between different subscales. All calculations were made using SPSS for Windows 6.0 (Norusis 1993).

## Results

### Characteristics of patients – comparability of sociodemographic and clinical data

The sample, described in detail in Table 2, consisted of 31 women and 29 men. The rehabilitation group and the control group were found to be comparable as far as demographic and clinical data were concerned, with no

**Table 2** Sociodemographic data

	Rehabilitation group (N = 36)	Control group (N = 24)	Total sample (N = 60)
Sex			
Female	50.0%	54.2%	51.7%
Male	50.0%	45.8%	48.3%
Age			
Mean (SD)	33.6 (8.0)	39.1 (13.1)	35.8 (10.6)
Range	20–48	20–60	20–60
Marital status			
Single	83.4%	70.8%	78.9%
Married/with partner	5.6%	16.7%	9.4%
Divorced	11.1%	12.5%	11.7%
Housing situation			
Alone	36.1%	41.7%	38.3%
With parents	27.8%	37.5%	31.7%
With partner	5.6%	16.7%	10.0%
Sheltered home	11.1%	4.2%	8.3%
Half-way houses	19.4%	0.0%	11.7%
Education			
Elementary school	30.6%	8.3%	21.7%
Compl. apprenticeship	50.0%	66.7%	56.7%
High school grad., university	19.4%	25.0%	21.7%
Duration of employment (in years): mean (SD)	7.8 (6.7)	9.0 (7.7)	8.3 (7.1)
Duration since retirement (in years): mean (SD)	6.3 (5.5)	7.0 (5.3)	6.6 (5.4)
Time in rehabilitation facility (in months): mean (SD)	15.0 (13.8)	–	–
Income (ATS): mean (SD)	8369 (1869)	8869 (2556)	8569 (2168)

No statistically significant differences could be found between the rehabilitation and the control group

**Table 3** Clinical data

	Rehabilitation group ( <i>N</i> = 36)	Control group ( <i>N</i> = 24)	Total sample ( <i>N</i> = 60)
Duration of illness (in years): mean (SD)	13.6 (7.2)	15.7 (9.1)	14.4 (8.0)
Length of hospitalisation (in months): mean (SD)	11.5 (13.9)	8.0 (7.1)	10.1 (11.7)
Medication (mg CPZ equivalent): mean (SD)	381 (436)	442 (354)	405 (403)
Brief psychiatric rating scale (BPRS): total score	39.3 (8.3)	39.5 (6.5)	39.4 (7.6)
UKU-Side Effect Rating Scale			
Psychological	2.3 (3.0)	2.1 (2.1)	2.2 (2.7)
Neurologic	2.5 (3.8)	3.1 (3.5)	2.8 (3.7)
Autonomous	1.3 (2.0)	1.5 (2.0)	1.3 (2.0)
Others	1.2 (2.2)	0.8 (1.2)	1.1 (1.9)

No statistically significant differences could be found between the rehabilitation and the control group

**Table 4** Subscale structure of the Munich List of Life Dimensions

Subscales factors	Items (Munich List)	% of variance
1. Physical condition/attitude to illness	1, 2, 4, 18, 19	20.4%
2. Psychological well-being/autonomy	3, 5, 6, 9	17.9%
3. Friends/support/leisure time	7, 8, 13, 17	14.5%
4. Partnership/sexuality	10, 11	8.9%
5. Family/housing	12, 16	8.2%
6. Occupation/finances	14, 15	7.1%
Total variance explained (%)		77.0%

significant differences ( $P < 0.05$ ) being recorded. Deviations worth mentioning were found for “age” and “housing situation”. The members of the control group were slightly older than the subjects of the rehabilitation group; 19.4% of the group in rehabilitation, but no-one from the control group, lived in supervised community residences.

The differences between the groups were negligible as far as the clinical variables of psychopathology, medication and its side-effects were concerned (Table 3).

#### Determination of the subscales – factor analysis

The authors of the Munich List recommend subsuming the 19 areas of life under four subscales: (1) physical condition, (2) psychological well-being, (3) social life and (4) everyday life. Moreover, the items can be added to form a total score.

As the Munich List has been validated only in studies with healthy subjects and patients suffering from cardiovascular diseases, we carried out a factor analysis of our data, too. The results show a somewhat different factor structure than that originally reported (Ludwig 1991), and are listed in Table 4.

We proceeded with the Everyday Life questionnaire in a similar way and arrived at the following subscales: everyday activities, friends/leisure time, psychological well-being, physical condition/dealing with the illness, family and partnership/sexuality. Both of the inventories have a similar subscale structure probably because of the comparability of the areas of life investigated.

For all the subscales of both the Everyday Life questionnaire and the Munich List, higher scores represent better quality of life.

#### Satisfaction with life domains (Munich List)

The Munich List was filled in completely by all but one patient, who gave no information regarding “sexual life”. Subjects of both groups assigned a high value to the aspect of “importance” of the individual areas of life. The average of the “importance” ratings for the entire sample was 8.0. The items “sexual life” (5.7) and “marriage/partnership” (6.8) were assigned the lowest values. In view of the almost equally high values assigned to the importance of all life domains, a weighting by “importance” was not performed. For this reason, in what follows, only information regarding “satisfaction” will be taken into consideration for assessing quality of life.

As can be seen from Table 5, subjects of the study group consider themselves, on average, as being more satisfied in almost all areas of life than did those of the control group. The total score showed an average of 6.1 for the rehabilitation group and 5.1 for the control group ( $P < 0.05$ ).

When the individual items on the Munich List were considered separately, a higher degree of satisfaction experienced by the participants of the rehabilitation programme was clearly recognizable in the area of “profession” ( $P < 0.001$ ) as well as in the items “physical ability”, “success and recognition”,

**Table 5** Munich List of Life Dimensions : satisfaction ratings

	Rehabilitation group Mean ± SD	Control group Mean ± SD	Total sample Mean ± SD	Healthy group Mean ± SD
Health	6.4 ± 2.5	6.3 ± 2.2	6.4 ± 2.4	6.4 ± 2.7
Physical fitness**	5.9 ± 2.3	4.5 ± 2.2	5.3 ± 2.3	6.2 ± 2.5
Mental capacity	5.7 ± 2.8	5.1 ± 2.7	5.5 ± 2.7	7.5 ± 1.8
Well-being	5.6 ± 2.7	4.8 ± 2.4	5.3 ± 2.6	6.3 ± 2.4
Self-esteem	5.6 ± 2.8	4.4 ± 2.4	5.1 ± 2.7	6.6 ± 2.4
Ability to relax	5.6 ± 3.2	4.7 ± 2.3	5.3 ± 2.9	6.2 ± 2.5
Success/recognition**	6.8 ± 2.2	4.9 ± 2.3	6.0 ± 2.4	6.6 ± 2.2
Support*	7.5 ± 2.4	6.0 ± 2.5	6.9 ± 2.6	6.4 ± 2.6
Independence**	7.0 ± 2.4	5.2 ± 2.1	6.3 ± 2.5	7.9 ± 2.0
Marriage/partnership	4.0 ± 3.3	4.8 ± 2.5	4.3 ± 3.0	6.5 ± 3.3
Sexual life	4.1 ± 3.3	4.3 ± 1.4	4.2 ± 2.7	5.4 ± 3.1
Family life	5.8 ± 3.2	6.2 ± 1.7	6.0 ± 2.7	6.7 ± 3.2
Friends/acquaintances*	6.2 ± 2.9	4.7 ± 1.9	5.6 ± 2.6	7.0 ± 2.5
Occupational situation	6.6 ± 2.6	4.0 ± 2.6	5.6 ± 2.9	5.8 ± 3.2
Financial situation	6.8 ± 2.5	4.8 ± 2.8	6.0 ± 2.8	6.6 ± 2.7
Housing situation	6.7 ± 2.7	7.4 ± 1.5	7.0 ± 2.3	7.5 ± 2.6
Leisure**	7.3 ± 2.4	4.9 ± 2.4	6.3 ± 2.7	7.2 ± 2.5
Medical treatment	6.3 ± 3.3	5.7 ± 2.7	6.1 ± 3.1	7.5 ± 2.5
Attitude towards illness	6.3 ± 2.9	5.2 ± 2.1	5.9 ± 2.7	6.8 ± 2.6

\*  $P < 0.05$ ; \*\*  $P < 0.01$ ;\*\*\*  $P < 0.001$ 

“independence”, “finances” and “leisure time” ( $P < 0.01$ ). There were also significant differences at the 5% level in the domains “support and security derived from others” and “friends/acquaintances”. There were no differences in the items: “health”, “marriage/partnership”, “sexual life”, “family” and “housing situation”.

When the 19 items were subsumed under the six subscales defined above, the following picture emerged: the difference between the groups was highly significant in the subscales “friends/support/leisure time” and “profession/finances” ( $P < 0.001$ ). The rehabilitation group also differed from the control group in the subscale “psychological condition/autonomy” ( $P < 0.05$ ).

#### Physical, psychological and social functions (Everyday Life questionnaire)

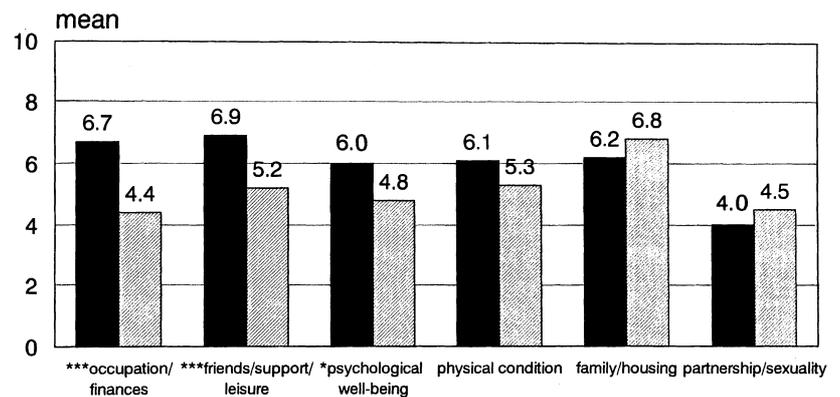
Figure 2 shows the results of the assessment of physical, psychological and social functioning by the Everyday Life questionnaire. There were significant differences between the two groups of schizophrenic patients in the areas “everyday activities”, “friends, leisure”, “psycho-

logical well-being” and “physical condition/attitude towards illness”.

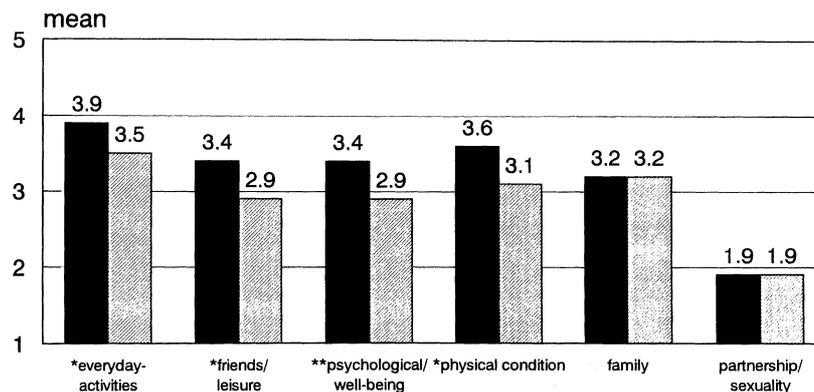
#### Analysis of the influence of sociodemographic and clinical variables on the quality of life

An analysis of covariance was made in order to study the influence of factors other than professional rehabilitation such as sociodemographic and clinical variables, on the quality of life of the subjects. Age, sex, education, psychopathology (total score of BPRS), side-effects ratings (UKU subscales), duration of hospitalization and duration of illness were the factors taken into consideration. The scores of the Munich List were found to be age dependent. The total score in the Munich List increases by an average of 0.42 points for every additional 10 years of age ( $P = 0.016$ ). A similar observation was made regarding almost all subscales of the Munich List, with the exception of “partnership/sexuality” where an age dependence of quality of life could not be established. In addition, there was a negative correlation between the total score of BPRS

**Fig. 1** Munich List of Life Dimensions : subscales (satisfaction). ■ Rehabilitation group, ▨ control group. \*\*\*  $P < 0.001$ , \*  $P < 0.05$



**Fig. 2** Everyday Life questionnaire : subscales. ■ Rehabilitation group, ▨ control group. \*\* $P < 0.01$ , \* $P < 0.05$



and the Munich List subscale “physical fitness” ( $P = 0.003$ ). No other variables that we considered showed a significant influence on any subscore of the Munich List. An influence of covariates on the subscales in the Everyday Life questionnaire was observed in only two cases: the areas of “partnership/sexuality” and “psychological well-being” were negatively correlated with the total BPRS score ( $P < 0.05$  in each case). All of the results pertaining to the influence of the rehabilitation programme on quality of life remained practically unchanged when the covariates were taken into account.

#### The relationship between the Munich List and the Everyday Life questionnaire

Since the individual subscales of the two questionnaires are comparable (see Methods of investigation), meaningful correlations between corresponding subscales could be established. An exception was the subscale “profession/finances” of the Munich List, whose content corresponds very little to that of the subscale “everyday activities” of the Everyday Life questionnaire.

It can be seen from Table 6 that these correlations were all statistically significant and moderately high.

## Discussion

Investigation of the quality of life of patients with schizophrenia is a relatively new area of research. The discussion in this interdisciplinary area has focused

**Table 6** Correlation between corresponding subscales of the Munich List and the Everyday Life questionnaire

Domain	Spearman correlation coefficient
Health/attitude towards illness	0.69 ( $P < 0.001$ )
Psychological well-being	0.71 ( $P < 0.001$ )
Friends/leisure	0.56 ( $P < 0.001$ )
Partnership/sexuality	0.42 ( $P = 0.001$ )
Family/housing	0.37 ( $P = 0.006$ )

mainly on two questions: first, how is quality of life to be conceptualised and measured, and second, how is quality of life to be employed as an evaluative criterion in assessing therapy and rehabilitation of patients, especially the chronically ill. In the present study, we tried to get an understanding of the impact of rehabilitation programmes on the subjective quality of life of patients with schizophrenia.

This was a cross-sectional, non-randomised controlled study in which patients from a waiting list for work rehabilitation served as controls. Randomisation, though theoretically desirable, is hardly possible in this sort of setting. It would be unfair if patients with a shorter waiting time were admitted for rehabilitation prior to those who had waited for a longer time.

As shown above (Characteristics of patients), the two groups proved to be quite similar with respect to sociodemographic and clinical parameters (in fact, as regards educational achievement and partnership, the control group was in a slightly favourable situation). Moreover, outpatients were only accepted as controls if they were suitable for work rehabilitation with regard to their physical and psychosocial performance. In spite of these measures for achieving comparability, there naturally remain uncontrolled factors of potential impact on quality of life. This should be borne in mind when considering the results of the present study.

Our results show that the participants of the rehabilitation programme assess the quality of their lives as being higher than patients with schizophrenia not receiving such after-care. It is noteworthy that the differences found cover a wide spectrum of areas of life, although the emphasis of the programme was laid primarily on the areas of work, occupation and structuring the day. Thus, participants expressed greater satisfaction not only with their work, income and physical ability, but also with their independence, their recognition and support by others, their social relationships outside the family and their mode of life in their leisure time. To use a mechanical image: the lever applied at one given point resulted in positive changes in several other places. Similar observations have been made by different authors (Pikney et al. 1991; Meltzer 1992; Barry and Crosby 1996).

No differences worth mentioning were seen in the areas of "health", "marriage/partnership", "sexuality", "housing situation" and "family". This is a plausible finding, since in these areas, improvements can be expected only over a longer period of time.

When comparing the list of satisfaction ratings given in Table 5 with those of a random sample of healthy subjects (German nationality, mean age  $53.2 \pm 8.0$  years, 44.0% female, Heinisch et al. 1991), it can be observed that patients with schizophrenia show clearly lower mean values in almost all areas of life. This confirms findings reported in other studies (Lehman et al. 1982; Skantze et al. 1992; Bobes et al. 1996). However, our results show that participation in rehabilitation facilities raised satisfaction with life experienced by patients with schizophrenia almost to the level experienced by healthy persons. In the areas "support" and "profession", the means of the rehabilitation group are even higher than those of the group of healthy subjects. In contrast, the satisfaction values in the areas "marriage/partnership", "sexuality", "self-esteem", "mental abilities" and, to a smaller extent, the areas "independence in everyday life" and "friends" continue to remain below those of the group of healthy persons. In making comparisons between the quality of life of the chronically ill and that of healthy persons, it is to be noted that a shift in the assessment level has probably taken place in the former group, due to their gradual adaptation to the limited opportunities available (Fabian 1990).

A comparison of the two quality of life inventories used shows that the differences between the two groups concern both the functional aspect and that of satisfaction. It should be noted that the test instruments measure different aspects of quality of life, since the correlation between the corresponding subscales is only moderately high. Similar results were reported by Bullinger et al. (1993).

In this study sociodemographic variables proved to have very little correlation with the quality of life data obtained. Only between "age" and "satisfaction with life" (Munich List) was there some relationship: on average, older patients with schizophrenia reported a higher level of satisfaction in many areas of life than younger patients. Similar findings have been reported in other studies (Kelstrup et al. 1993).

The results of the study presented here are quite encouraging, in view of the observed positive influence of rehabilitation programmes on the quality of life of patients with mental illness, and underscore the importance of this concept in psychiatry. Replication of this type of study by independent research groups, preferably using a longitudinal design, is essential for generalisation of our findings.

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