Quality of Life and Disability in Chinese People Living with Severe Mental Illness

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Abstract Severe mental illness (SMI) drastically affects various areas of life. People living with SMI report general impairment in their functioning and poor quality of life. The aim of this study is to describe the prevalence of disability and quality of life in a cohort of Chinese people living with SMI. This was a cross-sectional study. Assessment scales included the World Health Organization (WHO) Disability Assessment Schedule-II, the WHO Quality of Life-BREF version, and the Positive and Negative Syndrome Scale. A total of 158 subjects participated in this study, who were mainly suffering from schizophrenia or related disorders ($n = 73$, 46.2 %). The prevalence of self-reported disability was as high as 69.6 % ($n = 110$). Subjects perceived higher levels of disability in the aspects of social participation, getting along with people and dealing with life activities. Overall, the total disability scores were significantly correlated with patients' QOL and symptom severity (all P values <0.001). Older age was a significant risk factor for disability (OR 1.425, 95 % CI 1.016–1.999). Shorter duration of current hospitalization was a significant protecting factor for disability (OR 0.704, 95 % CI 0.508–0.974). This study found the prevalence of disability among Chinese people living with SMI was high. When the disability was more severe, it was significantly correlated with greater symptom severity and poorer quality of life. Statistically significant predictors of

disability included older age and longer duration of current hospitalization. Future psychiatric rehabilitation intervention studies should be conducted to reduce the impact of disability on quality of life and other health outcomes for people living with SMI.

Keywords Disability · Quality of life · Symptom severity · Severe mental illness

Introduction

Severe mental illness (SMI) refers to illnesses where psychosis occurs, including schizophrenia, bipolar disorder, schizoaffective disorder, major depressive disorder, and other psychoses [1]. The World Health Organization (WHO) estimates the number of people suffering from SMI ranges from 1 to 3 % [2]. In China, it is estimated that approximately 4 % of adults, or 16 million people experience SMI [3]. It is increasingly recognized that patients with SMI have been found to suffer from impaired QOL [4]. QOL measures are considered useful information for planning and evaluating clinical interventions [5].

Schizophrenia, one type of SMI, has been recognized as the leading cause of disability among the major causes of disability [6]. Common types of disability include disruption in social functioning (i.e. inability to maintain normal social involvement) and cognitive impairment [7, 8]. Various research has indicated that symptom severity of SMI is a significant correlate of quality of life [9, 10]. More severe disability and greater positive symptom severity are correlated with decreased quality of life for people living with SMI [7, 11].

Patients with SMI report general impairment in their functioning and report poor quality of life [7, 10]. While

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the relationship between symptom severity and quality of life is well established, few studies indicated that the status of disability and its relationships with symptoms severity and quality of life. Therefore, the aim of this study was to describe the prevalence of disability, levels of symptom severity, and quality of life in a cohort of Chinese people living with SMI.

Methods

Participants

The SMI patients who met the following inclusion criteria were invited to participate in the study on their planned discharge: (1) 18 years old or more, (2) suffering from schizophrenia and related disorders, severe depression and bipolar affective disorder using the consensus diagnosis according to DSM-V, of American Psychiatric Association 2013, (3) having a long history of previous hospitalizations or outpatient treatment (at least 3 months), and (4) voluntary consent. Patients excluded from the cohort were under 18 years old, suffering from personality disorders, organic brain disease or learning disability, and refusing to give consent.

Assessments

This study used the World Health Organization (WHO)-Disability Assessment Schedule-II (WHO DAS-II) [12], the Positive and Negative Syndrome Scale (PANSS) [13], and the WHO-Quality of Life-BREF version (WHOQOL-BREF) [14] to assess disability status, symptom severity, and quality of life. A demographic sheet was used to collect patients' socio-demographic and clinical information.

Data Collection and Analysis

Data were collected from May 2014 to July 2014. Trained research nurses collected the data in face-to-face interviews 1 week before hospital discharge. Patients' voluntary participation was always observed. All data were coded and no personal identifiers appeared in the computerized data set. Data were analyzed using SPSS for Windows, version 21.0 by descriptive statistics, comparison and regression analysis. The level of significance was set at $P < 0.05$.

Ethical Issues

This study was approved by the Third Affiliated Hospital of Guangzhou Medical University's Ethics Committee (No. 20140301). Patients were informed of the study aims,

were given a Patient Information Leaflet and signed a research consent form.

Results

A total of 158 subjects participated in this study. These subjects were mainly suffering from schizophrenia or related disorders ($n = 73$, 46.2 %). Their ages ranged from 18 to 65, with a mean age of 33.10 ($SD = 10.62$). Age of mental illness onset was 26.31 ($SD = 8.71$). Table 1 shows detailed patient demographic characteristics.

Means of assessment outcomes is listed in Table 2. Regarding disability by WHO DAS-II, higher scores indicate higher levels of disability. Subjects perceived higher levels of disability in the aspects of social participation, getting along with others and dealing with life activities. For QOL by WHOQOL-BREF, patients had better QOL in the environmental domain than in the psychological and social domains. Concerning symptom severity by PANSS, higher scores indicate greater symptom severity. Participants had more severe general psychopathology symptoms than positive and negative symptoms.

Pearson correlation analyses were used to examine correlations of disability with symptom severity and QOL (Table 3). Overall, total disability scores were significantly correlated with patients' QOL and symptom severity. From Table 4, the prevalence of self-reported disability was as high as 69.6 % ($n = 110$). Those patients reporting a disability perceived higher levels of symptom severity and poorer QOL.

In the logistic regression analysis, there were two significant demographic predictors identified for disability status (Table 5). Older age was a significant risk factor for disability (OR 1.425, 95 % CI 1.016–1.999). Shorter duration of current hospitalization was a significant protecting factor for disability (OR 0.704, 95 % CI 0.508–0.974).

Discussion

This study found the prevalence of disability among Chinese people living with SMI was high. Common disability occurring due to SMI included participation in society, getting along with others and dealing with life activities. These findings were consistent with previous research [7, 8]. Risk factors related to disability for Chinese people living with SMI included older age and longer duration of hospitalization. As we all know, older people are more likely to be vulnerable when they are disabled. Longer duration of hospitalization may be related to more severe

Table 1 Demographic and clinical characteristics of patients (N = 158)

Characteristics	n (%)
Psychiatric diagnosis	
Schizophrenia and related disorder	73 (46.2)
Severe depression	48 (30.4)
Bipolar affective disorder	25 (15.8)
Others (e.g. missing)	12 (7.6)
Gender	
Male	89 (56.3)
Female	69 (43.6)
Age (years)	Mean (SD) = 33.10 (10.62) (range 18–65)
Education level	
Primary school or below	53 (33.5)
Secondary school	59 (37.3)
College/university education	46 (29.2)
Residential status	
Living alone	20 (12.7)
Living with family/relatives/friends	132 (83.5)
Others (reluctant to tell or missing)	6 (3.8)
Age at diagnosis (years)	Mean (SD) = 26.31 (8.71) (range 12–53)
Duration of mental illness (years)	Mean (SD) = 8.27 (7.66) (range 0.3–36)
Duration of current hospitalization (days)	Mean (SD) = 56.80 (47.96) (range 12–380)

Table 2 Patients' measured mean scores of health outcomes

Instruments and score range	Mean (SD)
WHO-DAS II-total score (0–48)	7.89 (7.70)
Cognition (0–8)	1.59 (1.39)
Mobility (0–8)	1.22 (0.89)
Self-care (0–8)	1.60 (0.89)
Getting along (0–8)	1.66 (1.17)
Life activities (0–8)	1.61 (1.51)
Participation in society (0–8)	1.85 (1.82)
WHOQOL-BREF-total score (24–120)	76.30 (12.33)
Physical health (7–35)	22.15 (3.65)
Psychological health (6–30)	18.42 (3.47)
Social relationship (3–15)	9.90 (2.34)
Environment (8–40)	25.40 (4.76)
PANSS-total score (0–180)	52.60 (26.61)
Positive symptoms (0–42)	12.49 (7.02)
Negative symptoms (0–42)	12.73 (7.67)
General psychopathology symptoms (0–96)	27.43 (13.93)

PANSS Positive and Negative Syndrome Scale, WHO-DAS II World Health Organization Disability Assessment Schedule II, WHOQOL-BREF World Health Organization Quality of Life-Brief

disease conditions, so these people were more likely to be disabled.

SMI has a dramatic impact on various areas of life. Disability arising out of SMI disrupts the day-to-day life

Table 3 Correlations among patient's disability score with symptom severity and QOL

Pearson correlation coefficients	WHODAS II-total
WHOQOL-BREF-total	−0.433**
Physical health	−0.415**
Psychological health	−0.410**
Social relationship	−0.356**
Environment	−0.355**
PANSS-total	0.616**
Positive symptoms	0.396**
Negative symptoms	0.511**
General psychopathology symptoms	0.648**

** $P < 0.001$

functioning of a person, self-care, interpersonal relationships, and social involvement [7]. This study indicated that the disability was more severe, it was significantly correlated with greater symptom severity and poorer quality of life. As disruption in social functioning also adds to the disability burden, people living with SMI found that it was extremely difficult to initiate and pursue any form of social activity [7]. Therefore, future psychiatric rehabilitation interventions should be developed to reduce the impact of SMI on people's social functioning.

The current study had two limitations. Although this study adopted a cohort study sampling, it took a cross-

Table 4 Comparison of symptom severity and quality of life between nondisabled and disable patients by WHO-DAS II

Variables and domains	Mean (SD)		<i>t</i>	<i>P</i>
	No disability (n = 48)	Disability (n = 110)		
WHOQOL-BREF-total	81.72 (11.33)	73.39 (11.91)	3.80	<0.001
Physical health	23.93 (3.55)	21.31 (3.40)	4.33	<0.001
Psychological health	19.89 (3.15)	17.75 (3.41)	3.63	<0.001
Social relationship	10.85 (1.95)	9.43 (2.38)	3.51	0.001
Environment	27.80 (4.95)	24.33 (4.29)	4.35	<0.001
PANSS-total	41.63 (23.05)	58.28 (26.66)	−3.59	<0.001
Positive symptoms	10.76 (7.41)	13.29 (6.73)	−2.06	0.041
Negative symptoms	9.65 (6.63)	14.06 (7.74)	−3.36	0.001
General psychopathology symptoms	21.61 (10.15)	30.43 (14.69)	−3.68	<0.001

PANSS Positive and Negative Syndrome Scale, WHO-DAS II World Health Organization Disability Assessment Schedule II, WHOQOL-BREF World Health Organization Quality of Life-Brief version

Table 5 Significant factors related to patients' disability by logistic regression

Variables	B	SE	<i>P</i>	OR	95 % CI
Age	0.354	0.173	0.040	1.425	1.016–1.999
Duration of current hospitalization	−0.352	0.166	0.034	0.704	0.508–0.974

sectional study design and precluded causal conclusions. Additionally, this study was conducted at only one psychiatric hospital, so the generalizability of the study findings is limited. Furthermore, the current study was based on an exclusively hospital-based outpatient sample that might not be representative of patients in the community. Longitudinal studies are needed. Finally, the WHOQOL-BREF used in the current study is a generic instrument that is not designed specifically for schizophrenia and other SMI patients. Using a combination of both generic and specific instruments may be more sensitive and accurate in reflecting the clinical impact.

Conclusion

This study indicated that Chinese people living with SMI seemed to have a great number of rehabilitation needs, particularly in the area of social function, such as participation in society and getting along with others. More severe disability was related to greater symptom severity and poorer quality of life. Hence, future intervention studies should be conducted to reduce the impact of disability on quality of life and other health outcomes for people living with SMI. Research also needs to be done in identifying determinants of QOL in the different phases of the illness with an aim to target these during treatment interventions.

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Compliance with Ethical Standards

Conflicts of interest The authors have no funding or conflicts of interest to disclose.

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