

Study of the relationship between self-stigma and subjective quality of life for individuals with chronic schizophrenia in the community

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ABSTRACT

Background Studies conducted outside of China have found that stigma can predict low quality of life, and research in China has shown that stigma has an impact on the quality of life of convalescent patients with schizophrenia. Nevertheless, there is no in-depth research on the impact of stigma on the quality of life of patients.

Aims To research the correlation of stigma and the subjective quality of life of persons with chronic schizophrenia in the community.

Methods We adopted a stratified sampling method. General questionnaire, quality of life scale and stigma scale were given to 602 persons with chronic schizophrenia in the community.

Results The mean (SD) value of the Subjective Quality of Life Scale total scores was 32.99 (13.85). The mean (SD) value of the total stigma scores was 43.50 (5.02). After correlation analysis and multivariate stepwise regression analysis, it was shown that the total scores for self-stigma and each factor were positively correlated with subjective quality of life ($r=0.462$, $p<0.001$), psychosocial factors ($r=0.517$, $p<0.001$), and symptoms and adverse reaction factor scores ($r=0.363$, $p<0.001$), and the correlation coefficients were statistically significant.

Conclusions The higher the stigma of persons with schizophrenia in the community, the lower the subjective quality of life is. This suggests that reduction of self-stigma should be considered in the improvement of the quality of life of persons with schizophrenia in the community.

BACKGROUND

Psychiatric stigma¹ is the stigma against psychiatric patients and the discrimination and rejection of the general public towards them. Stigma^{2,3} can be divided into self-stigma and public stigma. The former refers to the stigma that hinders persons from talking about their own experiences and from seeking help, in addition to the worries and avoidance towards being discriminated against. The latter refers to the personal experience of patients being discriminated and treated unfairly. Self-stigma limits their own social circle, and it also constantly depreciates themselves, resulting in adverse consequences such as avoidance

of social situations and suicide in the end.⁴ Studies from numerous fields, including clinical medicine, sociology and psychology, have shown that the impaired social functioning and mental disability of patients with chronic schizophrenia severely influence their quality of life.⁵ Studies outside of China have found that stigma is a predictor of a low quality of life.^{6,7} A study conducted in China in 2015⁸ showed that stigma has an impact on the quality of life of those with schizophrenia in the convalescent period. Nevertheless, there is no extended research on stigma and its impact on the quality of life of patients. Therefore, this study aims to investigate the relationship of stigma and quality of life in stay-at-home patients with schizophrenia in the Pudong New Area of Shanghai.

METHODS

Participants

A stratified sampling method was used. There were altogether 30 neighbourhoods which had community rehabilitation institution subordinated to the Pudong New Area mental disease prevention and treatment management. Each neighbourhood was randomly numbered with a natural number according to the total number of patients that was divided by 20, resulting in the multiple of the sampling probability. For instance, there were 1056 community patients with schizophrenia in a neighbourhood and the sampling probability was 52. The first subject of sampling was number 52 and the second one was number 104. If the participant did not meet the criteria for enrolment or refused to follow up, the next person in sequence would become the subject. **The sampling continued until 24 patients were selected.** In accordance with practice, households' separation, refusal to



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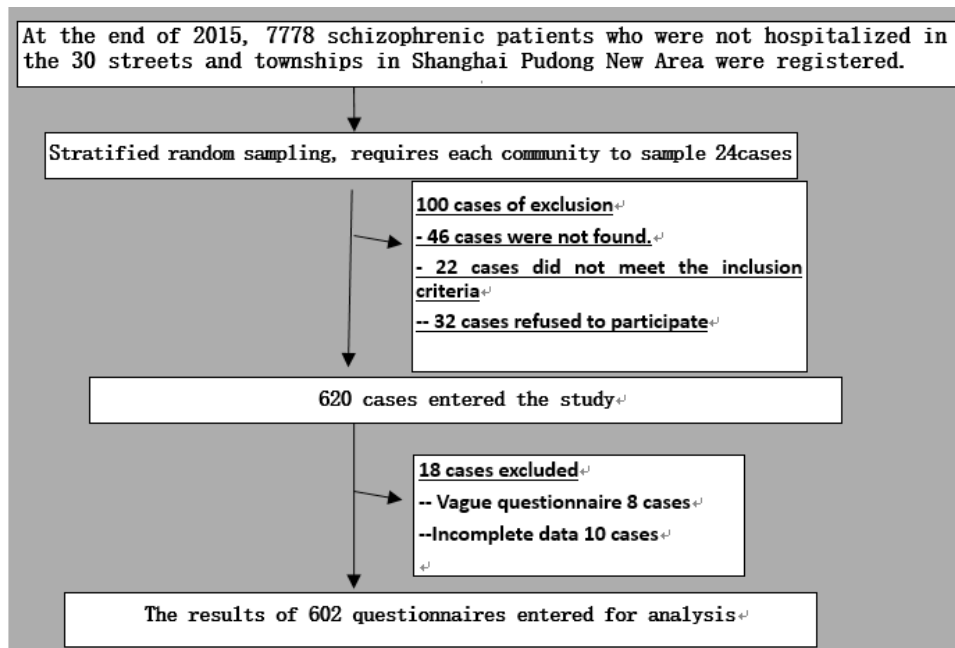


Figure 1 Demographic percentage figure.

visit and the number of investigations that could not be completed increased by 20%.

The following were the inclusion criteria: (1) meeting the International Statistic Classification of Disease and Related Health Problems, 10th Revision, diagnostic criteria for schizophrenia; (2) aged between 18 and 65; (3) in community rehabilitation, have not been hospitalised in the past 3 years and in stable condition; and (4) Positive and Negative Syndrome Scale score less than 60. The following were the exclusion criteria: (1) currently having a major somatic disease; (2) diagnosed with intellectual disabilities or verbal communication disorders and failed to complete examination and evaluation; (3) with a high risk of suicide; (4) comorbidity with other severe mental disorders; and (5) patients who had never been treated in Shanghai medical institutions and therefore were not included in community management (figure 1).

Methods

General information questionnaire

A self-compiled general information questionnaire including general demographic information and disease information was used. The information was collected by community mental health specialists in consultation with the patients.

Schizophrenia Quality of Life Scale

The Schizophrenia Quality of Life Scale is a self-rating scale compiled by British psychiatrists Greg Wilkinson and Diane Wild and colleagues, and translated and revised by Luo Hong and colleagues⁹ from Zhejiang University. The test-retest reliability of the Chinese version was 0.87 and the internal consistency (alpha) coefficient was 0.70–0.92, which was significantly correlated with the MOS item short form health survey (SF-36) and Symptom Checklist

90 (SCL-90). The questionnaire is a 5-point Likert scale with three subscales, namely psychosocial, motivation/energy and symptoms/side effects. The final standard score is 0–100; the lower the score, the better the subjective quality of life.

Stigma Scale for Mental Illness

The Stigma Scale for Mental Illness was compiled by Qingzhi and colleagues¹⁰ from the mental health centre affiliated to Shanghai Jiao Tong University. The perceived level of discrimination was measured based on the feelings and experience of patients. A 4-point Likert scale was adopted, which included 3 factors and 32 items, and 8 of them were reversed items. The lower the score, the lower the self-stigma. After reliability analysis, the internal consistency coefficient of the scale was 0.90, and the internal alpha coefficient of the three factors was between 0.68 and 0.85. The correlation coefficient between the factors was between 0.63 and 0.75.

Statistical analysis

All data were processed using SPSS V.17.0 software. A database was established. The data were entered by a specially assigned person and analysed by a specialist who had not participated in the investigation. Quantitative data were expressed in terms of means and SD. Qualitative data were expressed in n (%). Pearson's correlation and stepwise multiple regression analysis were used to analyse the relationship between the scores of the two scales.

RESULTS

General demographic information

A total of 620 patients with chronic mental illness in the community were surveyed and 602 valid questionnaires

were collected through strict quality control (97.10%). Among them, 292 (48.5%) cases were male and 310 (51.5%) were female; 332 (55.1%) were unmarried, 215 (35.7%) were married, and 55 (9.2%) were widowed, separated or divorced. The following were the living conditions of the participants: living alone 17 cases (2.8%); unmarried and living with family 331 cases (55.0%); married nuclear family 154 cases (25.6%); and married stem family 100 cases (16.6%). The following were the educational attainment of the participants: primary school 56 (9.3%) cases, junior middle school 323 (53.7%), senior high school 179 (29.7%), and collage or above 44 (7.3%). Of the participants, 52 (8.6%) were employed (full time and part-time), 467 (77.8%) were unemployed and 83 (13.8%) were retired (see details in [table 1](#) and [figure 2](#)).

The current average age of the patients was 44.56 (10.63) years old, mostly 31–45 years old (268 cases, 44.5%) and 46–60 years old (223 cases 37.0%), and there were 56 cases (9.3%) who were 30 years old or below and 55 cases (9.1%) who were 61 years old or above. The age of onset was 25.58 (9.05) years old, mostly 18–30 years old (345 cases, 57.3%), 102 cases were under 18 years old (16.9%) and 155 cases were 31–50 years old (25.7%).[figure 3](#)

Course of illness, hospitalisation and medication

The average course of illness was 18.95 (9.32) years, 360 (59.8%) patients with 16 years or more, 116 (19.3%) patients with 11–15 years, 99 (16.4%) patients with 6–10 years, and 27 (4.5%) patients with less than 5 years. There were 249 stay-at-home patients (41.4%) who had never been hospitalised since the diagnosis, and the average number of

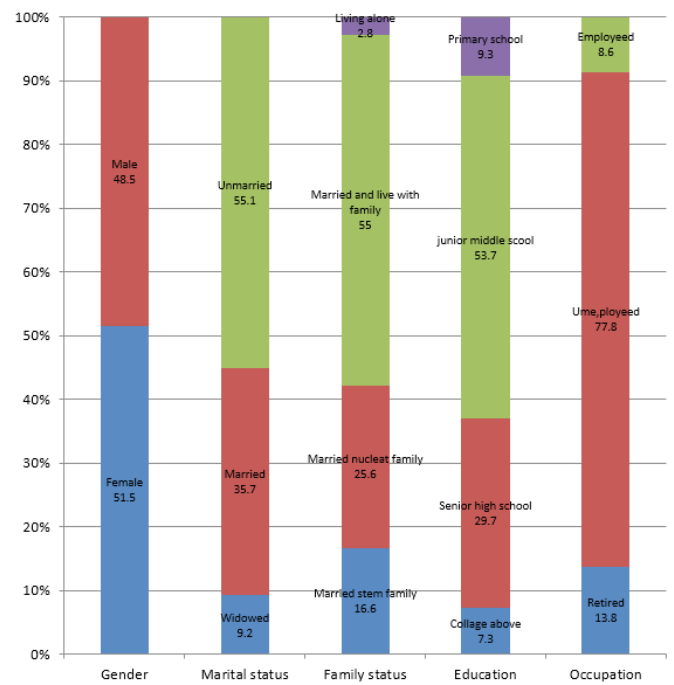


Figure 2 Demographic percentage figure.

hospitalisations for the rest of the patients was 2.32 (1.61) times; 323 (53.7%) patients were hospitalised one to three times and 30 patients (5.0%) more than four times. There were 579 cases (96.2%) that received drug therapy, and currently 22 cases (3.7%) refused medication (see [table 2](#) and [figure 3](#) for details).

Content	n	Percentage	Subjective quality of life total score		Stigma total score	
			Mean (SD)	F/t (p values)	Mean (SD)	F (p values)
Gender						
Male	292	48.5	32.37 (13.11)	1.152 (0.282)	42.19 (14.28)	4.407 (0.036*)
Female	310	51.5	33.58 (14.51)		44.76 (15.58)	
Marital status						
Unmarried	332	55.1	33.20 (13.00)	3.271 (0.039*)	44.05 (13.80)	3.393 (0.034*)
Married	215	35.7	33.81 (14.63)		43.91 (16.20)	
Widowed, separate or divorced	55	9.2	28.55 (15.07)		16.54 (2.23)	
Employment						
Employed	52	8.6	39.22 (14.02)	10.490 (<0.001**)	44.29 (16.83)	0.668 (0.526)
Unemployed	467	77.6	30.27 (13.09)		41.38 (15.47)	
Retired	83	13.8	32.19 (13.63)		43.61 (14.62)	
Number of hospitalisations						
Never hospitalised	222	36.88	33.53 (13.13)	2.463 (0.086)	44.81 (14.53)	5.711 (0.003*)
Hospitalised below three times	324	53.82	32.06 (14.34)		41.81 (15.48)	
Hospitalised above three times	56	9.30	32.99 (13.85)		48.21 (12.63)	
Total	602	100	32.99 (13.85)		43.51 (15.01)	

*P<0.05, **p<0.01.

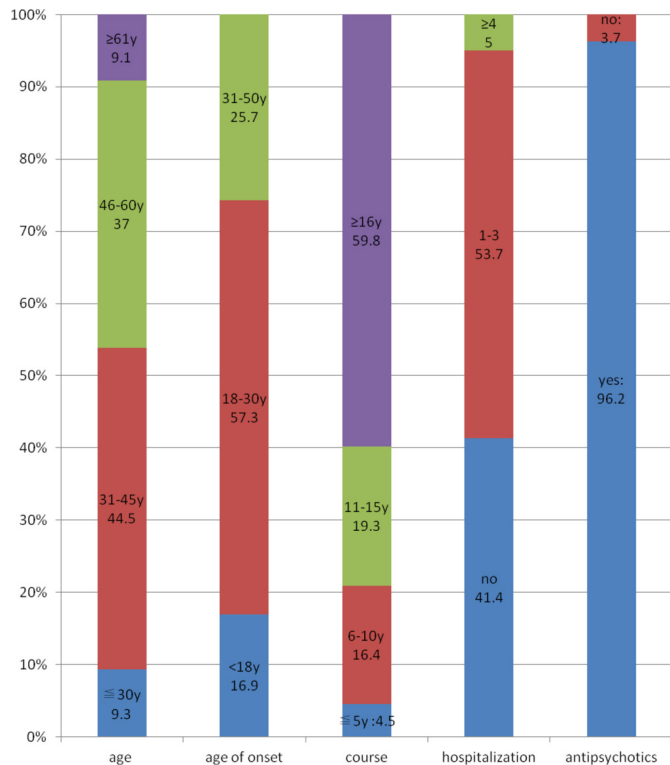


Figure 3 Schizophrenia characteristics distribution figure.

and side effect factors (the correlation coefficients were 0.360, 0.333, 0.352 and 0.296; $p < 0.001$), respectively, and the differences were statistically significant. Nevertheless, the correlations with the energy/motivation factors of the subjective quality of life were not statistically significant (see table 2 for details).

Regression analysis of the subjective quality of life and stigma scores in stay-at-home patients with schizophrenia

In univariate analysis, it was found that marital status, family status, occupation and course of illness had significant effects on subjective quality of life, while gender, number of hospitalisations and marital status had significant effects on self-stigma (see table 1). Therefore, after controlling for factors such as gender, educational attainment, occupation, marital status, family status, number of hospitalisations, whether medicated or not, age of onset and course of illness, and for subjective quality of life and self-stigma as continuous variables, further regression analysis found that self-stigma and quality of life were positively correlated. In short, the higher the self-stigma and the higher the subjective quality of life, the lower the quality of life actually was (see table 3 and figure 3 for details).

Table 2 Variance analysis of the influencing factors of subjective quality of life in stay-at-home patients with schizophrenia.

Items		Stigma total score	Social factor	Functioning factor	Treatment factor
Schizophrenia Quality of Life Scale total score	$r(p)$	0.462 (<0.001**)	0.457 (<0.001**)	0.419 (<0.001**)	0.351 (<0.001**)
Psychosocial	$r(p)$	0.517 (<0.001**)	0.519 (<0.001**)	0.470 (<0.001**)	0.379 (<0.001**)
Motivation/energy	$r(p)$	-0.015 (0.721)	0.004 (0.929)	-0.58 (0.156)	-0.01 (0.972)
Symptoms/side effects	$r(p)$	0.360 (<0.001**)	0.333 (<0.001**)	0.352 (<0.001**)	0.296 (<0.001**)

* $p < 0.05$, ** $p < 0.01$.

Scores of the quality of life scale of community patients with chronic schizophrenia and Stigma Scale for Mental Illness

The total score for the quality of life scale of community patients with chronic schizophrenia was 32.99 (13.85). The mean scores of the three factors were 32.47 (18.43) for psychosocial, 47.21 (11.96) for energy and motivation, and 21.53 (17.36) for symptoms and side effects. The total score for self-stigma was 43.50 (15.02), and the mean scores of the three factors were 10.80 (4.14) for functioning, 20.37 (7.57) for social intercourse and 12.32 (4.99) for treatment, respectively.

Correlation of self-stigma and subjective quality of life in community patients with chronic schizophrenia

The Pearson's correlation analysis showed that the total scores for self-stigma, social factors of self-stigma, functioning factors and treatment factors were positively correlated with the total scores of subjective quality of life (the correlation coefficients were 0.462, 0.457, 0.419 and 0.351; $p < 0.001$), psychosocial factors (the correlation coefficients were 0.517, 0.519 and 0.470; $p < 0.001$), and symptoms

Table 3 Stepwise multivariate regression analysis of the influencing factors of subjective quality of life in stay-at-home patients with schizophrenia

Items	B	t	P values
Constant	3.84	0.714	0.475
Gender	0.279	0.275	0.783
Educational attainment	0.440	0.632	0.528
Employment	1.284	1.595	0.111
Marital status	-3.034	-1.931	0.054
Family status	0.716	1.158	0.247
Number of hospitalisations	0.244	0.805	0.421
Whether medicated or not	0.973	0.360	0.79
Course of the illness	0.123	1.987	0.047*
Age of onset	0.147	2.294	0.002*
Stigma total score	0.417	12.377	<0.001*

* $p < 0.05$, ** $p < 0.01$.

DISCUSSION

Main findings

This study has shown that there is a positive correlation between subjective quality of life and self-stigma in community patients with chronic schizophrenia, and this result is consistent with that of Link and colleagues.¹¹ It further explains that self-stigma can predict the subjective quality of life of patients.

The study also found that the higher the score of the social factor of self-stigma, the higher the total score of subjective quality of life, the score of psychosocial factors and symptom/side effects, indicating that the more patients avoid social contact and lock themselves out from others, the more difficult it is for them to integrate into the society, the more persistent their mental symptoms are and the lower the perceived quality of life. At the same time, the feeling of subjective quality of life conversely affects the perception of stigma of patients, leading to an increase in avoiding social situations and resulting in more serious withdrawal behaviours. The results are different from the proposal by scholars⁶ that a negative coping style cannot directly predict the quality of life of patients; however, they are consistent with the research results of Hong Y.⁸ The low economic level in China might account for the differences. Due to the imperfection of the community rehabilitation model and the lack of comprehensive community rehabilitation resources, community patients with schizophrenia are prone to avoiding social situations and negative coping.

This study also found that the functioning and treatment factors of stigma were positively correlated with the total score, psychosocial and symptoms/side effects factors of subjective quality of life. The correlation suggests that increasing self-awareness in patients could result in lower subjective quality of life, thereby conversely aggravating stigma. Some scholars proposed^{8,12–14} that stigma affected treatment compliance, resulting in unstable symptoms, aggravating negative withdrawal reactions and deteriorating quality of life. By repeating this process, a vicious cycle is formed.

The results of this study found that patients with a longer course of illness had a lower subjective quality of life. However, the perceived stigma was not affected, which was consistent with the studies in China and abroad.^{13,14} Nevertheless, this study showed that there was no statistical significance in the correlation between the perceived stigma and the motivation/energy factors of subjective quality of life, which deviated from the results of Chinese and foreign studies^{13,15} that had indications of positive correlations. The deviation could be attributed to the subjects in current research were community-based chronic schizophrenia, and 79.1% of which had a course of more than 10 years. On one hand, the residuals had negative symptoms and were not sensitive to stigma and quality of life. On the other hand, 77.6% of patients have been unemployed for a long time, had no chance to integrate into the society and coped with life negatively, which led to low levels of life motivation and energy for

an extended period of time. The patients appeared to be lack of interests and hobbies regardless of the perception of the self-stigma.

Limitations

There are some limitations to the current investigation. First, the patients had almost 10 years of illness, and most of them had no jobs, which may have affected the results. Second, the number of the scales we applied was small, which could not reflect the comprehensive feelings of self-stigma. Third, apathy symptoms, which may affect feelings of self-stigma, were not assessed.

Implications

Researchers are in need of interventions for self-stigma in order to improve the quality of life of patients with chronic schizophrenia in the community. Scholars in China have increasingly emphasised the impact of stigma on patients' quality of life. Furthermore, there are explorations on the reduction of stigma through social support to improve the quality of life of those patients with relatively good social functioning. There is also research on systematic methods and feasible rehabilitation means for patients with chronic degeneration in the community. This kind of research will continue to explore in practice and attempt to carry out targeted and feasible rehabilitation methods for these groups.

Contributors YG: in charge of the project and is the person of execution. SQ: project organiser, logistic support and data collation. HQ: quality control and data guidance.

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Competing interests None declared.

Patient consent for publication Obtained.

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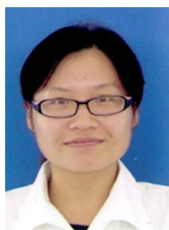
Data sharing statement No additional data are available.

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