Effect of thought disorders on quality of life in patients with schizophrenia

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Abstract

Objective: The aim of the present study was to investigate the impact of thought disorder on quality of life in patients with schizophrenia.
Methods: Seventy two patients with schizophrenia and 46 healthy subjects were included in the study. World Health Organization Quality of Life Instrument Short Forum (WHOQOL-BREF) was given to patients and healthy subjects to assess quality of life. Thought and Language Index (TLI) for thought disorders, Positive and Negative Syndrome Scale (PANNS) for symptom and Calgary Depression Scale (CDS) for depressive symptoms were administered to the patients.
Results: The comparison of quality of life between patients and healthy subjects showed a significant difference except environmental domain. There were no significant correlations between thought disorder and quality of life in patients with schizophrenia.
Conclusion: The present study revealed that quality of life was lower in patients with schizophrenia compared to healthy subjects. There was no relation between thought disorders and quality of life in schizophrenia. Patients with schizophrenia were aware of their quality of life perception.
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Keywords: Quality of life; Schizophrenia; Thought and Language Index; Thought disorder

1. Introduction

In recent years, there has been increased interest in the concept of quality of life (QOL). QOL is defined by the World Health Organization as the "Individuals' perceptions of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns" (The WHOQOL Group, 1995). Schizophrenia, as a chronic disabling disorder with an early age of onset, has attracted attention given its drastic negative effects on the patient's QOL (Bengtsson-Tops and Hansson,

1999; Herrman et al., 2002). QOL has been negatively correlated to both positive and negative symptoms as well as anxiety in patients with schizophrenia (Bow-Thomas et al., 1999; Huppert et al., 2001). QOL is also negatively correlated to depressive symptoms and cognitive impairment in patients with schizophrenia (Alptekin et al., 2005; Wegener et al., 2005). It was suggested that cognitive deficits in executive function and working memory appear to have direct impact on the patients' perceived QOL especially in social domain (Alptekin et al., 2005). Wegener et al. (2005) found that QOL is more strongly related to levels of psychopathology, particularly depression, than neuropsychological deficits in first episode psychosis by using CDS, WHOQOL-Bref and a comprehensive neuropsychological battery. However sociodemographic characteristics of patients, such as age, sex, employment, marital status, social and family relations were not related to patients' self-assessed quality of life (Browne et al., 1996).

Although QOL has become a key indicator of outcome in schizophrenia, there is enduring debate about validity of subjective QOL measurements in psychotic patients (Herrman et al., 2002; Whitty et al., 2004). It was found that subjective QOL scales were suitable and valid for use in studies involving

people living with persisting psychotic disorders (Herrman et al., 2002). Also Whitty et al. (2004) were compared subjective and objective measures of quality of life in patients with first episode psychosis and 4 years after their first episode. They found that self-report measures are valid and insight – or lack of it – did not greatly influence patients' perception of QOL.

Thought disorder is one of the important and heterogeneous characteristics of schizophrenia. Thought disorder was first seen as part of the positive symptom complex, but factor analytic studies of symptom ratings suggested that disorganized thought is distinct from positive symptoms such as hallucinations and delusions. Moreover, thought disorder is different from positive and negative symptoms in terms of development and course of the illness (Schultz et al., 1997). Although thought disorder is most apparent during acute episodes of illness, the chronic phase of schizophrenia is characterised by vague, wandering speech. Thought disorders, especially the less florid forms characteristic of the chronic phase of the illness, are difficult to assess. It was suggested that TLI is capable of detecting subtle disorders (Liddle et al., 2002). Although thought disorder is one of the important characteristics of schizophrenia; the relationship between thought disorder and QOL has not been evaluated yet.

2. Aim of the study

The present study aims to investigate the effect of thought disorders on quality of life in patients with schizophrenia.

3. Methods

Seventy two patients with schizophrenia and 46 healthy subjects were included in the study. The diagnosis of schizophrenia was based on the SCID for DSM-IV (First et al., 1997). The inclusion criteria were: diagnosis of schizophrenia, age over 18 and informed consent to participate in the study The main non-inclusion criteria were: age over 65, diagnosis other than schizophrenia on axis I of DSM-IV, decompensated organic disease and mental retardation. The patients received information

Table 1
Sociodemographic and clinical characteristics of patients and control group

	Patients	Controls
	$n=72$	$n=46$
Sex		
Female	28 (39%)	20(43.5%)
Male	44(61%)	26(56.5%)
Age (years)	35.7 (SD=10.8)	37.1 (SD=10.5).
Education (years)	11.44 (sd: 3.9)	10.96 (sd: 3.7)
Marital status *		
Married	11 (15%)	14 (33%)
Single	61 (85%)	32 (67%)
Age at onset (years)	24.8 (SD=7.7)	–
Duration of illness (years)	10.6 years (SD=7.6)	–
PANNS total	58.2 (SD=14.1)	–
TLI	3.2 (SD=2.6)	–
CDS	4.6 (SD=4.4)	–

 * $p<0.001$.

Table 2
Comparison of QOL scores between patients and control group

WHOQOL-Bref domains	Schizophrenia	Control group	F	p
Physical	12.6 SD=2.6	16 SD=2.1	54.7	<0.001
Psychological	12.1 SD=2.1	15.5 SD=2.6	37.3	<0.001
Social	11.1 SD=3.7	15 SD=3.1	34.3	<0.001
Environmental	12.9 SD=2.3	13.6 SD=2.6	2.3	0.14

about the aims and design of the study and were asked for informed consent to participate prior the beginning of the structured interview conducted by the investigators. The study was approved by the ethics review committee of Medical School of Dokuz Eylül University. Sociodemographic data form was administered to patient and control group in order to assess sociodemographic and clinical characteristics.

The WHOQOL is a generic and subjective QOL instrument that was designed to be applicable to people living under different circumstances, conditions and cultures. Two versions are available: (i) the full WHOQOL with 100 items and (ii) the WHOQOL-Bref with 26 items. WHOQOL-Bref, the generic profile instrument, useful in clinical and service evaluations was used in this study for reasons of brevity. It provides measurement on four domains: physical, psychological, social and environment. The physical domain has questions related to daily activities, treatment compliance, pain and discomfort, sleep and rest, energy and fatigue. In the psychological domain, there are questions of positive and negative feelings, self-esteem, body image and physical appearance, personal beliefs and attention. The social relationship domain is related to personal relationships, social support and sexual activity. The environmental domain explores physical security and safety, financial resources, health and social care and their availability, opportunities for acquiring new information and skills, and participation in and opportunities for recreation and transport. It is suggested that the WHOQOL is a reliable, subjective Quality of Life Scale (QLS) for schizophrenic patients (The WHOQOL Group, 1998; Orsel et al., 2004). WHOQOL-Bref was administered to patients and healthy subjects. Cronbach's alpha of physical, psychological, social and environmental domains of WHOQOL-Bref were, respectively, 0.83, 0.66, 0.53 and 0.73. The mean Cronbach's alpha was not quantified in Turkish reliability and validity study WHOQOL-Bref (Fidaner et al., 1999).

TLI was developed for assessing formal thought disorder under standardized conditions for thought disorder (Liddle et al., 2002). TLI includes impoverishment of thinking (TLI-IT) and disorganization of thinking (TLI-DT) subscales and 8 items. Impoverishment of thinking category includes poverty of speech, weakening of goal and perseveration items. Looseness, peculiar word use, peculiar sentence construction, peculiar logic and distractibility items reflect the disorganization of thinking category. Cronbach's alpha was 0.75 in our patient group.

PANSS (Kay et al., 1987) for symptom severity, CDS (Addington et al., 1990) for depressive symptoms were administered to patients. Cronbach's alpha was 0.90 for the CDS (Oskay et al., 2000).

A multiple analysis of variance (MANOVA) was done to determine the difference between WHOQOL-BREF scores of

Table 3
Pearson correlation coefficients between WHOQOL-Bref and TLI, PANNS, CDS scores

	Physical	Psychological	Social	Environmental
TLI-DT	−.064	.031	−.182	−.107
TLI-IT	.111	.099	−.055	.002
PANSS	−.500***	−.380***	−.251*	−.406***
CDS	−.504***	−.646***	−.345**	−.485***

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

patients and control group. Spearman rank correlation was used to assess the correlations between TLI, WHOQOL-BREF, PANSS and CDS scores of patients. A p value of less than 0.05 was considered to be statistically significant.

4. Results

Seventy-two in-and outpatients with schizophrenia and 46 healthy participants were recruited from Dokuz Eylül University Hospital. Twelve (16%) of the patients were in-patients. Seventy of patients (97%) were taking antipsychotic treatment. Fifty-two (78%) of the patients were taking only atypical antipsychotic treatment, 3 (4%) of were taking only typical antipsychotic, 15 (21%) were taking combination of typical and atypical antipsychotics and 2 were not taking any medication. None of the patients had tardive dyskinesia. Eleven (15%) of the patients had obsessive symptoms but none of them fulfil the criteria for obsessive compulsive disorder. Substance use disorders were not diagnosed in our patient group.

There were no significant differences between patients and control subjects in age, sex, and years of education. Marital status between patients and control group was significantly different. Sociodemographic and clinical characteristics of patients and control group are presented in Table 1.

WHOQOL-BREF scores of patients and control group in Physical, Psychological, Social and Environmental domains were compared. The patients with schizophrenia demonstrated lower scores in all domains whereas statistical significance was found in physical, psychological and social domains compared to control group. Comparisons of QOL domains among groups are shown in Table 2.

The mean scores of TLI, PANSS and CDS of patients were, respectively, 3.2 (SD = 2.6), 58.2 (SD = 14.1) and 4.6 (SD = 4.4). There were no significant correlations between WHOQOL-BREF and TLI total scores. The correlations between domains of WHOQOL-Bref with PANSS and CDS scores were significant. Correlation coefficients between WHOQOL-BREF, TLI, PANSS and CDS scores are shown in Table 3. There were no significantly correlations between CDS and TLI scores ($r = -.060$, $p = 0.618$). QOL of patients with schizophrenia was not affected by age, sex, marital status and education.

5. Discussion

In this study QOL in patients with schizophrenia and healthy subjects were compared and impact of clinical parameters, especially thought disorders on QOL was evaluated in patients with schizophrenia. The patients with schizophrenia were showed lower scores in psychological, social and physical domains of quality of life compared to control group. It is not surprising that we could not find a significant difference in environmental domain between two groups. Access to environmental resources, "standard of living", is limited for the majority in our country as in other developing countries.

QOL of patients with schizophrenia was not affected by age, sex, marital status and education in our study as reported before (Browne et al., 1996). But Bengtsson-Tops and Hansson (1999) were found that objective and subjective measurements of Lancashire Quality of Life Profile showed some differences in a few domains. The patients were estimated as having a higher quality of life by the interviewer if they had work, children, close friends, and a high frequency of family contact. Although self-report QOL scales were suggested suitable and valid for patients with schizophrenia (Herrman et al., 2002; Whitty et al., 2004), sociodemographic characteristics on QOL of schizophrenic patients must be evaluated carefully in subjective QOL scales.

The positive, negative and depressive symptoms of schizophrenia were negatively correlated to QOL of patients as reported in previous studies (Bow-Thomas et al., 1999; Huppert et al., 2001). Since there were no correlations between CDS and TLI scores, it may indicate that depressive symptoms are not related to thought disorder observed in patients with schizophrenia in our study.

It was found that cognitive impairment appears to have direct impact on the schizophrenic patients' perceived QOL (Alptekin et al., 2005; Wegener et al., 2005). Goldberg et al. (1998) were reported clinically rated thought disorder was associated with cognitive impairment in patients with schizophrenia. Although cognitive impairment was not assessed and no relationship was found between QOL and thought disorder in our patient group, cognitive impairment may be contributed the significant difference between QOL of patients and control group.

In our knowledge this is the first study which assesses the effect of thought disorders on QOL in patients with schizophrenia with a standardized scale. The primary finding of this study is that thought disorders does not correlate to QOL in patients with schizophrenia. In a previous study, it was found that thought disorder was related to impairment in work performance but less support was found for social functioning (Racenstein et al., 1999). In another study awareness of thought disorder in patients with schizophrenia was assessed (McGrath and Allman, 2000). In this study a significant correlation found between objective levels of positive thought disorder and higher scores on the Communication Awareness Scale and it was suggested that patients with thought disorder were aware of their deficit. This finding supports our results that patients with schizophrenia are aware of their QOL, although they have thought disorder. But the results cannot be generalized to all patient population because of the TLI scores of our patients were low. Future studies will be needed to examine the effect of thought disorder on QOL in a sample of clearly disorganized patients.

6. Conclusions

The present study revealed that the QOL was not influenced by thought disorders in patients with schizophrenia. There was no relation between thought disorders and quality of life in schizophrenia. Patients with schizophrenia were aware of their quality of life perception, although they have thought disorder.

References

Addington D, Addington J, Schissel BA. A depression rating scale for schizophrenics. Schizophr Res 1990;3:247–51.

Alptekin K, Akvardar Y, Akdede BB, Dumlu K, Isik D, Pirinçci F, et al. Is quality of life associated with cognitive impairment in schizophrenia. Prog Neuropsychopharmacol Biol Psychiatry 2005;29:239–44.

Bengtsson-Tops A, Hansson L. Subjective quality of life in schizophrenic patients living in the community: relationship to clinical and social characteristics. Eur Psychiatry 1999;14:256–63.

Bow-Thomas CC, Velligan DI, Miller AL, Olsen J. Predicting quality of life from symptomatology in schizophrenia at exacerbation and stabilization. Psychiatry Res 1999;86:131–42.

Browne S, Roe M, Lane A, Gervin M, Kinsella A, Larkin C, et al. Quality of life in schizophrenia: relationship to sociodemographic factors, symptomatology and tardive dyskinesia. Acta Psychiatr Scand 1996;94:118–24.

Fidaner H, Elbi H, Fidaner C, Eser SY, Eser H. Psychometric properties of the WHOQOL-100 and WHOQOL-BREF. J Psychiatry Psychol Psychophar-macol 1999;7:23–40 [in Turkish].

First MB, Spitzer RL, Gibbon M, Williams JB. Structured Clinical Interview for DSM-IV axis I disorders. Washington, DC: American Psychiatric Press; 1997.

Goldberg TE, Aloia MS, Gourovitch ML, Missar D, Pickar D, Weinberger DR. Cognitive substrates of thought disorder, I: the semantic system. Am J Psychiatry 1998;155:1671–6.

Herrman H, Hawthorne G, Thomas R. Quality of life assessment in people living with psychosis. Soc Psychiatry Psychiatr Epidemiol 2002;37:510–8.

Huppert JD, Weiss KA, Lim R, Pratt S, Smithn TE. Quality of life in schizophrenia: contributions of anxiety and depression. Schizophr Res 2001;51:171–80.

Kay SR, Fiszbein A, Opler LA. The positive and negative Syndrome Scale (PANSS) for schizophrenia. Schizophr Bull 1987;13:261–76.

Liddle PF, Ngan ETC, Caissie L, Anderson CM, Bates AT, Quested DJ, et al. Thought and Language Index: an instrument for assessing thought and language in schizophrenia. Br J Psychiatry 2002;181:326–30.

McGrath J, Allman R. Awareness and unawareness of thought disorder. Aust N Z J Psychiatry 2000;34:35–42.

Orsel S, Akdemir A, Dag I. The sensitivity of Quality of Life Scale WHOQOL-100 to psychopathological measures in schizophrenia. Comput Psychiatr 2004;45:57–61.

Oskay SE, Aksaray G, Kaptanoglu C, Bal C. Validity and reliability of the Turkish Version of Calgary Depression Scale in schizophrenic patients. Turk Psikiyatri Derg 2000;11:278–84.

Racenstein JM, Penn D, Harrow M, Schleser R. Thought disorder and psychosocial functioning in schizophrenia: the concurrent and predictive relationships. J Nerv Ment Dis 1999;187:281–9.

Schultz SK, Miller DD, Oliver SE, Arndt S, Flaum M, Andeasen NC. The life course of schizophrenia, age and symptom dimensions. Schizophr Res 1997;23:15–23.

The WHOQOL Group. The World Health Organization Quality of Life Assessment (WHOQOL): position paper from the World Health Organisa-tion. Soc Sci Med 1995;41:1403–9.

The WHOQOL Group. Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. Psychol Med 1998;28:551–8.

Wegener S, Redoblado-Hodge MA, Lucas S, Fitzgerald D, Harris A, Brennan J. Relative contributions of psychiatric symptoms and neuropsychological functioning to quality of life in the first-episode psychosis. Aust N Z J Psychiatry 2005;39:487–92.

Whitty P, Browne S, Clarke M, McTigue O, Waddington J, Kinsella T, et al. Systematic comparison of subjective and objective measures of quality of life at 4-year follow-up subsequent to a first episode of psychosis. J Nerv Ment Dis 2004;192:805–9.