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The quality of life of schizophrenic patients, part two: construct, intercorrelations and explanation factors*

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Summary

Aim: *The study analyses the quality of life of schizophrenic patients: the construct, interconnections and explanation factors.*

Method: *Subjective and objective indicators of the quality of life were examined isochronally with Lehman's questionnaire in a homogeneous group of sixty-six schizophrenic patients, diagnosed according to DSM-III, seven years after their first hospitalisation. The research was carried out between 1992 and 1994.*

Results and conclusion: *With those schizophrenic patients who throughout the seven-year follow-up period participated in the psychosocial treatment programme, a positive assessment was observed as to both subjective and objective indicators of the quality of life.*

The achieved results vary in different domains (either subjective or objective indicators of the quality of life), which gives little warrant to any general assessment. In the Polish population of schizophrenic patients, religion and family prove to be of enormous importance for the surveyed. In all Polish researches on the quality of life there should appear a tendency to standardise the indicators of the quality of life, as well as questionnaires, in order to enable comparative research in many medical centres and a critical evaluation of the employed models.

Key words: quality of life, model analysis, schizophrenia.

The questions that refer to the quality of life in chronic somatic illnesses have a long tradition. Nowadays, it is difficult to imagine any therapeutic decisions which would not consider the subjective assessment of the 'quality of life' (QL) of patients. Research on the quality of life in mental illnesses is connected with the development of community psychiatry and the process of abandoning institutionalised forms of treatment. In their assessment of the quality of life, psychiatrists, besides the classical criteria used in the evaluation of treatment outcome such as the level of psychopathology, relapses, social adjustment, employment, to an ever higher degree have begun to consider the quality of life of mental patients. In the recent years a number of valuable publications appeared (e.g. Malm U. et al. [1981], Lehman A.F. [1983, 1988], Lehman A.F. et al. [1982, 1986], Lauer G. [1993], Lauer G., Stegmüller-Koenemund U. [1994], Skantze K. et al. [1992], Oliver J.P.J. [1991-92], Mercier C. and King S.

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[1994], Jarema M. et al. [1995], Spiridonow K. et al. [1997, 1998]) which critically analysed the problem of the quality of life of mental patients.

As in the literature on the quality of life, so in psychiatry there is no consensus as to the acceptable definition of this multidimensional construct (Oliver J.P.J. [1991-92], Pinkney A.A. et al. [1991], Wright S.J. [1994]). Many definitions differentiate between objective and subjective indicators of the quality of life and evaluate them in significant domains of life such as accommodation, family ties, social contacts, recreation, sense of safety, employment, income, health, religion, etc. As compared with such concepts as 'satisfaction with one's life' or 'the feeling of happiness', the quality of life is to function as a structuring and more comprehensive construct which would include both the objective and the subjective assessment of the circumstances of life.

INDIVIDUAL CHARACTERISTICS

SUBJECTIVE ASSESSMENT OF QL GENERAL ASSESSMENT OF QL

OBJECTIVE ASSESSMENT OF QL

Fig. 1 **Model of assessment of the quality of life acc. to Lehman et al.**

Most briefly one may say that there exist descriptions of general and specific models of the quality of life (Lauer G. [1993], Wright S.J. [1994]). General models, such as the model by Lehman et al., which was adopted in the Kraków study (see Fig. 1), distinguish between the above mentioned objective circumstances of life and the subjective quality of life. Specific models include variables that are important for mental patients, such as a sense of one's worth (Franklin J.L. et al. [1986]) or the existent opportunities of coping with the illness (Kearns R.A. et al. [1987]). C. Mercier and S. King [1994] presented, with the use of path analysis, a model of the quality of life that took into account the extent to which the mental patient was integrated with his/her community. Many studies (e.g. Awad A.G. [1992]) underline the connection between the quality of life in the presented model with schizophrenic symptoms, their severity and the side effects of neuroleptics. Empirical studies, however, tend to be related only to simplified models, such as the one shown above (Fig. 1).

The aim of the Kraków study on the quality of life of schizophrenic patients

The Kraków study on the quality of life of schizophrenic patients included in the community treatment programme is a longitudinal study and is meant to assess the dynamics of change seven and twelve years after the first episode (Cechnicki A. [1997], Cechnicki A., Valdes M. [2001]). The main aims of the study were defined as follows:

1. Description of the subjective and objective indicators of the 'quality of life' of schizophrenic patients seven (beginning of the study) and twelve years after the

first psychiatric hospital admission.
2. Analysis of the construct of the 'quality of life': assessment of internal correlations and explanation factors.
3. Analysis of the correlation between treatment outcome in selected clinical and social domains, and the 'quality of life'.
4. Assessment of the dynamics of change in the quality of living with schizophrenia seven and twelve years after the first admission and the correlation of this change with treatment outcome.

This publication describes the second stage of the study. Next publications will deal with subsequent stages and our analysis of the correlation between the quality of life and psychopathology, gender, self-perception, course of the illness and the dynamics of the described phenomena in time. When an attempt was made to evaluate the construct of the quality of life, as put forward by Lehman et al. [1982], more detailed aims of the study were identified. Presented below will be the following:

1. Analysis of intercorrelations between the subjective indicators of the quality of life.
2. Analysis of intercorrelations between the objective indicators of the quality of life.
3. Analysis of correlations between the subjective and objective indicators of the quality of life.
4. Evaluation of the influence of prognostic factors on the general subjective quality of life.

The study group

The study group included sixty-six patients, diagnosed with schizophrenia according to the criteria of DSM-III, residents of Kraków. They were examined seven years after their first inpatient admission. The study was made in the years 1992-4. The patients, after their first hospitalisation in the Kraków Psychiatry Clinic, were treated individually, throughout the follow-up period, by therapists from the Clinic, which ensures the continuity of the treatment process. The group was slightly dominated by women (58%), patients with secondary-school education (45%) and vocational training (21%) (see Table 1). A relatively large group (30%) of patients with higher education is typical for Kraków, where many universities are based.

During their first psychiatric hospitalisation, one-third (33%) of the patients were married. In the course of seven years following the first hospitalisation, ten patients got married (seven women and three men), one of whom got divorced in the follow-up period, as did two other patients who were married before the first hospitalisation.

Very many (80%) patients either studied or worked (often their employment started in the year preceding the first hospital admission). Only 11% of the patients had no occupation at the time of their first admission, while the modes of employment or study with the remaining ones were varied. In the first seven years of the illness, a vast majority of the patients (over 50%) lost their jobs and received sickness benefit (Cechnicki A. [2001]).

Description of tool and method of statistical analysis

The Kraków study used the Polish version of Anthony Lehman et al.'s 'Quality of Life Questionnaire', as described in a different publication (Cechnicki [2001]). Sections concerning particular domains of life are composed in the following way: at first information is collected on the objective indicators of the quality of life, and then on the patient's subjective opinion on the same. The achieved objective and subjective indicators of the quality of life in the selected domains form the basis for the model of assessment of the quality of life. All subjective indicators of the quality of life stem from the seven-grade 'scale of satisfaction'. The objective indicators relate, on the one hand, to the evaluation of the patient's functioning, e.g. the frequency of social contacts or everyday activity; on the other hand, they relate to the availability of sources or the patient's opportunities to use them, e.g. financial resources or kind of care.

'General satisfaction with life' was evaluated on the basis of the average sum of points, from the first to the last point of the questionnaire. Surveyors classified answers on Likert's scale from 1 to 7. The objective dimension was influenced by the sum total of all the questions, while the subjective dimension by the sum of the subjective scales in each domain. The correlation between particular domains of subjective and objective quality of life (QL) was established with Pearson's correlation coefficient. In the evaluation of the influence of prognostic factors on the 'general quality of life', stepwise regression analysis was used.

Results

The results of the study will be presented in the same order as the above formulated aims of the study.

Relations between subjective domains of QL and general satisfaction with life

The internal correlations between nine domains of subjective satisfaction as well

Table 1

Intercorrelations between subjective domains of QL and general assessment

Subjective indicators	1	2	3	4	5	6	7	8	9	10
1. General satisfaction	1.0									
2. Living conditions		1.0								
3. Leisure	0.40**	0.39**	1.0							
4. Family situation	0.28*	0.55**	0.37**	1.0						
5. Social relations	0.42**	0.46**	0.70**	0.50**	1.0					
6. Financial situation	0.22*					1.0				
7. Employment	0.40*	0.57**	0.50**	0.63**	0.46*		1.0			
8. Sense of security		0.50**	0.44**	0.43**	0.40**		0.70**	1.0		
9. Health	0.46**	0.31*	0.52**	0.38**	0.51**	0.25*	0.64**	0.46**	1.0	
10. Religion	0.41**		0.30**				0.55**	0.33**	0.32*	1.0

To calculate correlations, Pearson's coefficient was used: *p<0.05; **p<0.01

as the correlations between these domains with general satisfaction (Table 1) were investigated.

It is believed that a significant correlation between one particular domain and general satisfaction with life may indicate its impact in the situation when it is investigated separately, in isolation from other domains, independently of the impact of other factors. Subjective satisfaction with work, leisure activities, health, social contacts and religion are significantly correlated (between 0.41 and 0.49) with general satisfaction with life. The least correlated domains are family and financial situation (0.26 and 0.28 respectively). There appears no correlation between subjective satisfaction with one's living conditions and sense of security. When we analyse the internal correlations between the levels of satisfaction with life in nine particular domains, we see that (except for the financial situation, which is weakly correlated with general satisfaction) they are fairly strong and positive, while subjective satisfaction with one's health is correlated with all the investigated areas.

If we compare the internal correlations between the subjective and objective assessments (Table 2), we see that the domains (indicators) of the subjective QL are more strongly and more frequently correlated than objective domains.

Table 2

Intercorrelations between objective domains of QL and general subjective satisfaction with life

Objective indicators	1	2	3	4	5	6	7	8	9	10
1. General satisfaction	1.0									
2. Living conditions		1.0								
3. Leisure	0.25*	0.30*	1.0							
4. Family situation	0.20*	0.27*		1.0						
5. Social relations			0.32**		1.0					
6. Financial situation	0.25*		0.30**			1.0				
7. Employment						0.51**	1.0			
8. Sense of security		0.29*						1.0		
9. Health									1.0	
10. Religion	0.41**									1.0

To calculate correlations, Pearson's coefficient was used: *p<0.05, ** p<0.01

Relations between the subjective domains of QL and the general subjective satisfaction with life

The analysis shows that the subjective domains of QL (their accessibility and the degree to which they are used) are intercorrelated to a very low extent, except for the correlation between employment and financial situation. However, employment does

not correlate with general satisfaction with life, but with subjective satisfaction with practising a profession (see Table 1). Similar phenomena are to be observed in the domains of health and social relations.

Correlations were sought between all the objective domains as well as between them and general satisfaction with life (Table 2). Leisure, family, financial standing and religion were positively correlated with general satisfaction of life, and in the case of religion the correlation was the strongest.

Correlation between objective and subjective indicators of QL

The relation between the subjective and objective domains of QL (Tables 3 & 4) was studied. Only the relations between the same domains were analysed. Four particular domains: living conditions, family situation, health and religion; as well as general satisfaction with life and the general subjective assessment were significantly and positively correlated. The domains of religion and health are highly correlated (respectively, 0.52 and 0.40). Subjective satisfaction with five other investigated domains (leisure, social relations, financial situation, employment and sense of safety) did not correlate to a statistically significant degree. So the relation at the general

Table 3

Correlations between objective and subjective domains of life (only correlations between the same domains were analysed)

Domain of life	R	P
Living conditions	0.284	0.021
Leisure	0.191	0.125
Family situation	0.286	0.034
Social relations	0.180	0.217
Financial situation	-0.026	0.823
Employment	0.061	0.700
Sense of safety	-0.110	0.378
Health	0.405	0.001
Religion	0.519	0.000
General subjective/objective assessment	0.341	0.005

Correlations were calculated with the use of Pearson's coefficient: *p<0.05, ** p<0.01

level points to greater subjective satisfaction with life, if the conditions of life are objectively better.

Particular domains are partly correlated (living conditions, family, health and religion) and partly independent (leisure, social relations, financial situation, employment and sense of safety). Below the results are shown for those domains where a statistically significant level of correlation was observed.

The impact of selected prognostic factors on the general quality of life

Table 4

Correlations between objective and subjective domains of life

Subjective/objective indicators	1	2	3	4	5	6	7	8	9	10
1. General subjective/objective assessment	0.34**									
2. Living conditions		0.28*								
3. Leisure										
4. Family situation				0.27*						
5. Social relations										
6. Financial situation										
7. Employment										
8. Sense of security										
9. Health									0.41**	
10. Religion										0.52**

Correlations were calculated with the use of Pearson's coefficient: *p<0.05, ** p<0.01

The analysis concerned the impact of selected demographic and social predictors as well as subjective and objective indicators of the quality of life in all investigated domains (independent variables) at the level of general satisfaction with life (Table 5). The prognostic factors included gender, marital status and education. The subjective and objective indicators of QL were obtained from the questionnaire by Lehman et al.

The best constellation of predictors in the multiple stepwise regression, which allows to explain 77% of variance in the global subjective assessment of the quality of life, consists of the following: subjective satisfaction with one's religious life, the female gender, good social relations as well as objective, current indicators connected with

Table 5

Impact of selected prognostic factors on general satisfaction with life 7 years after first admission: analysis of multiple stepwise regression

Significant predictors	Standardized ß coefficient	P
Religion (subjective assessment)	0.68	0.000
Gender (female)	0.45	0.002
Social contacts (objective assessment)	0.33	0.006
Employment (objective assessment)	0.25	0.035
R	0.81	
Corrected R	0.77	

R: percentage of explained variance
Corrected R: percentage of explained variance corrected by sample size

employment. All these prognostic factors have a significant, positive impact on general satisfaction with life, as shown by the standardised regression coefficient (â).

The analysis proves that it is subjective factors that chiefly decide about high satisfaction with life, including satisfaction with one's religious life.

Discussion of results

Isochronally, a homogeneous group of sixty-six schizophrenic patients, diagnosed according to DSM-III, was examined seven years after their first psychiatric admission. The first admission took place between 1985 and 1987 in the Psychiatry Clinic in Kraków, and the research was carried out in the years 1992-1994. Throughout the period, the patients underwent therapy within the psychosocial treatment programme. The above mentioned facts are the two reasons why it is difficult to compare this research with those by other authors who examined heterogeneous diagnostic groups in shorter periods or after long periods of in-patient treatment, using a variety of tools and employing them at different points in the course of the illness. Therefore the discussion that follows has to be viewed critically. Subjective and objective, general and particular results of the assessment of QL were obtained (Cechnicki 2001), the relations between them were analysed and the influence of prognostic factors on general satisfaction with life was assessed. First I will discuss those results that testify to a relation between the subjective and the objective aspect in the assessment of the quality of life, and then will proceed to discuss the significance of particular domains and the factors that explain the model by Lehman et al.

Those domains that are subjective indicators of QL strongly, positively and highly correlate with one another, as well as with general satisfaction with life; whereas those domains that are objective indicators of the quality of life show a weak correlation, and to a lesser degree, both with one another and with the general quality of life. So, it is not the objective circumstances but their subjective assessment in such domains as employment, social contacts and health that is positively correlated with general subjective satisfaction with QL. That subjective indicators are more frequently and more strongly correlated with general satisfaction with life corresponds with Lehman's study [1983]. The above observations, consistent with those of Lehman, point out that the subjective area has more influence on general satisfaction with life. Skantze K. et al. [1992] think that patients' subjective impressions of their own life are more dependent on the dynamics of their inner world than on the conditions and achievements of the outer world.

As to particular domains of subjective and objective indicators of the quality of life, it can only be observed that there exists a correlation between religion and health, and a weak correlation between living conditions and social contacts, which means that subjective and objective assessments of the quality of life are partly correlated and partly independent. The results of the Kraków study, which concerns relations between objective and subjective domains of the quality of life, show that subjective assessments, to a degree, reflect objective conditions. In four of the nine above enumerated domains, there appeared a significant, however low, correlation in the global

assessment. That does not correspond with the results of other researchers: for instance, Atkinson M. et al. [1997] as well as Carpiniello B. et al. [1997] proved that in a group of schizophrenic patients, correlations between particular objective and subjective domains of the quality of life were low and insignificant. Lehman et al. [1982] suggest that objective and subjective indicators of the quality of life refer to different aspects of QL and that they complement one another. Some researchers explain the divergence by pointing to the existence of other factors that influence general satisfaction with life and that elude our research efforts (Heinze M. et al. [1997]).

The high, good, objectively assessed standard of living conditions is independent from general satisfaction with life. It is only correlated with more satisfaction with this domain. The lack of correlation between good living conditions and general satisfaction with life, as found out in the Kraków study, confirms the results obtained by other authors (e.g. Skantze K. et al. [1992]). Although objective and subjective indicators of living conditions display a significant, though low, correlation, while satisfaction with living conditions receives the best assessment of the surveyed (Cechnicki A. [2001]), analogously, as according to other authors (e.g. Oliver J.P.J. and Mohamad H. [1992] or Spiridonow K. et al. [1998]), it is not living conditions that decide about general satisfaction with life. Both the insignificance of living conditions for general satisfaction with life and the insignificance of the objectively assessed living conditions for general satisfaction with life may be explained by the hypothesis put forward by Carpiniello B. et al. [1997], who suggest that satisfaction with living conditions is related to living conditions as long as basic needs are fulfilled, and then the relation becomes weaker. Skantze K. et al. [1992] think that this may prove frustrating for those who rehabilitate chronic schizophrenics, because the efforts to improve living standards above a certain basic level do not automatically raise the patients' general satisfaction with life.

The objective assessment of leisure activities, as measured by the sum of various activities, correlates with general satisfaction with life, but to a considerably lower extent than the subjective assessment of the same. What is striking is the lack of relation between the subjective and objective assessment. According to Lehman A.F. et al. [1982], the sheer sum of everyday activities has a minimum influence on the subjectively perceived satisfaction with life. The correlation between satisfaction with leisure activities and general satisfaction is definitely stronger than it is in the case of objectively assessed level of everyday activity, which suggests that treatment programmes should identify those activities that are the most satisfying. Satisfaction with the financial situation and with the last month's income (objective financial situation) turns to be significantly correlated with the general level of satisfaction and proves how important it is for schizophrenic patients when their financial situation improves. The members of the surveyed group were minimally victimised (either as victims of violence, physical force, or offenders). This proves a lack of impact of subjective and objective indicators on general satisfaction with life, in contrast to other studies (e.g. by Lehman A.F. et al. [1982]).

Yet another goal of the Kraków study was to replicate Lehman's study [1983], who maintains that individual characteristics, and objective and subjective indicators

are good predictors of the general level of satisfaction in his model. The cumulative percentage of explained variance in the Kraków study amounts to 76%, as compared with 58% in Lehman's study [1983]. Four prognostic factors (independent variables) proved to be important predictors: subjective satisfaction with religious life, the female gender and objective assessments of social relations and employment. Special attention should be paid to satisfaction with one's religious life since this domain does not belong to the original model by Lehman et al. [1982]. Lehman [1988] introduced it only later as an open-ended question. This study used the questionnaire by Lauer (Lauer G. 1993; Lauer G., Stegmüller-Koenemund U. 1994), who added structured questions concerning religion. What is noticeable is the number of participants in church services: 56% (Cechnicki A. [2001]), as compared to, for instance, 25% in the study by Atkinson M. et al. [1997]. Both in the subjective and objective sphere, religious life highly correlated with general satisfaction with life and turned out to be its best predictor. For our patients, such factors as the role of religion, religion itself and full religious life have an important impact on general satisfaction with life. Lauer & Stegmüller-Koenemund [1994] thought that subjective satisfaction with participation in religious activities increases alongside the limitations conditioned by the unfavourable course of the illness and this relation is to be understood as an attempt to overcome the illness via religious activity. The measurement of the subjective assessment of one's religious life, as proposed by Lauer, seems to be related to such 'inner experiences' as 'self-fulfilment', 'inner harmony', 'pleasure', 'joy' and 'love', which were mentioned by Skantze et al. [1992]. These phenomena are hard to operationalise, difficult to measure and absent from the majority of scales that gauge QL.

The results showing that women have more satisfaction with their lives than men, as confirmed by stepwise regression, correspond with the results of numerous studies which share a similar observation (e.g. Röder-Wanner U.U. and Priebe S. [1998]). The intensity of social contacts and current employment did not correlate with the general QL, and it was only during stepwise regression analysis that they were included in the group of predictors that account for general satisfaction with life. Probably, it is only in connection with other prognostic factors that they become valuable predictors. Thus the analysis of relations of isolated prognostic factors reveals a different constellation of them than the one observed by us when we assess their more complex impact and intercorrelations.

Conclusions

1. General satisfaction with life is weakly, positively correlated with the general subjective assessment of the quality of life.
2. Particular subjective and objective indicators of the quality of life in the model by Lehman et al. are partly correlated and partly independent.
3. Those domains that are subjective indicators of the quality of life are strongly, positively and highly correlated with one another as well as with general satisfaction with life.
4. Those domains that are objective indicators of the quality of life correlate weakly

and to a low degree with one another, just like they correlate with general satisfaction with life.

5. The greatest potential to account for general satisfaction with life in the analysed constellation of prognostic factors belongs to the subjective assessment, and in this case subjective satisfaction with one's religious life, alongside satisfaction with employment and good social contacts and alongside the female gender.

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