Original Paper

Quality of Life-a Goal for Schizophrenia's Therapy

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ABSTRACT: Quality of Life (QOL) assessment represents a good instrument to monitor the evolution of schizophrenia and the treatment's outcomes. The present study has evaluated the relationship between the level of the QOL and different socio-demographical and clinical factors. Lower QOL for schizophrenic persons was influenced by the severity of symptoms and cognitive deficits, while same low level of QOL could be considered an indicator for suicidal behavior. The correct therapeutically management of individuals with schizophrenia could lead to better outcomes in terms of life satisfaction of patients and response to the treatment's strategies.

KEYWORDS: *quality of life, schizophrenia, social adjustment, suicidal behavior*

Introduction

According to World Health Organization (WHO), the concept of Quality of Life (QOL) was defined as "an individual's perception 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" [1]. The measuring of QOL, as a subjective perspective of the patient about his/her state of well-being, was related to several goals for health-care professionals: to prioritise, screen and identify the patient's problems, to facilitate communication between staff and beneficiaries and to identify their preferences related with the ways of treatment, to assess the clinical evolution and the response to therapeutically approach, to collect data for audit and health policies [2].

Within the mental health services, it was showed that the QOL evaluation is directed to several domains of life as physical and psychological health status, professional activities, leisure, living arrangements, and social skills [3], in order to offer a balanced mix between objective and subjective perspectives of the concept [4, 5]. Thus, QOL has become an important indicator for mental health professionals, offering not only an image of the outcomes of their interventions, but also orientating their routine practice [6].

In individual with schizophrenia, the QOL assessment represents a good instrument to monitor the evolution of the disorder and the treatment's outcomes and it has received a greater attention especially after the appearance of the atypical antipsychotic drugs, but also a serious challenge since these persons have cognitive deficits and lack of insight of their suffering [7]. The way in which QOL is it influenced in schizophrenia it is still not well known, even were highlighted factors which are actioned in a negative way such as lack of social support [8], unmet needs [9], severity of the symptoms [10], and drug side effects [11]. Moreover, it was emphasized that QOL for people with schizophrenia is worse if it is compared not only with that of the general population, but also with that of people with other medical conditions, and it is worsened as long as the illness is longer, and individuals integrated in community support programs have a better QOL than those who are institutionalized [12].

In this context, the improvement of QOL have became a consolidated goal in mental health services, demanded not only by the clients and their families, but also by the professionals and the institutions. The evaluation of the relationship between the level of QOL and the different therapeutically approach remains a field in which every new data could contribute to the drawing of better ways for the management of these individuals.

Material and methods

Our research was conducted on a study sample consisted of 73 inpatients who has fulfilled the ICD-10 and DSM-IV-TR criteria for chronic paranoid schizophrenia diagnosis, monitored between January 1st, 2016-July 31st, 2016 in the wards of the Chronics Psychiatry

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Hospital Dumbraveni, Vrancea County. All the subjects were voluntary recruited, and they were included in the study after it was obtained their informed consent. The present research was approved by the Committee of Ethics of the University of Medicine and Pharmacy of Craiova.

Data obtained were represented by social-demographical (age, gender, residence, educational, professional and marital status) and clinical (time distance from onset, number of admissions, type of antipsychotic and adjuvant medication, suicidal and risky behaviors) items, and also data resulted after the using of the following instruments:

- WHOQOL-BREF scale to measure the level of QOL [13];
- Positive and Negative Syndrome Scale (PANSS) to measure the severity of symptoms [14];
- MMSE (Mini Mental Examination) scale for evaluation of cognitive status [15];
- Global Assessment of Functioning Scale (GAFS) to measure the global functioning of the subjects [16].

The results were statistically analyzed using SPSS (SPSS Inc.) and MS Excel (Microsoft Inc.), using classical statistic indicators for descriptive statistics (mean±SD, median and quartiles), respectively Chi-square and Spearman tests to asses the association between categorical variables and Mann-Whitney test to compare quantitative data (p values <0.05 being statistically significant).

Results

The average age of the subjects from the study sample was of 47.58±12.61 years, with the following distribution according to their gender-41 men (56.16%) and 32 women (43.84%), respectively their residence-56 subjects from rural area (76.71%) and 17 living in urban areas (23.29%).

Also, 18 (24.66%) of them were married, while 43 were unmarried (58.90%), respectively 12 divorced (16.44%).

None of them were professionally active, 8 (10.96%) being social assisted and 65 (89.04%) beneficiaries of medical pension, while the analysis of the level of education has showed that 5 (6.84%) did not follow any schoolar program, 22 (30.14%) only primary school, another 22 (30.14%) gymnasium, respectively 24 (32.88%) have graduated high school.

The risky behaviors were met in 39 (53.42%) of them for smoking, respectively 31 (42.47%) for alcohol consumption, out of which 25 (34.25) were consuming in an abusive way.

The biggest duration of evolution was 8 years (mean of 5.97±1.64 years), with a maximum of 20 admissions to a psychiatric setting (average of 6.62±3.62 admissions), and for the majority of the subjects (61-83.56%) the illness has started in a reactive way.

The assessment of the symptom's severity both at admission and at discharge was realized by using PANSS scale and it was showed that for the patients from our study sample, the period of hospitalization has lead to a decrease of the severity of schizophrenia's symptoms.

The same slight improvement was recorded by the cognitive status of the subjects, but the level of cognitive deficits, as it was evaluated by using MMSE scale it is an important one (Table 1, Fig. 1, Fig. 2).

Only four (5.48%) of our subjects were able to obtain a positive level of social adjustment at discharge.

Table 1. PANSS and MMSE scores for the subjects of study sample

PANSS	PANSS admission	PANSS discharge	p Kruskal-Wallis
Min	59	47	0.176
Q1	79	66.75	
Mediana	84	76.5	
Q3	94.25	88	
Max	115	113	
MMSE	MMSE admission	MMSE discharge	p Kruskal-Wallis
Min	7	8	
Q1	13	16	
Mediana	16	19	
Q3	19	22	
Max	25	28	0.176

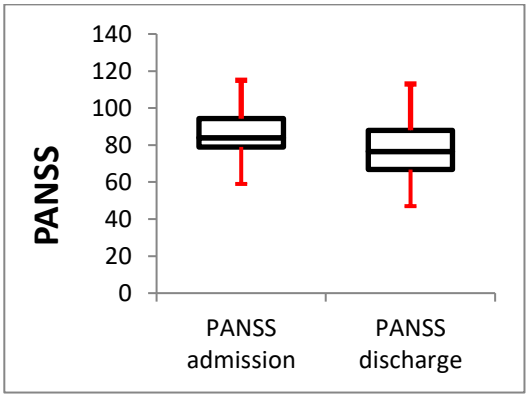

Fig. 1. Comparation of the PANSS scores at admission and discharge for the subjects of study sample

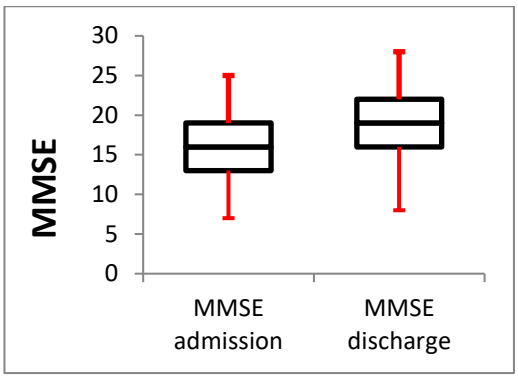

Fig. 2. Comparation of the MMSE scores at admission and discharge for the subjects of study sample

The WHOQOL-BREF it is an instrument designed to measure four important domains of living, in direct relationship with QOL [13]: D1-Physical health (activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest, work capacity); D2-Psychological (bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory and concentration); D3-Social relationships (personal relationships, social support, sexual activity); D4-Environment (financial resources, freedom, physical safety and security, health and social care: accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment: pollution/noise/traffic/climate, transport).

The results obtained in our study showed an important deficit in QOL for some of the subjects, with minimal scores ranging between 16 (D3) and 31 (D4), while for some of them, the psychological and social relationships domains have reached the maximum score of 100 (Table 2, Fig. 3).

Table 2. WHOQOL-BREF scores for each domain

	WHOQOL-BREF D1	WHOQOL-BREF D2	WHOQOL-BREF D3	WHOQOL-BREF D4
Min	19.00	25.00	16.00	31.00
Q1	50.00	67.50	44.00	63.00
Median	63.00	75.00	50.00	69.00
Q3	75.00	81.00	69.00	75.00
Max	94.00	100.00	100.00	94.00

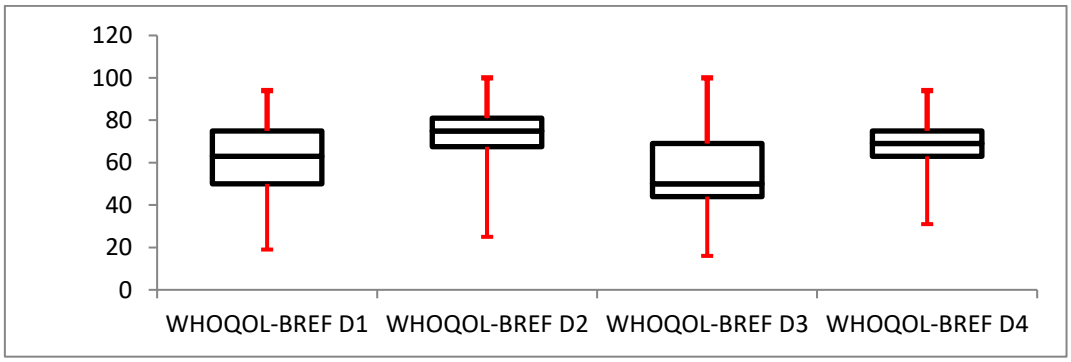

Fig. 3. Comparation between average scores of WHOQOL-BREF scores for each domain

Suicidal behavior was present 11 subjects (15.07%) and during the period assessed, 93.15% (68 subjects) of them have received a typical antypsichotic (haloperidol or levomepromazine) as first intention pharmacological treatment, followed by therapy with second generation antipsychotics as following: amisulpride (40 subjects-54.79%), quetiapine (5 subjects-6.85%), risperidone (50 subjects-68.49%), ziprasidone (1 subject-1.37%). Also, 72 of them (98.63%) were treated with antiparkinsonian drugs in order to deal with extrapiramydal symptoms induced by antipsychotics drugs, while for all of them mood stabilizers (valproic acid or carbamazepine) and

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benzodiazepines (to control the associated anxiety and depressive symptoms) were used as adjuvant therapy.

Analysis of the results has proved the existence of a statistically significant correlation between QOL domains and the positive levels of social adjustment, while the suicidal behavior has influenced in a significant way only D1 (physical health) and D4 (Environment) domains of the WHOQOL-BREF (Table 3).

Table 3. Correlations between WHOQOL-BREF scores and social adjustment, respectively suicidal behavior

Social adjustment	**Poor**	**Positive**	**p Mann Witney**
WHOQOL-BREF D1	60.72±12.73	70.57±10.34	0.047
WHOQOL-BREF D2	71.73±12.93	85.86±10.06	0.009
WHOQOL-BREF D3	55.60±11.68	67.86±12.15	0.038
WHOQOL-BREF D4	69.35±11.26	82.29±11.07	0.022
Suicidal behavior	**Absent**	**Present**	**p Mann Witney**
WHOQOL-BREF D1	63.15±14.99	54.86±15.27	0.042
WHOQOL-BREF D2	72.97±14.06	71.76±9.64	0.674
WHOQOL-BREF D3	55.63±19.29	59.57±15.55	0.367
WHOQOL-BREF D4	71.19±8.71	66.76±8.11	0.046

Moreover, the level of social adjustment, mostly poor (94.52%) as it was expressed by using GAF scale, was proved to be in a significant influenced relationship not only with QOL, but also with symptom's severity and the level of cognitive deficits (Table 4)

Table 4. Correlations between PANSS and MMSE scores and social adjustment

Social adjustment	**Poor**	**Positive**	**p Mann Witney**
PANSS at admission	87.85±12.00	76.14±6.94	0.003
PANSS at discharge	78.27±14.07	65.57±6.37	0.001
MMSE at admission	15.63±4.05	19.00±3.87	0.039
MMSE at discharge	18.70±3.58	21.86±4.02	0.032

We have also found out that the level of cognitive deficit it is directly correlated in a significant way (p Spearman <0.05) with the level of subjective perceived physical health of the subjects, while higher levels of the schizophrenia's symptoms severity were reversely associated with the remaining three domains of the WHOQOL-BREF, both at the admission and discharge of the patients (Table 5, Fig. 4, Fig. 5).

Table 5. Correlations between WHOQOL-BREF, PANSS and MMSE scores

Variable 1	Variable 2	Spearman rho	p value
WHOQOL-BREF D1	MMSE score admission	**0.206**	**0.0396**
WHOQOL-BREF D2	PANSS score admission	**-0.283**	**0.0045**
WHOQOL-BREF D3	PANSS score admission	**-0.369**	**0.0002**
WHOQOL-BREF D4	PANSS score admission	**-0.232**	**0.0205**
WHOQOL-BREF D2	PANSS score discharge	**-0.347**	**0.0004**
WHOQOL-BREF D3	PANSS score discharge	**-0.371**	**0.0002**
WHOQOL-BREF D4	PANSS score discharge	**-0.255**	**0.0105**

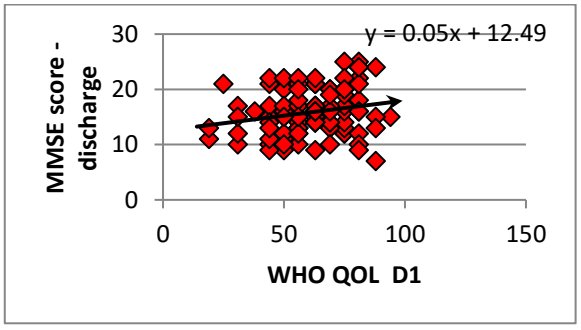

Fig. 4. Corellation between MMSEE and WHOQOL-BREF D1 scores

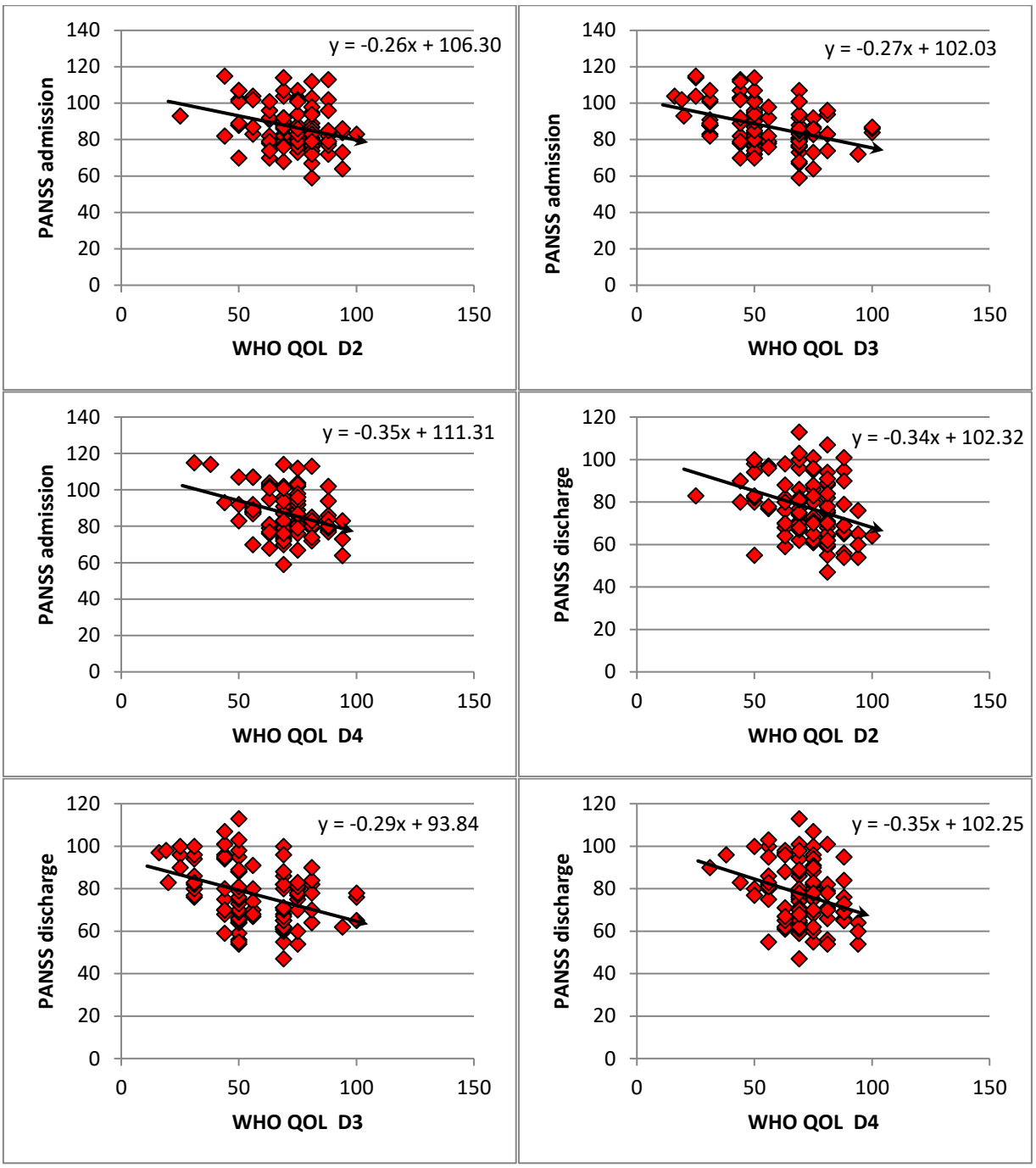

Fig. 5. Corellation between PANSS and WHOQOL-BREF D2, D3, D4 scores at admission and discharge assessment

Discussion

In the present research we examined schizophrenic patients who were hospitalized in a psychiatric setting for chronic patients for different periods, during a six months interval, and because of the disease's variate outcome [17], QOL has been reported to multiple items related with the disorder, in order to verify the relationship between all these variables. The data obtained from our study has showed that QOL remains an important indicator for schizophrenia's evolution during the hospitalization period, and that it is also directly connected to some other factors from the psycho-social spectrum who are influenced during the illness course, such as social adjustment or cognitive deficit.

The schizophrenia's heterogenous profile [18] was once more confirmed by our results, where just few items could be considered relatively constant such as professional inactivity, because of huge disabling potential of the illness, respectively poor social adjustment,

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due to influence of disorder on the social skills of the person with this diagnosis.

The statistically significant correlations founded between QOL and severity of the symptoms, for both moment of assessment (admission and discharge) are consistently with some data from literature, and not with others. Thus, it was underlined, as in our study, that the presence of positive and negative psychothic symptoms is correlated with low level of QOL [19], and the higher severity of these symptoms, while associated with anxiety and depression, leads to a worse self-perceived QOL [10,20,21]. Some other studies have showed different conclusions, and according to them, schizophrenia's QOL is correlated more with comorbid depression [22,23], in schizophrenic individuals, depression being considered the most important predictor of poor QOL [24]. Our study has indicated that, despite other data from literature [23,25], the severity of symptoms was negative correlated with D2 (psychological), D3 (social relationships), respectively D4 (perception of environment) domains of QOL.

Not only schizophrenia symptoms have contributed to a low level of perceived QOL for the subjects from our study sample, but also the neurocognitive deficits, especially for the D1 (physical health) domain, some other studies [26,27] have showed the same correlation, even if being offered a clear explanation of the reciprocally impact of these items.

Regarding the relationship between QOL and antipsychotic therapy, we found no statistically significant differences, neither between the effect of each substance used in treatment on the PANSS scores, nor in the WHOQOL-BREF scores. These results can be considered surprising, if we take in account the fact that the subjects from our study sample were treated with antiparkinsonian drugs in order to control the extrapyramidal side effects, and some other studies [28,29,30] have found a negative influence of these fenomena on QOL.

The lower QOL of schizophrenic patients and the other socio-cultural factors determined by the evolution of the illness are considered important risk factors for predicting the suicidal behavior [31].

The presence of suicidal attempts in 15.07% of subjects and the statistically significant influence of this behavior on two domains of QOL, combined with the severity of the symptoms are roughly in line with data from their studies [32, 33].

Conclusion

The QOL of individuals of schizophrenia is directly and significant connected with clinical and social factors. Lower QOL for schizophrenic persons could be considered an indicator for suicidal risk. Severity of symptoms and neurocognitive deficits are factors with significant influence on the QOL and the correct management of them could lead to better outcomes of the therapeutically approach in terms of life satisfaction of patients. Good QOL remains an important goal in the schizophrenia's treatment.

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