Srp Arh Celok Lek. 2011 Dec;139(Suppl 1):36-40
ОРИГИНАЛНИ РАД / ORIGINAL ARTICLE
UDC: 616.895.8-085

Quality of Life of Schizophrenic Patients Treated with Haloperidol Depot and Injection Preparation of Long-Lasting Risperidone

Goran Mihajlović[1], Natalija Jovanović-Mihajlović[2], Branimir Radmanović[1], Katarina Radonjić[1], Slavica Djukić-Dejanović[1], Slobodan Janković[1], Vladimir Janjić[1], Nebojša Milovanović[3], Dušan Petrović[1], Katarina Tomić[4]

[1]Medical Faculty, University of Kragujevac, Kragujevac, Serbia;
[2]Neurology Clinic, Clinical Centre, Kragujevac, Serbia;
[3]Special Hospital for Mental Disorders "Dr. Laza Lazarević", Belgrade, Serbia;
[4]Vocational College for Preschool Teachers, Kruševac, Serbia

SUMMARY

Introduction In the last decades psychiatric patients' quality of life attracts great attention of researchers. Improving the quality of life of schizophrenic patients is increasingly becoming an imperative in pharmacological therapy.

Objective Analysis of certain aspects of quality of life in patients with schizophrenia treated with depot formulations of a typical antipsychotic (haloperidol) and injection preparation of a long-acting atypical antipsychotic (risperidone).

Methods Research was conducted as a cross-sectional study that included 60 patients of both genders. Examinees diagnosed with schizophrenia (ICD-10, F20.0-F20.9) were divided into two groups: the group of patients that received haloperidol depot (n=30) and the group of patients that received injection preparation of long-acting risperidone (n=30). In order to assess the quality of life, social functioning scale (SFS), satisfaction with life scale (SWLS), and short version of World Health Organization quality of life scale (WHO-QoL-Brief) were applied.

Results Results showed statistically significant differences when it comes to social activity and satisfaction with life in favour of patients treated with injection preparation of long-acting risperidone. Examinees from this group were much more satisfied with themselves, their health and sleep compared to those on haloperidol depot. There was no statistically significant difference found on the quality of life scale.

Conclusions Applying the scales for the assessment of the quality of life of schizophrenic patients in terms of psychosocial functioning, statistically significant difference between groups was found. Results showed higher scores in the group of patients treated with injection preparation of long-acting risperidone concerning social activities and life satisfaction.

Keywords: quality of life; schizophrenia; haloperidol; risperidone

INTRODUCTION

The World Health Organization (WHO) defines the quality of life as the individual's observation of one's own status in life within the cultural frame, and system values that he lives in, compared to goals, expectations, standards and environment problems (The World Health Organization Quality of Life Assessment – WHO-QoL, 1998). During the last decades a great attention of researchers is drawn to the quality of life of schizophrenic patients, yet the determinants of QoL for individuals with schizophrenia are not well known [1]. Chronification of psychotic process in schizophrenia shows a decrease in the quality of life of this category of patients, because gradually and on longer terms psychical functions are weakening and depressive is increasingly expressed [2]. The social dimension of quality of life of schizophrenic patients seems to correlate most negatively with the chronicity of illness [3]. Schizophrenic patients have a decreased quality of life for many reasons. Firstly, decreased personal resources for meeting their own needs (decreased number of cognitive and social skills, hypersensitivity to stress and external criticism), which, more or less, directly takes them to social isolation, and makes them an object of social stigmatization [4]. The development of a range of antipsychotic medications has provided individuals with schizophrenia some relief from the cardinal symptoms of the illness [1].

Quality of life, besides significant influence of depressiveness, personality characteristics and adaptive mechanisms of diseased, can serve as minimal standard of treatment outcome indicators for schizophrenic patients [5]. One of unavoidable criteria for the assessment of patient's condition is self assessment of the quality of life of patients treated with antipsychotics. In the last two decades a great number of scales were designed in order to determine general subjective experience of the quality of life and subjective well-being [6].

In examining the quality of life of patients with schizophrenia, emphasize is on examinees experiencing pleasure in the usual everyday ac-

Correspondence to:
Goran MIHAJLOVIĆ
Zmaj Jovina 30, 34000 Kragujevac
Serbia
goran.sm@eunet.rs

tivities. In this regard, the main role is played by absence, i.e. the intensity of present psychiatric symptoms, especially depression and adverse effects of medications [7].

Historically observed, the first antipsychotics have caused a true positive tide of enthusiasm, because the positive symptoms of schizophrenia and potential aggressive behaviour were put under control. In the following decades pharmaco-therapy treatment successfully coped with negative schizophrenic symptoms, thus the quality of life entered into the focus of researchers and became one of the most significant aspects of treating schizophrenic patients [8]. Factors which are connected with antipsychotic treatment, and which influence the schizophrenic patient's quality of life, were investigated in numerous studies. In Naber et al. [9] research five basic dimensions of the quality of life (mental functioning, emotional compatibility, physical well-being, social well-being, self-control), were combined with six contributing factors: phase of illness and symptom severity, psychopathology, psycho-social factors, relation to pharmacological treatment and insight, somatic and psychic adverse effects and conjoined distress, as well as initial dysphoric reaction. In our research, for assessing schizophrenic patient's quality of life treated with depot preparation of typical antipsychotic (haloperidol) and patients treated by parenteral preparation of long-lasting atypical antipsychotic (risperidone) we used scales that mainly offered answers concerning satisfaction with many life aspects: life itself, work, household, using free time, finance, relations in family, society, etc.

OBJECTIVE

Objective of the research was to investigate the connection between certain socio-demographic parameters and the quality of life, and also if patients treated with parenteral preparation of long-lasting risperidone have a better quality of life compared to the group of patients treated with depot preparation of haloperidol.

METHODS

Patients

Research was conducted in 2011 as a study of section, by using scales for estimating the quality of life. The study included 60 patients with diagnosed schizophrenia (ICD-X, Dg: F20) treated at the Psychiatric Clinic of the Clinical Centre Kragujevac.

The study included patients of both genders, aged 24-79 years who received depot preparation of a typical antipsychotic (haloperidol) and parenteral preparation of long-lasting atypical antipsychotic (risperidone) longer than one year. Based on therapy applied, the examinees were divided into two equal groups: patients on haloperidol depot (n=30) and patients on parenteral preparation of long-lasting risperidone (n=30).

Dose regime of applying depot preparation haloperidol-decanoat was 50 mg i.m. per 4 weeks, and long-lasting preparation of risperidone 25 mg and 50 mg i.m. per 2 weeks.

Instruments of assessment and variables

Data on social integration were collected by using 2 scales which had been previously used in researches in our country. The first scale is a questionnaire of social support – short form (Sarason, Shearin, & Pierce, 1987), translated into Serbian language. This instrument was used to collect data on social support and the size, structure and satisfaction of close social environment. Beside this scale, data on social functioning were collected by using a scale of social functioning (SFS: Birchwood et al, 1990). SFS collects data regarding social interactions, interpersonal communications, independent functioning and competence in daily activities, recreative activities and activities regarding employment. Finally, since the quality of life is more and more recognizable as the result of mental health treatment, we also used satisfaction with the life scale (SWLS, Diener, Emmons, Larsen, & Griffin, 1985) and the World Health Organization quality of life scale (WHO-QoL-Brief; Bonomi, Patrick, Bushnell, & Martin, 2000).

Statistical analysis

Data received by scales were statistically processed using the program SPSS 13.0 for Windows. Tests which were used for comparing certain variables of quality of live among the groups were χ^2 test for tables of contingencies and multiple regression for evaluating predictors of quality of life. Analysis of demographic data of the patients was performed by descriptive statistics. The size of the sample based on multiple regression test (α=0.05, number of predictors=3, f2=0.35, power R=0.7) was calculated with a calculator (available on: http://www.danielsoper.com/statcalc/calc01.aspx) and by which it was found that the minimum of 30 patients per group needed to be included in the research.

RESULTS

There were 60 examinees participating in the research divided in two equal groups according to pharmacological therapy applied. In the haloperidol group there were 10 women (33.3%) and 20 men (66.7%) of average age 50.97±11.44 years, and in the risperidone group there were 12 women (40%) and 18 men (60%) of average age 35.33±7.02 years, during which there were no statistically significant differences between the investigated groups. The investigated patients did not differ even when other socio-demographic variables were involved: place of birth, place of residence, marital status, level of education. Some

socio-demographic characteristics of examinees and comparative analysis by groups are presented in Table 1.

By analyzing data gained from SFS scale we concluded that there were no statistically significant differences between the investigated groups in work status, marital status, attending daily hospital, going out from home, but a statistically significant difference ($p \leq 0.05$) was found in the manner of spending free time in the patients treated with risperidone. Unlike the patients treated with risperidone, the patients treated with haloperidol spent most of their time alone ($\chi^2=8.686$; $p=0.034$).

By analyzing social activities of patients in the previous three months, measured by WHO-QoL scale we found some statistically significant differences ($p \leq 0.05$) between the examined groups was in favour of the group of patients treated with risperidone (Table 2).

Data received from satisfaction with life scale (SWLS) and obtained statistically significant differences ($p \leq 0.05$) regarding the satisfaction with their own lives, satisfaction with life conditions, satisfaction with their own looks, was in favour of the group treated with risperidone. A statistically significant difference, although not high, was found in regard to the satisfaction with health and sleep ($\chi^2=14.098$; $p=0.029$), ability to perform everyday tasks ($\chi^2=14.729$; $p=0.022$) and being satisfied with themselves ($\chi^2=12.074$; $p=0.017$).

Compared to the type of therapy applied and years of age, the factors shown in Table 3, stood out as the predictors of the quality of life which were analyzed by the statistical method of multiple regression.

DISCUSSION

Relevant dimensions of the quality of life are psychic, social functioning and perception of general health, which also includes terms such as energy, exhaustion, pain, and cognitive functioning [10]. In the study of subjective perception of the quality of life of patients treated with typical and atypical antipsychotics by using the Subjective Well-being under Neuroleptics scale (SWN), we found that the scores of the patients treated with atypical antipsychotic closapine were significantly higher compared to the scores of patients treated with typical antipsychotics [9]. Similar results of higher scores of patients treated with parenteral preparation of long-lasting risperidone (atypical antipsychotic) compared to the patients treated with haloperidol depot (typical antipsychotic) were also found in this research.

As far as the influence of socio-demographic characteristics of gender and age of schizophrenic patients on their

Table 1. Demographic characteristics of investigated groups of patients

Characteristics		Groups of patients	
		Haloperidol	Risperidone
Number of patients		30	30
Age (years)		50.97±11.44	35.33±7.02
Gender	Female	10 (33.3%)	12 (40.0%)
	Male	20 (66.7%)	18 (60.0%)
Place of birth	Village	14 (46.7%)	4 (13.3%)
	City	16 (53.3%)	26 (86.7%)
Place of residence	Village	5 (16.7%)	3 (10.0%)
	City	17 (56.7%)	21 (70.0%)
	Town	8 (26.7%)	6 (20.0%)
Dose regime		50 mg i.m. per 4 weeks	25 mg or 50 mg i.m. per 2 weeks

Table 2. Comparison of social activities of examined groups of patients with χ^2 test

Activities	χ^2	df	p
Buying goods in shops (without help)	2.304	4	0.603
Washing dishes, cleaning, etc.	14.398	3	0.002*
Regular face washing, bathing, etc.	0.219	2	0.896
Washing personal clothes	8.276	3	0.041*
Looking for job/employed	2.960	4	0.565
Buying food	1.202	3	0.753
Preparing and cooking meals	0.168	3	0.983
Independently leaving the house	7.124	3	0.068
Using bus, train, etc.	2.818	3	0.421
Using money	1.118	3	0.773
Planning on spending money	2.261	3	0.520
Choosing and buying clothes	4.022	3	0.259
Care about personal looks	3.462	3	0.376
Going to sports events in closed area	9.406	3	0.024*
Going to sports events in open space (for example, football)	10.900	3	0.012*
Going to gallery/museum	9.150	3	0.027*
Going to theatre/concert	5.509	3	0.138
Exhibition	11.621	3	0.009*
Visiting relatives	5.746	3	0.125
Visiting friends (including boyfriend/girlfriend)	0.839	3	0.840
Active in sports in closed area	8.540	3	0.036*
Active in sports in open space	14.286	3	0.003*
Club/society	3.019	3	0.389
Café	0.606	3	0.895
Church related activities	9.623	3	0.022*
Reading	3.410	3	0.333
Watching television	3.525	3	0.318
Listening to music or radio	1.519	3	0.678
"Do it yourself" activities (for example, installing shelves)	3.310	3	0.346
Hobby (for example, collection)	2.529	3	0.470
Art activities (painting, crafts, etc)	2.893	3	0.408

* $p \leq 0.05$

Table 3. Statistical analysis (multiple regression) of quality of life predictors

Parameter	Beta ln	t	p
Gender	-0.031	-0.297	0.768 *
Place of birth	0.078	0.667	0.508 *
Place of residence	0.067	0.645	0.521 *
Level of education	0.169	1.617	0.112
Marital status	0.025	0.198	0.843 *
Number of persons living with	0.054	0.511	0.612 *
Number of friends	-0.092	-0.898	0.373
Partner	0.098	0.935	0.354
Leaving the house	0.022	0.216	0.830 *
Current illness	-0.189	-1.798	0.078

* statistically significant predictors

quality of life is concerned, results of some researches do not show significant correlation with the quality of life [11]. Exception is the influence of belonging to female gender, which is in correlation with the quality of life of these patients, as shown by the results of the research in two studies [12, 13]. However, there are researches confirming that schizophrenic women achieve higher values of quality of life [14]. In one research it is confirmed that most expressed negative influence on the quality of life have conjoined socio-demographic variables, male gender and solitary life [12]. Other researches show positive correlation between a high score of the quality of life and developed social network (employment, satisfaction with social contacts and relations in marriage and family) in schizophrenic patients [15]. Research conducted in Hong Kong and in Taiwan show that a higher score of the quality of life was achieved by employed individuals, those who live in a family, those who are more religious, the elderly and examinees with higher incomes, but these differences are not significant [16]. Even in our research it was found that the majority of examinees lived alone or was separated, which was in negative correlation with the quality of life. Also, the highest number of the examinees unemployed; the number of unemployed individuals was higher in the haloperidol group compared to the risperidone group, but there was no statistically significant difference.

In research of schizophrenic patients' quality of life in various cultural environments, which was conducted in three European countries (France, Germany and Great Britain), it was shown the quality of life was negatively influenced by the symptoms of depression, younger age and low incomes, and that employment had a positive influence. Marital status and gender in the mentioned research did not influence the quality of life [17]. In our research as well, when talking about above mentioned factors, the obtained results were similar, with a remark that in our research we did not study depression of the patients. In a research conducted in Finland it has been shown that patients who live in good marital or partner relations have better quality of life [24]. In a study conducted in Japan, a better quality of live had patients with higher incomes [18].

In a research by Hoffer et al. [19], it has been shown that the quality of life is lower if associated with negative symptoms of schizophrenia, and the existence of depression and anxiety. Some other studies have also showed that the reduction of anxiety and depression significantly contributes to the improvement of the quality of life of patients with schizophrenia. Self-respect, manner of resolving stressful situations, emotional expression and social support play an important role in the quality of life of these patients [20].

By comparison of social activities of the patients in the investigated groups in our research, we obtained statistically significantly higher values when it comes to attending sports events, involved in sports, attending exhibitions, in patients on risperidone (Table 2), which represents a relevant component of the quality of life, which is confirmed by some previous researches [21].

Numerous researches assessing the effects of using atypical antipsychotics solely [22] or compared to typical antipsychotics [23], have shown the superiority of using atypical antipsychotics, with significantly expressed influence on the level of quality of life score. In our research also, in a number of examined parameters there was a statistically significant difference found in favour of using atypical antipsychotic in form of parenteral solution of long-lasting risperidone.

CONCLUSION

In modern conditions of psychiatric clinical practice, beside the reduction of symptomatology, a significant indicator of treatment success is also improvement of subjective experience of the quality of life of patient with schizophrenia. Subjective experience of the quality of life of these patients depends on more factors: stadium of illness, dominant psychopathology, duration of illness, as well as the class of used antipsychotics. In our research, the obtained results show higher scores in the group of patients treated with parenteral preparation of long-lasting risperidone which mainly concerns social activities and satisfaction with life. Although typical antipsychotics lead to the reduction of psychopathology and clinical recovery almost in same level as atypical, it is the fact that atypical antipsychotics, most likely due to less expressed adverse effects, lead to a significant improvement of subjective experience of the quality of life in schizophrenic patients.

ACKNOWLEDGEMENTS

The authors would like to express their gratitude to the Ministry of Education and Science of the Republic of Serbia, for Grant N°175014, out of which the clinical trials that served as the basis for this Solicited Review were jointly funded.

REFERENES

1. Shaun M. Eack, Christina E. Newhill. Psychiatric symptoms and quality of life in schizophrenia: a meta-analysis. Schizophr Bull. 2007; 33(5):1225-37.
2. Atkinson M, Zibin S, Chuang H. Characterizing quality of life among patients with chronic mental illness: a critical examination of the self-report methodology. Am J Psychiatry. 1997; 154(1):99-105.
3. Solanki RK, Singh P, Midha A, Chugh K. Schizophrenia: impact on quality of life. Indian J Psychiatry (serial online). 2008; 50:181-6.
4. Miljković S, Vukić D, Trajanović Lj. Quality of Life in Mental Disorders. Niš: The Society of Behavioral Theory and Practice; 2004.
5. Franz M. Possibilities and limitations of the use of quality of life as outcome-indicator in schizophrenic patients. Psychiatr Prax. 2006; 33(7):317-22.
6. Narvaez JM, Twamley EW, McKibbin CL, Heaton RK, Patterson TL. Subjective and objective quality of life in schizophrenia. Schizophr Res. 2008; 98(1-3):201-8.

7. Norbolm V, Bech P. Quality of life in schizophrenic patients: association with depressive symptoms. Nord J Psychiatry. 2006; 60(1):32-7.
8. Buckley PF, Stahl SM. Pharmacological treatment of negative symptoms of schizophrenia: therapeutic opportunity or cul-de-sac? Acta Psychiatr Scand. 2007; 115:93-100.
9. Naber D. A self-rating to measure subjective effects of neuroleptic drugs, relationships to objective psychopathology, quality of life, compliance and other clinical variables. Int Clin Psychopharmacol. 1995; 10(Suppl 3):133-8.
10. Wilson IB, Cleary PD. Linking clinical variables with health-related quality of life: a conceptual model of patient outcome. JAMA. 1995; 273:59-65.
11. Trompenaars FJ, Masthoff ED, Van Heck GL, Hodiamont PP, De Vries J. Relationships between demographic variables and quality of life in a population of Dutch adult psychiatric outpatients. Soc Psychiatry Psychiatr Epidemiol. 2005; 40(7):588-94.
12. Salokangas RK, Honkonen T, Stengard E, Koivisto AM. To be or not to be married – that is the question of quality of life in men with schizophrenia. Soc Psychiatry Psychiatr Epidemiol. 2001; 30(8):381-90.
13. Roder-Wanner UU, Priebe S. Schizophrenia and quality of life – sex-specific aspects. Fortschr Neurol Psychiatr. 1995; 63(10):393-401.
14. Becker T, Leese M, Clarkson P, Taylor RE, Turner D, Kleckham J, et al. Links between social network and quality of life: an epidemiologically representative study of psychotic patients in South London. Soc Psychiatry Psychiatr Epidemiol. 1998; 33(7):229-304.
15. Bengtsson-Tops A, Hansson L. Quantitative and qualitative aspects of the social network in schizophrenic patients living in the community. Relationship to sociodemographic characteristics and clinical factors and subjective quality of life. Int J Soc Psychiatry. 2001; 47(3):67-77.
16. Chan SW, Hsiung PC, Thompson DR, Chen SC, Hwu HG. Health-related quality of life of Chinese people with schizophrenia in Hong Kong and Taipei: a cross-sectional analysis. Res Nurs Health. 2007; 30(3):261-9.
17. Heider D, Angermeyer MC, Winkler I, Schomerus G, Bebbington PE, Brugha T, et al. A prospective study of quality of life in schizophrenia in three European countries. Schizophr Res. 2007; 93(1-3):194-202.
18. Kugo A, Terada S, Isbizu H, Takeda T, Sato S, Habara T, et al. Quality of life for patients with schizophrenia in a Japanese psychiatric hospital. Psychiatry Res. 2006; 144(1):49-56.
19. Hofer A, Baumgartner S, Edlinger M, Hummer M, Kemmler G, Rettenbacher MA, et al. Patient outcomes in schizophrenia I: corelates with sociodemographic variables, psychopathology, and side effects. Eur Psychiatry. 2005; 20(5-6):386-94.
20. Ritsner M, Modai I, Endicott J, Rivkin O, Nechamkin Y, Barak P, et al. Differences in quality of life domains and psychopathologic and psychosocial factors in psychiatric patients. J Clin Psychiatry. 2000; 61:880-9.
21. Groff DG, Lundberg NR, Zabriskie RB. Influence of adapted sport on quality of life: perceptions of athletes with cerebral palsy. Disabil Rehabil. 2009; 31(4):318-26.
22. Mortimer AM, Al-Agiba AO. Quality of life in schizophrenia on conventional versus atypical antipsychotic medication: a comparative cross-sectional study. Int J Soc Psychiatry. 2007; 53(2):99-107.
23. Jones PB, Barues TR, Davies L, Dunn G, Lloyd H, Hayhurst KP, et al. Randomized controlled trial of the effect on quality of life of second- vs first-generation antipsychotic drugs in schizophrenia: Cost Utility of the Latest Antipsychotic drugs in Schizophrenia Study (CUtLASS1). Arch Gen Psychiatry. 2006; 63(10):1079-87.
24. Salokangas RK, Honkonen T, Stengard E, Koivisto AM. Subjective life satisfaction and living situations of persons in Finland with long-term schizophrenia. Psychiatr Serv. 2006; 57(3):373-81.

Квалитет живота особа са схизофренијом лечених халоперидол-депоом и инјекцијом дугоделујућег рисперидона

Горан Михајловић[1], Наталија Јовановић-Михајловић[2], Бранимир Радмановић[1], Катарина Радоњић[1], Славица Ђукић-Дејановић[1], Слободан Јанковић[1], Владимир Јањић[1], Небојша Миловановић[3], Душан Петровић[1], Катарина Томић[4]

[1]Медицински факултет, Универзитет у Крагујевцу, Крагујевац, Србија;
[2]Неуролошка клиника, Клинички центар, Крагујевац, Србија;
[3]Специјална болница за психијатријске болести „Др Лаза Лазаревић", Београд, Србија;
[4]Струковна школа за васпитаче, Крушевац, Србија

КРАТАК САДРЖАЈ

Увод Последњих деценија истраживачи поклањају велику пажњу испитивању квалитета живота особа са психијатријским проблемима. Побољшање квалитета живота особа са схизофренијом све више постаје обавеза фармаколошке терапије.

Циљ рада Циљ рада био је процена одређених аспеката квалитета живота особа оболелих од схизофреније које су лечене депо препаратом типичног антипсихотика (халоперидол) и инјекционим препаратом дугоделујућег нетипичног антипсихотика (рисперидон).

Методе рада Истраживање је урађено као студија пресека којом је обухваћено 60 болесника оба пола са дијагнозом схизофреније (МКБ-10, *F20.0-F 20.9*). Испитаници су сврстани у две групе од по 30 болесника: на оне који су примали халоперидол-депо и оне на инјекционом препарату дугоделујућег рисперидона. За процену квалитета живота испитаника примењене су: скала социјалног функционисања (*SWS*), скала задовољства животом (*SWLS*) и кратка верзија скале квалитета живота Светске здравствене организације (*WHO-QoL-Brief*).

Резултати Статистички значајне разлике су уочене када су у питању социјална активност и задовољство животом у корист болесника лечених инјекционим препаратом дугоделујућег рисперидона. Испитаници ове групе били су много више задовољни собом, својим здрављем и сном у поређењу с онима који су примало халоперидол-депо. На скали квалитета живота није утврђена статистички значајна разлика.

Закључак Применом скала процене квалитета живота особа оболелих од схизофреније с аспекта психосоцијалног функционисања утврђена је статистички значајна разлика међу групама. Резултати показују веће скорове у групи болесника лечених инјекционим препаратом дугоделујућег рисперидона који се тичу социјалних активности и задовољства животом.

Кључне речи: квалитет живота; схизофренија; халоперидол; рисперидон