



# Quality of Life of Schizophrenic Patients with or without Depot Neuroleptics

## ABSTRACT

**Introduction:** Schizophrenia is a chronic mental illness that negatively affects the quality of life of the patient and his family. Primary therapy in the treatment of schizophrenia is antipsychotics.

**Aims of the study:** The aim of this study was to compare the quality of life of schizophrenic patients treated with depot neuroleptics preparations and patients without depot neuroleptics.

**Patients and Methods:** The sample size included 64 patients aged 18-65 years divided into two groups: patients treated with depot neuroleptic preparations and the control group, patients not treated with depot neuroleptics. For the investigation we used history and socio-demographic data, body weight, blood pressure, as well as quality of life questionnaire [a combination of Lancashire and Mansa questionnaire] and short scale for psychiatric evaluation (BPRS)

**Results:** The average age of the examinees was  $44.19 \pm 7.785$  years (experimental group:  $43.31 \pm 6.879$  and control  $45.06 \pm 8.617$  years). Regarding the frequent changes in mood, there were no statistically significant differences between the groups,  $H_i = 0000$ ,  $p < 0.05$ . A statistically significant difference between the groups was found in the presence of hallucinations ( $c_2 = 8.400$ ,  $df = 3$ ,  $p = 0.038$ ),

**Conclusion:** It was found that the quality of life of patients treated for schizophrenia does not significantly differ, regardless of whether depot preparations are used or not; this finding is in accordance with the reports made by other authors.

**Keywords:** schizophrenia, quality of life, neuroleptics, depot preparations

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## Introduction

Schizophrenia is a chronic mental illness with a prevalence of about one percent.<sup>1</sup>

Schizophrenia occurs earlier in males than in females.<sup>2,3</sup> Most frequently it occurs in males between 15 and 24

years, while in females between 25 and 34 years.<sup>4,5</sup> For the development of schizophrenia, biological factors, social factors and factors of individual life experience are of great importance.<sup>6,7</sup> The primary symptoms of schizophrenia fall into disorders of the association of thought, affect disorder, ambivalence and autism (four A syndrome, by

Bleuler) .<sup>8,9</sup> Schizophrenia is characterized by an altered opinion in form and content.<sup>10-15</sup>

Primary therapy in the treatment of schizophrenia represents pharmacotherapy, with antipsychotics playing a significant role.<sup>16,17</sup>

The World Health Organization (WHO) , under the quality of life, implies the perception of individuals on 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 about their environment.<sup>18-20</sup> Research on the quality of life of mentally ill people appeared at the beginning of the nineties, followed by a plethora of studies on quality of life of patients with somatic symptoms.<sup>21-23</sup> There is no doubt that the assessment of the quality of life of psychiatric patients is in relation to the objective social factors, physical health, emotional, family and cultural factors.<sup>24,25</sup>

#### Aim of the study

The aim of this study is to compare the quality of life of schizophrenic patients treated with depot neuroleptics and without depot neuroleptics.

#### Patients and Methods

The study included patients treated in the period from December, 2011 to September, 2012, at the Center for Mental Health, PHI "Health Center" Gradiska. The investigation was conducted in compliance with the Declaration of Helsinki on medical research and the principles of good scientific practice. Initially, 67 patients were selected for the study, but only 64 were further included in the study, aged 18-60 years, out of which 36 were female subjects (56.3%) and 28 male (43.7%). Patients whose intellectual abilities were at the level of light mental retardation were excluded from the study.

Experimental group consisted of patients suffering from schizophrenia, treated with depot neuroleptics and with or without additional oral therapy (n = 32). The control group consisted of patients suffering from schizophrenia and receiving oral therapy exclusively (n = 32). Informed consent was obtained from all study subjects. Based on medical history, socio-demographic data, and medical records assessment, we obtained data on the age, marital and employment status, level of education and the presence of somatic diseases in patients. Determination of body weight was done using calibrated scales and recorded values were expressed in kg; body height was determined using stadiometer and recorded values were expressed in cm. Quality of Life Questionnaire and BPRS were filled by the examiners after examinees provided their answers to the questions.

Statistical analysis was performed using SPSS (Statistical Package for the Social Sciences), version 20, as the analytical statistical tool.

Data were analyzed using descriptive statistics.  $\chi^2$ -test of independence was used to determine the relationship between two categorical variables.

#### Results

The results of data analysis showed that the average age of the examinees was  $44.19 \pm 7.785$  (experimental group:  $43.31 \pm 6.879$  and control:  $45.06 \pm 8.617$  years). Age of the examinees in both groups is shown in **Table 1**.

**Table 1. Age of examinees**

Examinees group	N	Min.	Max.	Range	Median	Mean	Std. Dev.	CV (%)
Experimental group	32	28	52	24	46.00	43.31	6.879	15.88
Control group	32	28	60	32	48.00	45.06	8.617	19.12
Total	64	28	60	32	46.00	44.19	7.785	17.62

N= number of subjects Min= age of the youngest subject Max= age of the oldest subject Range=, average age of the subject Median= mediana, Mean= arithmetic mean Std. Dev.= Standard deviation CV (%) = coefficient of variation.

Using a Man-Whitney U test of rank to analyze the data on arterial pressure, no significant difference was found in systolic arterial pressure values between the experimental (Md = 122.50, n = 32) and control (Md = 122.50, n = 32) group, U = 440 000, z = -0977, p = 0328, r = 0.12, as well as in diastolic arterial pressure between the experimental (Md = 82.50, n = 32) and control (Md = 87.50, n = 32) group, U = 487 000, z = -0341, p = 0.733, r = 0.04. Results showing the level of satisfaction in quality of life: housing, friends, visits to cultural events and religiosity are presented in **Table 2**.

Using the Chi-square test of independence for analysis, data showed that there were no statistically significant differences in both groups compared to inflammatory therapy ( $\chi^2 = 1570$ , SS = 2, p = 0.456), as well as the presence of frequent mood changes ( $\chi^2 = 0077$ , SS = 1, p = 0.781); while the examination of hallucinations showed statistically significant difference between two groups ( $\chi^2 = 8.400$ , df = 3, p = 0.038). Neuroleptics in relation to the number of patients are presented in **Table 3**.

**Table 2.**  $\chi^2$  - test and the level of statistically significant differences in housing, satisfaction with friends, visits to cultural events and religiosity between the experimental and control group.

Characteristic	Experimental group		Control group		Total		c2 values	S	NSZ	
	f	%	f	%	f	%				
Lives	At home	28	87.5	26	81.2	54	84.4	2.074	2	0.355
	In the apartment	3	9.4	2	6.2	5	7.8			
	Subtenant	1	3.1	4	12.5	5	7.8			
Satisfactions with friends	Very good	2	6.2	4	12.5	6	9.4	0.772	4	0.942
	Good	18	56.2	17	53.1	35	54.7			
	Moderate	7	21.9	6	18.8	13	20.3			
	Poor	2	6.2	2	6.2	4	6.2			
Visits to cultural manifestations.	Very poor	3	9.4	3	9.4	6	9.4	4.857	2	0.088
	Often	1	3.1	0	0.0	1	1.6			
	Sometimes	1	3.1	6	18.8	7	10.9			
Religiosity	Never	30	93.8	26	81.2	56	87.5	0.000	1	1.000
	Yes	24	75.0	25	78.1	49	76.6			
	No	8	25.0	7	21.9	15	23.4			

f = number of patients in the experimental group, the control group and the total number of patients, SS = b, degree of freedom, NSZ = level of statistical significance (p)

**Table 3.** Neuroleptics in relation to the number of patients

Neuroleptics	depot forms	tablets
	number of patients	number of patients
Flufenazin	27	4
Haloperidol	6	5
Risperidon	3	12
Klozapin	-	15
Prasine	-	9

The presence of disorientation was not found in the study groups.

## Discussion

Measures of the quality of life of schizophrenic patients are used for different purposes. In the first place it serves the purpose to assess the performance of methods of treatment, so called application of new medications, including the widely conceived programs for the prevention of mental disorders.<sup>21-27</sup>

Research studies of Salokangas et al. showed that the quality of life of schizophrenic patients in Finland was higher in those subjects who lived in good marital or partnership relationships.<sup>28,29</sup> The quality of life of schizophrenic patients was also examined by Holzinger et al., with participation of 605 psychiatrists in Germany, where it was shown that the highest ranked aspect of

quality of life was the patient's satisfaction, i.e. social interaction, contacts and the acceptance by the people in their immediate family environment, followed by lack of symptoms and the ability to work.<sup>30</sup> However, the study including schizophrenic patients in Nigeria showed that their quality of life was more dependent on marital status and employment, meaning that married and employed were more satisfied with the quality of life.<sup>31,32</sup> Similarly, the studies on schizophrenic patients from different cultural backgrounds, such as China, showed higher scores of quality of life achieved by employed persons living in families who were religious, and older examinees with higher incomes, but the differences were not significant.<sup>33-34</sup> In contrast, our research did not show significant disparities in the quality of life of schizophrenic patients, in accordance with research conducted by Kuga A. et al. in Japan, who showed that none of the socio-demographic or objective variables affected the assessment of the quality of life of schizophrenic patients.<sup>35</sup>

Regarding the treatment of schizophrenic patients, haloperidol decanoate may have a significant effect on improvement of the symptoms and behaviors in comparison to placebo, but the data to confirm this theory are extremely rare.<sup>36-40</sup> There are no visible differences between haloperidol administered in depot form or orally. For those who need this medicine and who wish to use it, the method on which the medicine enters the body is a matter of personal choice and clinical assessment.<sup>41-45</sup> Since there are clear differences between haloperidol decanoate

and other depots, the choice of depot medication could also be a matter of personal judgment and the patient's attitude about the form that is more suitable for use.<sup>46-49</sup> Fluphenazine decanoate does not reduce relapse more than orally administered neuroleptics or other depot antipsychotics.<sup>50-54</sup> The research showed that there was small advantage of depot-forms compared to the same medicine taken orally, in terms of compatibility. However, this is not broadly applicable in everyday clinical practice.<sup>55</sup> Following two groups of schizophrenic patients after discharge from a psychiatric hospital during period of one year, where one group was administered oral therapy and the other a depot formulation, it was found that patients on oral therapy had higher rates of re-hospitalization and their quality of life was not better than in patients on depot medication.<sup>56</sup> These findings were partially in agreement with our study results that showed no difference in the quality of life of schizophrenic patients on depot preparation and those taking oral agents.

## Conclusion

On the basis of the conducted research we can conclude that the results of our study are in agreement with the results of other studies. The quality of life of schizophrenic patients treated with or without depot preparations was mainly the same, with small deviations. There were no statistically significant differences between two groups based on gender, age structure, education, employment, body weight, and body height. A statistically significant difference was determined in the presence of hallucinations, which were more frequent in patients treated with depot preparations neuroleptics, in comparison to subjects without depot in therapy. Disorientation was not present in either group of examinees. These results may contribute to the treatment and improvement of quality of life of the patients suffering from this disease.

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# Kvalitet života shizofrenih pacijenata sa i bez depo preparata neuroleptika

## SAŽETAK

**Uvod:** Shizofrenija je hronično mentalno oboljenje koje negativno utiče na kvalitet života, pacijenta i njegove porodice. Osnovnu terapiju u liječenju shizofrenije predstavljaju antipsihotici.

### **Cilj istraživanja:**

Cilj istraživanja je bio da se uporedi kvalitet života shizofrenih pacijenata koji se liječe depo preparatima neuroleptika i pacijenata bez depo preparata neuroleptika.

**Ispitanici i metode:** Uzorak čine 64 pacijenta uzrasta od 18 do 65 godina koji su podijeljeni u dvije grupe: grupu pacijenata liječenih depo preparatima neuroleptika i kontrolnu grupu bez depo preparata neuroleptika. U istraživanju su korišteni anamnestički i sociodemografski podaci, tjelesna težina, arterijski krvni pritisak te upitnik o kvaliteti života (kombinacija Lankaširskog i Mansa upitnika) i kratka skala za psihijatrijsku procjenu (BPRS).

**Rezultati:** Prosječna starost svih ispitanika je bila  $44.19 \pm 7.785$  godina (ekperimentanla grupa:  $43.31 \pm 6.879$  i kontrolna:  $45.06 \pm 8.617$  godine). Nije bilo statistički značajne razlike između ispitivanih grupa o prisustvu čestog neraspoloženja  $H_i = 0000$ ,  $p > 0.05$ . Utvrđena je statistički značajna razlika između ispitivanih grupa u postojanju halucinacija ( $c^2 = 8.400$ ,  $SS = 3$ ,  $p = 0.038$ ).

**Zaključak:** Utvrđeno je da nema bitnije razlike u kvaliteti života pacijenata koji se liječe od shizofrenije, bez obzira da li se koriste depo preparati ili ne, što je u saglasnosti sa rezultatima drugih autora.

**Ključne riječi:** shizofrenija, kvalitet života, neuroleptici, depo preparati