Research article/Raziskovalni prispevek

THE QUALITY OF LIFE IN INPATIENTS WITH CHRONIC SCHIZOPHRENIA

KAKOVOST ŽIVLJENJA BOLNIKOV V KONČNI FAZI SHIZOFRENSKE BOLEZNI

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Key words: *schizophrenia; mental illness; symptomatology; quality of life factors; institutionalization*

Abstract – Background. *Whether in the prescription of appropriate types and doses of psychotropic medications or determining readiness for psychosocial treatment and rehabilitation, clinicians must be able to pinpoint, quantify, and monitor the severity of psychiatric symptoms. Brief Psychiatric Rating Scale (BPRS) and LiSkal (Linzer Skala zur Messung der Lebensqualität bei Menschen mit chronischen psychosozialen Problemen) were proved to be reliable assessment tools and were used to quantify phenomenological features of schizophrenia in this study.*

Methods. *124 patients (76 male and 48 female) were interviewed in this study having the average age of 57. General information was taken from their case histories and symptoms were evaluated by means of the BPRS (Brief Psychiatric Rating Scale). In addition, LISKAL scale was used to evaluate quality of life and independence of patients. Data was processed and frequencies of categories for attribute variables as well as the average (x_{av}) and standard deviation (SD) for numerical variables were calculated. Finally, 95% confidence limit was calculated.*

Results. *Logistic regression model consisted of the following variables: living outside institutions in adulthood, working period, physical illness, motor slowing and bizzare delusions. The level of independence, measured with LiSkal scale, was 4 with both sexes. The evaluations of single sections in the questionnaire about the quality of life ranged between 3 and 4. The evaluation of independence correlated with the complex evaluation of the life quality.*

Conclusions. *Results showed that symptoms of illness (negatively) and general facts (positively) affected the quality of life of patients suffering from chronic schizophrenia.*

Ključne besede: *shizofrenija; duševna bolezen; simptomi bolezni; dejavniki kakovosti življenja; institucionalizacija*

Izvleček – Izhodišča. *Shizofrenija je bolezen celotne osebnosti in se zrcali v kakovosti bolnikovega življenja. Učinkovitost pri vsakdanjih življenjskih nalogah je mera te kakovosti. Kakovost življenja bolnikov s shizofrenijo povezujejo z različnimi dejavniki, kot so: starost, spol, bivalno in delovno okolje, vplivi stranskih učinkov zdravil itd. S standardiziranimi lestvicami BPRS (Brief Psychiatric Rating Scale) in LISKAL (Linzer Skala zur Messung der Lebensqualität) smo ugotavljali, kateri splošni dejavniki in simptomi bolezni so značilno povezani s kakovostjo življenja in samostojnostjo bolnikov s shizofrenijo v končni fazi shizofrenske bolezni. Ob upoštevanju dejstva, da gre za bolnike s shizofrenijo s slabim končnim izidom bolezni, sem želela kakovost njihovega življenja primerjati s samostojnostjo pri vsakdanjih opravilih. Obsežnejše znanje o tem bi bilo v pomoč pri načrtovanju namestitve bolnikov s shizofrenijo v institucije.*

Metode. *V prečno študijo smo vključili vse bolnike s shizofrenijo, ki so prebivalci institucij v severnoprimorski regiji in so bili stari od 45–85 let. Od 189 bolnikov s slabim končnim izidom shizofrenske bolezni je bilo 124 intervjuvancev (65% vzorec populacije; 76 [61,3%] moških in 48 [38,7%] žensk). Simptome shizofrenije sem ocenila po lestvici BPRS (Brief Psychiatric Rating Scale), kakovost življenja po semistrukturiranem vprašalniku LISKAL (Linzer Skala zur Messung der Lebensqualität bei Menschen mit chronischen psychosozialen Problemen). Pri statistični obdelavi smo izračunali za atribute spremenljivke frekvence kategorij, za numerično povprečje (x_{pov}) in standardno deviacijo (SD) ter 95% interval zaupanja. Korelacijo med skupno oceno kakovosti življenja in oceno samostojnosti smo preverili z linearno regresijo.*

Rezultati. *Ženske so bile bolj depresivne, moški pa bolj čustveno otopeli ($p > 0,05$). V logistični regresijski model so se vključile naslednje spremenljivke: bivanje v odrasli dobi izven institucij, delovna doba, telesne težave, psihomotorična upočasnjenost in bizarne vsebine mišljenja. Povprečna starost bolnikov je bila 57 let. Stopnja samostojnosti, merjena z LISKAL – samostojnost, je bila pri obeh spolih 4. Ocene posameznih področij v vprašalniku o kakovosti življenja so bile med 3 in 4. Vrednost ocene samostojnosti je korelirala s celotno oceno kakovosti življenja.*

Zaključki. *Sklepamo, da so splošne in bolezenske značilnosti vplivale na kakovost in samostojnost bolnikov s shizofrenijo s*

slabim končnim izidom bolezni. Bivanje v odrasli dobi izven institucij in delovna doba sta bili pozitivno povezani s samostojnostjo v vsakdanjem življenju, negativno pa motorična upočasnjenost in nenavadne vsebine mišljenja.

Introduction

Schizophrenia, a disease of the brain, is one of the most disabling and emotionally devastating illnesses known to man. Schizophrenia is not a split personality, a rare and very different disorder (1–3). Like cancer and diabetes, schizophrenia has a biological basis and it is not caused by bad parenting or personal weakness. Schizophrenia is, in fact, a relatively common disease, with an estimated 14–24 percent of patients who experience the final stage with permanent outcome (4).
Hospitalization is often necessary in cases of acute schizophrenia (2). This ensures the safety of the affected person while allowing for observation by trained mental health professionals to determine whether schizophrenia is the appropriate diagnosis. In addition, hospitalization allows for the initiation of medication under close inspection (5, 6). Unfortunately, hospitalization has a negative influence on the course of disease. Negative symptoms, long duration (several years) of the illness and long-lasting hospitalization worsen the life quality of patients with schizophrenia with a poor outcome (2). Most importantly, patients' quality of life significantly changes (7). It is lower if compared to other groups of population (8). While twenty years ago professional studies of the quality of life in schizophrenia patients were scarce, nowadays mental health professional have numerous assessment tools to quantify phenomenological features of schizophrenia and quality of life (9–14). For these purposes, BPRS and LiSkal scales are commonly used.

Methods

All the patients that were included in this cross-sectional research – 76 men (61.3%) and 48 women (38.7%) having age between 45 and 82 – are hospitalized (See Table 1). 124 out of 186 patients with schizophrenia with poor outcome were inteviewed. 22 patients (12%) weren't in position to be included in the research and 43 of them (23%) refused to collaborate. All these patients were treated with neuroleptics for more than 10 years. Each patient lived in the same institution for at least one year (See Table 1). General information was taken from their case histories and symptoms were evaluated according to the BPRS scale (15). Patients' mental state was evaluated including their behaviour, speaking, mood, delusions, hallucinations, awareness and orientation, memory, intelligence and somatic illness.
LiSkal scale was used to evaluate a quality of life and independence of the patients and general information was entered in a questionnaire that is a part of the LiSkal scale (16). By default this questionnaire comprises both the objective and subjective quality of life and evaluation of independence. Thus, groups of questions related to the objective quality of life included personal possessions, activities, time consumption and interpersonal relationship. On the other hand, questions related to subjective quality of life included contentment with the views of life, wishes, time scheme of the day and interpersonal relationship.
Each section was evaluated using a 0 to 6 scale. 0 standed for no disturbance or minimal disturbances in the specific area and 6 meant grave disturbances. The following data was collected: date of birth, sex, the way of life before entering the institution, conditions of life in adulthood before entering the institution, life in childhood, number of children in the family, married state, education, working period (in years) and the last employment. Patients' diagnoses were summarised from the case histories (MKB 10 – International Classification of Illnesses and Related Health Problems for Statistical Purposes) and data was processed in two stages.
In the first stage frequencies of categories for attributive variables as well as the average (x_{av}) and standard deviation (SD) for numerical variables were calculated. In addition, a 95% confidence limit for the assessment of average population for the whole group and separately for both sexes was calculated. Furthermore, a correlation between the complex assessment of life quality and independence with linear regression was verified. Then patients were divided into two groups according to their level of independence up to 4 or beyond 4. χ^2 and t tests were employed to determine the variables in which these groups differred. The established variables showing a significant static difference ($p < 0.05$) between the two groups were entered into a mathematical logistic regression model to check out the variables' impact on the outcome (17).

Table 1. *The placement of patient according to institution and sex.*

Razpr. 1. *Razporeditev bolnikov po institucijah in spolu.*

Institution Institucija	Male Moški		Female Ženske		All Skupaj	
	n	%	n	%	n	%
Psychiatric hospital Idrija Psihiatrična bolnišnica Idrija	28	22.6	17	13.7	45	36.3
OPH Marof (Spodnja Idrija) DU Marof (Spodnja Idrija)	11	8.9	14	11.3	25	20.2
OPH Postojna DU Postojna	1	0.8	1	0.8	2	1.6
OPH Ilirska Bistrica DU Ilirska Bistrica	8	6.5	1	0.8	9	7.3
OPH Ajdovščina DU Ajdovščina	6	4.8	1	0.8	7	5.6
OPH Nova Gorica DU Nova Gorica	2	1.6	4	3.2	6	4.8
OPH Gradišče DU Gradišče	6	4.8	2	1.6	8	6.5
OPH Podbrdo DU Podbrdo	2	1.6	2	1.6	4	3.2
Social welfare institution Dutovlje Socialnovarstveni zavod Dutovlje	12	9.7	6	4.8	18	14.5

Results

Patients' age averaged 57.1 (SD = 12.4) for men 55.2 (SD = 11.8) and 60 (SD = 12.8) for women (See Table 2). As many as 70 (92.1%) men and 35 (72.9%) women were single. 27 (21.8%) patients had children and 97 (78.2%) were childless. On average, women had more children than men ($p < 0.05$). The majority of patients finished primary school – 71 (57.3%) showing no difference between the sexes. The duration of working period was x ± SD (10.1 ± 9.1) for men and x ± SD (15.2 ± 18.0) for women. The last employment lasted, on average, 10.7 years (SD = 18.5%) for men and 14.5 years (SD = 24.2%) for women. 11 (61.1%) men and 3 (15.8%) women have never been employed at all.

Table 2. *Quality of life before entering the institutions (a) and in adulthood (b).*

Razpr. 2. *Bivanje pred vstopom v institucije (a) in v odrasli dobi (b).*

	Male Moški		Female Ženske	
	a	b	a	b
With parents Pri starših	36 (47.4%)	30 (39.5%)	18 (37.5%)	19 (39.6%)
With a partner S partnerjem	4 (5.3%)	6 (7.9%)	9 (18.8%)	11 (22.9%)
Single Samski	11 (14.5%)	16 (21.1%)	6 (12.5%)	13 (27.1%)
In hospitals V bolnišnici	20 (26.3%)	20 (26.3%)	9 (18.8%)	3 (6.3%)
In social institutions V socialni instituciji	5 (6.6%)	4 (5.3%)	4 (8.3%)	2 (4.2%)

Table 3. *Results of logistic regression.*

Razpr. 3. *Rezultati logistične regresije.*

Variable Spremenljivka	b	SE_b	e^b	95% IZe^b	χ^2	p
Cross-section Presečišče	–4.43	0.93	0.01	0.04–0.00	22.68	0.0000
Conditions of life in adulthood (outside institutions) Pogoji življenja v odrasli dobi (izven institucij)	1.32	0.57	2.83	8.72–0.91	3.26	< 0.05
Somatic illnesses Telesne težave (bolezni)	1.32	0.75	3.77	0.86–16.6	3.12	< 0.05
Working period Delovna doba	–0.45	0.33	0.95	0.85–1.02	4.23	< 0.05
Motor slowing Motorična upočasnjenost	–1.35	0.24	0.25	0.16–0.41	4.31	< 0.05
Bizzare delusions Bizarne vsebine mišljenja	–0.79	0.39	0.45	0.21–0.97	4.19	< 0.05

b = regression coefficient, SE_b = standard deviation of b, e^b = odds ratio, IZe^b = confidence limit for odds ratio, p = significance
b = regresijski koeficient, SE_b = standardna napaka od b, e^b = razmerje obetov, IZe^b = interval zaupanja za razmerje obetov, p = signifikantnost

When doing the average assessment of the patients' subjective life quality, that is, their view of life, their willingness for changes, free time creation, contacts with relations and social withdrawal, there were no significant differences ($p > 0.05$) between the sexes. In the average assessment of objective life quality, it was found out that men were more socially withdrawn than women ($p < 0.05$).
In the average assessment of the objective life quality comprising a frequency and duration of activities, passivity and contacts with relations there were no significant differences ($p > 0.05$). The level of independence rated 4.3% (SD = 1.5) for men and 3.7% (SD = 1.9) for women. Hence, the difference in independence between sexes was not significant ($p < 0.05$) (See Figure 1, Table 3).

Discussion

In the research group of patients with schizophrenia with a poor final outcome, the amount of male patients was twice as large as the amount of female patients which is probably the result of a more favourable development of schizophrenia in

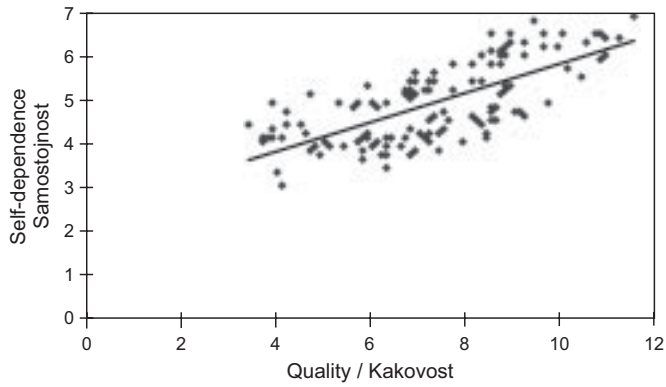

Figure 1. *Graphic representation of correlation between complex assessment of life quality on the abscissa and the assessment of independence level according to LiSkal scale on the ordinate. The regression line is drawn in (correlation coefficient according to Pearson = 0.76, p < 0.00005, t = 8.42 [n = 124]).*

Sl. 1. *Grafični prikaz korelacije med skupno oceno kakovosti življenja na abcisni osi in oceno stopnje samostojnosti po LISKAL lestvici na ordinatni osi. Vrisana je regresijska premica (korelacijski koeficient po Pearsonu je 0,76, p < 0,00005, t = 8,42 [n = 124]).*

women, their ability to care for themselves, have social contacts and engage in activities that increase the quality of their lives (18). Women included in the research were older than men, due to earlier start of the disease with men.
According to Birchwood, men suffering from schizophrenia very often live with their parents and 70% of them are single (12) when they are first hospitalised. None of the male patients had a partner, whereas one fifth of the female patients did have a partner. It is believed that most men live either alone or with their parents, whereas women are mostly divorced (separated) (19). It can be concluded that patients displayed emotional alienation, antisocial tendencies and lacked initiative concerning making contacts with the opposite sex even before the onset of the disease (1). More women (three quarters) than men (half) finished primary school. Twice as many men as women had no education. Before they retired, half of the men were unqualified workers, which implies regression of schizophrenics at their work position and lack of interest that society shows for making use of the patients' remaining abilities.
The above mentioned statements can be conformed by the fact that 60% of men and 16% women were never professionally employed. Mental patients are usually unsuitably employed and are exposed to a work-related stress and lack of understanding from the part of their employers and co-workers. As a result, they are unefficient and have a little possibility for a working rehabilitation. According to the mental health assessment in BPRS chart as much as half of the patients had some somatic illness. Psychical illnesses affect the quality of mental patients' lives and cause earlier mortality than in general population (20). Men had more physical illnesses than women and consequently a higher mortality rate (19). Half of the patients had the feeling of fear and almost three quarters experienced a blunted affect (affect with reduced emotional response). This statement agrees with the fact that the blunted affect is one of the main features of schizophrenia (1).
Almost all the patients had disorganized thinking and speech, three quarters of patients had hallucinations due to long duration of the disease with characteristic schizophrenia symptoms (2). As a result of side effects of antipsychotics and physi-

cal illnesses (cardiac, coronary, pulmonary and urinary diseases), three quarters of patients were motor slowed. The mental state assessment was not as high as expected (moderately strongly expressed) when taking into account the structure of patients chosen according to their symptoms. These findings are understandable because patients in chronic stage of schizophrenia usually do not display acute symptoms. The women were usually more depressed than the men. According to Goldstein, women with schizophrenia react with depression and have more paranoid ideas.

Men had significantly more physical illnesses and suffered stronger emotional apathy that is aggravating fact for establishing social contacts. This can be seen through a patient's limited activity and his or her social role that is severely limited in all fields of life (21). The level of independence, rated from 1 to 7 on a chart, averaged 4.This evaluation shows that patients included in this research had less strongly present symptoms that effected their moderately intact independence. The men were less independent and needed more help than was the case with the women, mainly because they had more physical illnesses and were more emotionally defected.

Logistic regression model that was used comprises variables such as conditions of life in adulthood (outside institutions), working period, somatic illnesses, motor slowing and bizzare thinking. Patients who were not hospitalized during their adulthood have a better quality of life compared to the hospitalized patients as their chance of rating their independence under 4 is three times higher. Longer working period resulted in four times higher independence. Working period was not correlated to the length of education and independence was not correlated to the level of education.

Physical illnesses were inversely proportioned with independence. Schizophrenia patients with physical illnesses rated their independence above 4 twice as often as other patients. Motor slowing is closely connected with a diminished independence. Patients with motor slowing are four times as likely to rate their independence above 4 than the other patients. The presence of delusions is connected with reduced independence as well. Patients with bizarre thinking are twice as likely to rate their independence above 4 because bizarre thinking is a sign of severe schizophrenic impairment (22–25). The five variables, that were included in the model, predicted the outcome correctly for as many as 83% of the patients. The research did not include the influence of antipsychotic therapy on the quality of life of schizophrenia patients. The connection between these two factors would define motor slowing more accurately. Because of the schizophrenic impairment, the research group was the aggravating factor when conducting the research. We were dealing with patients with poor final outcome of the disease which means that due to severe disturbance of emotions, volition and thinking they lacked interest in their surroundings. The outcome is in accordance with clinical observations.

Conclusions

With the help of a logistic regression model the following connections were found:

1. General characteristics – conditions of life in adulthood (outside institutions) and longer working period were positively connected with independence in everyday life and the quality of life in patients suffering from schizophrenia.
2. Somatic illnesses, motor slowing and bizzare delusions were conditions that had rather negative influence on the quality of life and independence of the patients.

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