

# PSYCHIATRIC REHABILITATION IN THE HOSPITAL SETTING – ONE YEAR FOLLOW-UP OF PATIENTS WITH SCHIZOPHRENIA PSIHOSOCIALNA REHABILITACIJA V BOLNIŠNICI – ENOLETNO SPREMLJANJE BOLNIKOV S SHIZOFRENIJO

Vesna Švab<sup>1</sup>, Urban Groleger<sup>1</sup>

Prispelo: 22. 8. 2006 – Sprejeto: 14. 11. 2006

Original scientific article  
UDC 616.895.8

## Abstract

**Background:** In recent years, the majority of long-term hospitalized patients with schizophrenia, who had no relapse during standard psychiatric management, were discharged from the Ljubljana Psychiatric Hospital because of increased number of admissions and limited hospitalization length. To ensure safest possible discharge, a hospital rehabilitation and planned discharge programme has been set up for patients requiring long-term care and frequent rehospitalizations

**Methods:** Forty-one (41) long-term and frequently admitted patients with schizophrenia were included in the study. One-year follow up involved monitoring of their needs, clinical status, global functioning and quality of life. A rehabilitation programme was designed and tailored to the characteristics and needs of the patients studied. In addition to standard psychiatric treatment, detailed information on the disease was given to the patients and their families. They were included in social skills training, and a management plan was prepared for each of them.

**Results:** Within one year, negative symptoms of the disease were reduced significantly and the patients became more satisfied with the quality of their life. Most of their social needs, however, could not be addressed.

**Conclusions:** Individually adjusted programmes of hospital psychiatric rehabilitation for patients suffering from most resistant forms of schizophrenia, and inclusion of their family or relatives in their rehabilitation significantly improved disease outcomes in these patients.

**Key words:** schizophrenia, hospital-based psychiatric rehabilitation, patient management planning

Izvirni znanstveni članek  
UDK 616.895.8

## Izvleček

**Izhodišča:** V zadnjem času so zaradi povečanega števila sprejemov in omejene dobe hospitalizacije s Psihiatrične klinike Ljubljana odpustili večino dolgotrajno hospitaliziranih bolnikov s shizofrenijo, ki so bili med standardnim psihiatričnim zdravljenjem brez remisij. Za te bolnike in za vse tiste, ki so večkrat ponovno hospitalizirani, so uvedli program bolnišnične psihosocialne rehabilitacije in načrtovanega odpusta, da bi jim tako zagotovili čimbolj varen povratek domov.

**Metode:** V študijo je bilo zajetih 41 dolgotrajno in večkrat hospitaliziranih bolnikov s shizofrenijo. Eno leto so spremljali njihove potrebe, klinično stanje, vsakodnevno funkcioniranje in kakovost življenja. Program rehabilitacije je bil oblikovan glede na lastnosti in potrebe bolnikov. Standardna psihiatrična obravnava je bila dopolnjena še s podrobnimi pojasnili o bolezni za bolnike in njihove družine; potekalo je učenje socialnih veščin, za vsakega posameznika pa so pripravili tudi načrt obravnave.

**Rezultati:** Negativni simptomi bolezni so se v enem letu bisteno zmanjšali in bolniki so bili bolj zadovoljni s kakovostjo svojega življenja. Vendar pa večine njihovih socialnih potreb ni bilo mogoče zadovoljiti.

**Zaključki:** Individualni prilagojeni programi bolnišnične psihosocialne rehabilitacije bolnikov z najbolj trdovratno obliko shizofrenije in vključevanje njihovih svojcev v obravnavo pomembno prispevajo k boljšemu izidu zdravljenja teh bolnikov.

**Ključne besede:** shizofrenija, bolnišnična psihiatrična rehabilitacija, načrtovanje obravnave

## 1 Introduction

In Slovenia, psychiatric treatment is provided mainly in psychiatric hospitals and outpatient clinics, which are mostly located within these hospitals. The number of fully private psychiatric clinics and clinics holding contract with NHS has been increasing, yet they offer treatment to a small proportion of psychiatric patients only, and to very few individuals with schizophrenia.

In 2003, the Ljubljana Psychiatric Hospital (PH) had 30 long-term hospitalized patients (hospitalized for over one year), the majority of whom were cared for at the Rehabilitation Unit. The number of PH hospital beds was reduced to the current European level in the 1970s. Most chronic patients were discharged home to their families, and some of them were admitted to nursing homes and asylums; but no disease outcome analysis was done. The last group of long-term hospitalized patients was discharged in the past five years. The PH Rehabilitation Unit undertook a study to assess the characteristics and needs of this group of patients, including individuals who were subject to frequent re-hospitalizations (more than twice a year). Management and rehabilitation plans were prepared for all of them.

Treatment and rehabilitation plans are based on the assessment of patient needs, which allows for effective interventions (1). The most commonly reported needs include the need for reducing psychological distress, the need for information about the disease and the need for socializing (2). They can be addressed by the use of standard psychiatric rehabilitation methods (3). These methods comprise education about the disease, social skills training and other therapeutic approaches which make it possible for patients to participate in the treatment process and take maximum possible control over their lives (4, 5, 6). Hospital programmes which employ these methods are reported from the U.S., where higher levels of patient satisfaction and better communication with other people have been achieved through their use (7).

The PH has implemented individualized management planning, education of patients and their relatives and social skills training in groups. Since PH is the leading institution of its kind in Slovenia, the study was

undertaken to evaluate the situation in Slovenia as a whole.

## 2 Subjects and methods

### 2.1 Subjects

In 2003, 41 patients with resistant schizophrenia who were hospitalized for a long time, or were frequently re-admitted, were included in the inpatient psychiatric rehabilitation programme at the PH Rehabilitation Unit. The inclusion criteria included: diagnosis of schizophrenia and schizoaffective disorder (F20 and F25 according to ICD 10), age of 20 to 50 years, more than one hospitalization a year over the past three years, or hospitalization lasting more than one year, and participation of family members or other relatives in the programme.

### 2.2 Methods

General data on each patient's disease were acquired through a semi-structured interview.

The following assessment methods were used:

1. Patient needs were assessed using the Camberwell Assessment of Need (CAN) questionnaire (8). The interviewers and the patients explored 22 areas of the patient's life and rated them on a scale of 0 to 2 (0 – no difficulties, 1 - no difficulties due to intervention, 2 – serious difficulties).
2. For assessing the patients' living/residential situation and their level of satisfaction in various areas of life, the Lehman's Quality of Life interview (9) was used. It is intended for collecting various patient data in a form of a structured interview, and includes a 1-7 scale for satisfaction self-assessment for each of the domains listed.
3. The presence and severity of the symptoms of schizophrenia were assessed using the Positive and Negative Syndrome Scale (PANSS) (10). This questionnaire is used by the interviewer to assess and evaluate 30 symptoms on a 1-7 rating scale (1=not present, 7 =most severe). The results obtained are a sum total of all scores and a sum of three subscores: positive, negative and general (10).

The interviewers need appropriate training in the use of this questionnaire.

4. The severity of clinical status was assessed using the Clinical Global Impression (CGI) scale (11). This simple scale is often used in psychiatry to help interviewers assess the overall current severity of the disease on the basis of disease symptoms and signs. These are assessed from 1- "not ill" to 7- "among the most severely ill patients". Appropriate training is required for the use of this scale.
5. Patient functioning was assessed using the Global Assessment Scale (GAS) (12), which helps interviewers rate global patient functioning on the basis of patient and disease data on a scale from 1 (very poor) to 100 (very good). The instructions include a detailed description of functioning of the patient affected by the disease (classes 1-10, 11-20, 21-30 etc.), as well as the scoring method within an individual class (12). The use of this scale requires appropriate training. All interviewers were trained in the use of these assessment tools and achieved comparable score results. Interviewers did not participate in the rehabilitation programme or in the therapeutic work with patients.

The rehabilitation programme was carried out through eight consecutive group meetings. Patients and their family /relatives attending these meetings were separately informed about signs and symptoms of the disease, forms of treatment and rehabilitation, and role of family/relatives in the recovery process. The management and rehabilitation plan was designed on the basis of needs assessed by patients and staff at work group meetings. The staff was explained the principles and methods of psychiatric rehabilitation, which increased the level of patient participation in the management process and fostered staff motivation. The team was comprised of external associates (social workers, members of basic health care teams and experts from nongovernmental organisations) who provided for the support and care of these patients after discharge, and offered support to their family and relatives.

All patients were evaluated prior to their inclusion in the programme (E1), and at 12 months after the inclusion (E2), irrespective of whether they were still in the hospital or had been discharged to home care in the meantime.

During hospitalization, implementation of the rehabilitation programme was verified on a weekly basis and later on a monthly basis.

## 2.3 Statistical analysis

Since all patients had received standard psychiatric management at the Department of Clinical Psychiatry at the Psychiatric Hospital before their inclusion in the hospital-based psychiatric rehabilitation programme, data collected prior to inclusion were used as control values for later evaluations. The statistical method employed for the evaluation of paired samples (comparison of pre- and post-rehabilitation values for the same subjects) was therefore used in the analysis (13). The confidence interval was set to 95%. All the variables used in statistical analysis were tested for normality of distribution. Although some of them (PANSS, CGI, GAS) are usually evaluated using methods for numerical variables, their distribution was not normal, so nonparametric statistical methods were applied. Median and average ranks were used as a measure of central tendency and differences between the observations. The Wilcoxon's signed ranks test was used for comparative statistical analysis (13). All differences were considered statistically significant at  $p < 0.05$ . Data were analyzed using the SPSS statistical package for Windows (Version 12.0, SPSS Inc., Chicago, IL, USA). The analysis was performed at the Ljubljana Psychiatric Clinic by the authors.

## 2.4 Ethical aspects of the study

All patients agreed to participate in the study and signed an informed consent form. The study was also approved by the Medical Ethics Committee of the Republic of Slovenia.

## 3 Results

### 3.1 Sample description

Of the 41 patients included in the study, 20 (48.8%) were men and 21 (51.2%) women. Their average age was  $40.4 \pm 9.4$  years.

A little under one half of the patients were married and lived with their families, less than one third lived alone, and less than a third lived with their parents (slightly over one half of the patients had never been married). Social network of 34 patients (82.9%) consisted only of close family members, and only one half socialized with other people outside the family. Twenty-five patients were the best income earners in the family, yet their income amounted to less than half the average national

Table 1. *Needs assessment using the Camberwell Assessment of Need (CAN) method (11) by patients and observers at inclusion (E1, N=41) and at 12 months after inclusion (E2, N=41) expressed as median (E1 and E2), difference positive or negative average ranks (rank) and statistical significance (p) according to Wilcoxon's signed ranks test.*

Tabela 1. *Potrebe kot so jih z metodo CAN (Camberwell Assessment of Need) (11) ocenili bolniki in opazovalci in sicer ob vključitvi (E1, N=41) in 12 mesecev po vključitvi v program (E2, N=41), kot mediana (E1 in E2), razlike med pozitivnimi in negativnimi povprečnimi rangi in statistična signifikantnost (p) (Wilcoxonov test predznačenih rangov).*

| Evaluated parameters /<br>Ocenjevani parametri | Patients' evaluation /<br>Ocena bolnikov |    |             |              | Observers' evaluation /<br>Ocena opazovalcev |    |             |              |
|--|--|----|-------------|--------------|--|----|-------------|--------------|
|  | E1                                       | E2 | Rank / Rang | p            | E1   | E2 | Rank / Rang | p            |
| Living conditions /<br>Življenjski pogoji      | 0  | 0  | 7.67        | 0.672        | 0  | 0  | 9.21        | 0.851        |
| Food /<br>Hrana                                | 0  | 1  | 8           | 0.079        | 1  | 1  | 5.5         | 0.334        |
| Taking care of home /<br>Skrb za dom           | 0  | 0  | 8.25        | 0.186        | 1  | 0  | 8.21        | 0.342        |
| Self-care /<br>Osebna nega                     | 0  | 0  | 4.5         | 0.408        | 0  | 0  | 9.75        | 0.210        |
| Daily activities /<br>Dnevna opravila          | 1  | 1  | 14          | 0.059        | 2  | 2  | 11.67       | 0.705        |
| Physical health /<br>Telesno zdravje           | 0  | 0  | 5.33        | 0.222        | 0  | 0  | 6.83        | 0.462        |
| Psychotic symptoms /<br>Psihotični simptomi    | 1  | 0  | 10.75       | <b>0.031</b> | 1  | 1  | 14.81       | <b>0.020</b> |
| Level of information /<br>Raven obveščenosti   | 0  | 0  | 3           | <b>0.014</b> | 0  | 0  | 12.36       | 0.178        |
| Psychological distress /<br>Duševna stiska     | 1  | 1  | 8.43        | 0.631        | 2  | 1  | 14.75       | 0.214        |
| Safety to self /<br>Varen/na sebi              | 0  | 0  | -           | 1.000        | 0  | 0  | 11.5        | 0.136        |
| Safety to others /<br>Varen/na drugim          | 0  | 0  | 4           | 0.149        | 0  | 0  | 6.25        | 0.465        |
| Alcohol /<br>Alkohol                           | 0  | 0  | 3.5         | 0.258        | 0  | 0  | 4.5         | 0.090        |
| Medications /<br>Zdravila                      | 0  | 0  | 0           | 0.317        | 0  | 0  | 3.5         | <b>0.017</b> |
| Social contacts /<br>Socialni stiki            | 1  | 1  | 12.5        | 0.990        | 2  | 1  | 10          | 0.101        |
| Partnerships /<br>Partnerske zveze             | 0  | 0  | 9.17        | 0.479        | 1  | 0  | 6.79        | 0.270        |
| Sexuality /<br>Spolnost                        | 0  | 0  | 8           | 0.310        | 0  | 0  | 5.5         | 0.949        |
| Taking care of children /<br>Skrb za otroke    | 0  | 0  | 2.5         | 0.480        | 0  | 0  | 5.67        | 0.408        |
| Education /<br>Izobraževanje                   | 0  | 0  | 5.17        | 0.097        | 0  | 0  | 0           | <b>0.008</b> |
| Telephone /<br>Telefon                         | 0  | 0  | 2.25        | 0.396        | 0  | 0  | 2.5         | 0.222        |
| Transport /<br>Prevoz                          | 0  | 0  | 2.75        | 0.125        | 0  | 0  | 1.5         | <b>0.028</b> |
| Financial resources /<br>Finančna sredstva     | 1  | 2  | 12          | 0.244        | 2  | 2  | 9.05        | 0.832        |
| Benefits /<br>Dodatki                          | 0  | 0  | 0           | <b>0.000</b> | 0  | 0  | 17          | <b>0.000</b> |

income. Twenty-six patients were retired due to disability, 12 had quitted education and 18 had lost their job because of the disease.

Thirty-three patients (80.5%) were diagnosed with schizophrenia, and the remaining eight (19.5%) with schizoaffective disorder. Nineteen patients (46.3%) were repeatedly hospitalized, and 22 (53.6%) were admitted to hospital for long-term (permanent) care. Their mean hospital stay in the three years preceding their inclusion in the rehabilitation programme was 48 weeks.

All patients were on regular antipsychotic medication; 19 (46.3%) received standard antipsychotics, 10 (24.4%) atypical antipsychotic medication and 12 (29.3%) a combination of two types of antipsychotics.

### 3.2 Assessment of patient needs

The results of patient needs assessment are shown in Tables 1 and 2. At one year after inclusion in the study the patients reported fewer needs related to control of disease signs, information about the disease and benefits, to which they were entitled. The observers noticed that at one year after inclusion the patients had fewer needs regarding control of symptoms, use of medications, education, transport and benefits (Table 1).

In addition, CAN was analyzed in terms of total sum of all expressed needs and all unmet needs (number of all CAN items rated as "2"). There was no statistically significant difference between these summary variables at the end of the study and those prior to inclusion, although the trend towards improvement was observed (Table 2).

Observers reported a higher total number of needs and unmet needs than did the patients, both at the beginning of the study and at its end (Table 2). The differences were highly significant for the total number of needs at inclusion ( $p=0.000$ ) and at the end of the study ( $p=0.000$ ), which is also true of the differences in the number of unmet needs ( $p=0.000$  and  $p=0.001$  respectively).

### 3.3 Patient satisfaction

The results of analysis of patient satisfaction in various areas of life are shown in Table 3. A trend towards improvement in patients satisfaction was observed in all areas, although statistical significance was found only for patient satisfaction with life in general and their overall satisfaction at the end of the study and at inclusion. Taking into account less strict criteria ( $p<0.10$ ), satisfaction in two more areas showed significant improvement (spare time and social network).

Table 2. *Patient needs assessed by the Camberwell Assessment of Need (CAN) method (11) prior to (E1, N=41) and one year after inclusion in the programme (E2, N=41) as median (E1 and E2), difference positive or negative average ranks (rank) and statistical significance (p) according to Wilcoxon's signed ranks test.*

Tabela 2. *Ocena potreb bolnikov z metodo CAN (Camberwell Assessment of Need (11) pred (E1, N=41) in eno leto po vključitvi v program (E2, N=41), kot mediana (E1 in E2) razlike med pozitivnimi in negativnimi povprečnimi rangi in statistična signifikantnost (Wocoxonov test predznačnih rangov).*

|  | E 1 | E 2 | Rank / Rang | p     |
|--|-----|-----|-------------|-------|
| Sum of all needs – patients /<br>Vsota vseh potreb-bolniki             | 11  | 8   | 15.63       | 0.916 |
| Sum of all needs – observers /<br>Vsota vseh potreb-opazovalci         | 16  | 12  | 16.77       | 0.751 |
| Number of unmet needs – patients /<br>Neizpolnjene potrebe-.bolniki    | 4   | 3   | 17.11       | 0.328 |
| Number of unmet needs – observers /<br>Neizpolnjene potrebe-opazovalci | 6   | 5   | 16.40       | 0.083 |

Table 3. *Subjective assessment of quality of life using the Lehman's Quality of Life interview (12) prior to (E1) and one year after inclusion in the programme (E2), as number of patients with assessment (N), median (E1 and E2), difference positive or negative average ranks (rank) and statistical significance (p) by the Wilcoxon's signed ranks test.*

Tabela 3. *Subjektivna ocena kakovosti življenja pridobljena z vprašalnikom Lehmann's Quality of Life(12) pred (E1) in eno leto po vključitvi v program (E2), število bolnikov z oceno (N), mediana (E1 in E2) razlike med pozitivnimi in negativnimi povprečnimi rangi in statistična signifikantnost (p) določena z Wilcoxonovim testom predznačenih rangov.*

| Patients' satisfaction with / Zadovoljstvo bolnika z/s  | N  | E 1 | E 2 | Rank / Rang | P             |
|---|----|-----|-----|-------------|---------------|
| Life in general / Življenje na splošno                  | 41 | 4   | 4   | 11.39       | <b>0.035*</b> |
| Living conditions / Življenjski pogoji                  | 41 | 5   | 6   | 10.44       | 0.157         |
| Privacy in residence / Zasebnost v stanovanju           | 41 | 5   | 5   | 14.23       | 0.431         |
| Ability to enjoy life / Zmožnost, da uživaš v življenju | 38 | 4   | 4   | 14.13       | 0.116         |
| Ability to have fun / Zmožnost, da se zabavaš           | 36 | 3   | 3   | 15.78       | 0.574         |
| Ability to relax / Zmožnost sprostitve                  | 39 | 4   | 5   | 14.79       | 0.184         |
| Spare time / Prosti čas                                 | 38 | 4   | 5   | 12.35       | 0.080*        |
| Social network / Socialna mreža                         | 38 | 5   | 5   | 7.33        | 0.081*        |
| Behaviour in the family / Vedenje v družini             | 38 | 6   | 5   | 13.50       | 0.745         |
| Relationships in the family / Odnosi v družini          | 38 | 5   | 5   | 11.15       | 0.613         |
| Financial resources / Finančna sredstva                 | 37 | 3   | 4   | 14.50       | 0.320         |
| Safety / Varnost  | 40 | 3   | 4   | 10.64       | 0.133         |
| General health / Splošno zdravje                        | 39 | 4.5 | 5   | 14.64       | 0.383         |
| Physical strength / Fizična moč                         | 39 | 4   | 4   | 14.89       | 0.435         |
| Mental health / Duševno zdravje                         | 39 | 4   | 5   | 12.93       | 0.842         |
| Overall / Skupno  | 39 | 4   | 5   | 8.78        | <b>0.021*</b> |

Legend: \* p<0.05; \*\*p<0.10

### 3. 4 Disease outcome

The results of analysis of clinical outcome are shown in Table 4. The observed improvement is statistically significant in nearly all measures but PANSS positive.

of employment or adjusted employment for this group. To assess the influence of social factors on the variables measured, we would have had to evaluate a group of patients with schizophrenia, included in social and employment programmes outside hospital which help improve their quality of life.

Table 4. *Evaluation of effectiveness of rehabilitation. Clinical outcome at inclusion (E1, N=41) and at 12 months (E2, N=41), median (E1 and E2), difference positive or negative average ranks (rank) and statistical significance (p) using the Wilcoxon's signed ranks test.*

Tabela 4. *Ocena uspešnosti rehabilitacije. Klinični izid ob vključitvi (E1, N=41) in 12 mesecev kasneje (E2, N=41), kot mediana (E1 in E2), razlike med pozitivnimi in negativnimi povprečnimi rangi in statistična signifikantnost (p) (Wilcoxonov test predznačenih rangov).*

| Variable / Spremenljivka | E 1 | E 2 | Rank / Rang | P            |
|--------------------------|-----|-----|-------------|--------------|
| GAS                      | 55  | 58  | 24          | <b>0.001</b> |
| CGI                      | 4   | 4   | 14.60       | <b>0.001</b> |
| PANSS total              | 82  | 64  | 12.89       | <b>0.000</b> |
| PANSS positive           | 18  | 14  | 16.79       | 0.078        |
| PANSS negative           | 22  | 17  | 14.08       | <b>0.000</b> |
| PANSS general            | 41  | 32  | 10.33       | <b>0.000</b> |

LEGEND: ocenjevalne lestvice : GAS = Global Assessment Scale, CGI = Clinical Global Impression, PANSS = Positive and Negative Syndrome Scale, total and subscores: positive, negative, total

## 4 Discussion

The study undertaken to assess the effectiveness of hospital psychiatric rehabilitation in Slovenia (based on the programme conducted at the Rehabilitation Unit, PH Ljubljana, Slovenia) showed good overall results of hospital psychiatric rehabilitation. The results were even more encouraging because the study included patients with refractory forms of schizophrenia, who were socially isolated and had contact only with their close family members, and who had to get by on very modest financial resources.

During rehabilitation, all patients and their relatives were included in educational programmes, and in addition, social skills training was designed for the patients. The problem identified at the end of one-year rehabilitation was that none of the methods used could improve the patients' living conditions, which certainly reduced the effectiveness of their rehabilitation. Their social isolation is a result of their scarce social network and dire financial situation. These factors undoubtedly affect the prognosis and course of the disease. Isolation is also a result of current legislative provisions and low chance

The analysis of needs perceived by the patients shows that most of these needs are related to the organization of daily activities, control of psychotic symptoms and psychological distress, as well as to the improvement of social relationships and financial position. Upon the completion of the rehabilitation programme, these patients had fewer psychotic symptoms; were better informed about the disease, were able to exercise some of their rights and they had received the benefits to which they were entitled. Improvement, though not statistically significant, was also established in the following areas: regular nutrition (which belongs to the scope of hospital management), organization of daily activities and need for education. Differences between subjective and objective assessments of patient needs were found. Observers rated the problems in most domains of patients' lives as more serious than did the patients, the only exception being financial needs, which the patients identified as a more serious problem. The difference between objective and subjective assessment of patient needs has also been reported in literature (14) and basically means that this group of patients has low demands and expectations, and that

they tend to deny their needs although these may seem essential to objective observers.

During the study, the level of patients' satisfaction with their lives in general increased, but remained mostly unchanged concerning their social and financial position, which could not be changed by none of the hospital rehabilitation methods used. The education of patients and their relatives did not improve the quality of their family life. Hospitalization did not expand their social network or increase their objectively small chances (due to lack of financial resources) of spending their spare time in a quality manner. There was also an increase in their satisfaction with activities they undertook together with other people, which is attributable to their everyday socialization at the wards. However, over this one-year period of rehabilitation there were significant changes in the clinical presentation of the disease, which improved primarily in terms of the negative syndrome (impoverished speech, social withdrawal, emotional withdrawal). This difference cannot be attributed to medical treatment, as these patients received the same medications throughout their participation in this programme, and there were only minimal variations in the doses given in accordance with the course of the disease. Clinical improvement is in accord with the results of other studies on the effectiveness of education and social skills training (15).

#### 4. 1 Study limitations

There are some drawbacks to the study. It did not include important measures of disease outcome, such as family burden, patients' physical health status, their satisfaction with community services and cost-effectiveness of the measures instituted. Follow-up of these patients was too short to detect significant changes in their functioning, as these require longer observation times to evolve. Community stay data were not evaluated for all patients, because not all of them were discharged during the study. This is a shortcoming because community-based forms of management have a proven effect on variables related to quality of life. The number of patients was relatively small, and the validity of the research results was further reduced by the absence of a control group.

#### 4. 2 Guidelines for future research

In spite of its drawbacks, the study of effectiveness of planned discharge in patients with resistant forms of schizophrenia is the first research report on the success of psychiatric rehabilitation in Slovenia. This population group was overlooked by previous research except by

studies exploring the effects of psychopharmaceuticals. Studies of successful forms of treatment and rehabilitation of this patient population should be conducted also outside hospitals, because patients suffering from schizophrenia are mostly cared for in the community and in their natural environment. The responsibility for continued and high-quality management is taken over by those providing community-based treatment and rehabilitation services. Study results have shown that community-based care of these patients has significant advantages over hospital-only management(16).

## 5 Conclusion

Management planning and hospital psychiatric rehabilitation methods used in a group of patients with chronic resistant schizophrenia improved clinical picture of the disease and allowed for their discharge from the hospital. The level of patient satisfaction with life in general also increased in the course of treatment. Rehabilitation methods, social skills training and individualized discharge plan proved successful in the management of these socially deprived patients, suffering from the most severe forms of schizophrenia. Acknowledgements

This study was financed by the Ministry of Science and Technology. The data were compiled by the medical students Katja Kogovšek and Analina Vodušek, whose help is gratefully acknowledged.

## References

1. Reynolds A, Thornicroft G. *Managing Mental Health Services*. London 1999. Open University Press: 11-9.
2. Wiersma D, van Busschbach, J. Are needs and satisfaction of care associated with quality of life? *Eur Arch Psychiatry Clin Neurosci* 2001; 251: 239-46.
3. van Busschbach J, Wiersma D. Does rehabilitation meet the needs of care and improve the quality of life of patient with schizophrenia or other chronic mental disorders? *Community Mental Health Journal* 2002; 38(1): 61-9.
4. Mueser KT, Drake RE, Bond GR. Recent advances in psychiatric rehabilitation for patients with severe mental illness. *Harv Rev Psychiatry* 1997; 5(3):123-37.
5. Anthony W, Cohen M, Farkas M, Gagne C. *Psychiatric Rehabilitation*. Boston 2002. Center for Psychiatric Rehabilitation.
6. Švab V (ur.) *Psihosocialna rehabilitacija*. Ljubljana 2004. Šent - Slovensko združenje za duševno zdravje.
7. Smith RC. Implementing psychosocial rehabilitation with long-term patient in a public psychiatric hospital. *Psychiatric Services* 1998; 49(5): 593-4.
8. Phelan M, Slade M, Thornicroft G, Dunn G, Holloway F, Wykes T, Strathdee G, Lofus L, McCrone P, Hayward P. The

- Camberwell Assessment of Need (CAN); the validity and reliability of an instrument to assess the needs of people with severe mental illness. *British Journal of Psychiatry* 1995; 167: 589-95.
9. Lehman AF, Rossidente S, Hawker F. The quality of life of chronic patients in a state hospital and in community residences. *Hosp Community Psychiatry* 1986; 37: 901-7.
  10. Kay SR, Fiszbein A, Opler LA. Positive and Negative Syndrome Scale (PANSS) for schizophrenia. *Schizophr Bull* 1987a; 13: 261-76.
  11. Guy W. Clinical global impression (CGI) scale. In: American Psychiatric Association (ed). *Handbook of psychiatric measures*. Washington, DC 2000: American Psychiatric Association: 100-102.
  12. Endicott J., Spitzer RL, Fleiss JL, Cohen J. The global assessment scale. A procedure for measuring overall severity of psychiatric disturbance. *Arch Gen Psychiatry* 1976; 33(6): 766-13. Altman DG. *Practical statistics for medical research*. London: Chapman & Hall; 1993.
  14. Lehman AF, Rosidente S, Hawker F. The quality of life of chronic patients in a state hospital and in community residences. *Hospital and Community Psychiatry* 1986; 37: 901-7.
  15. Mueser KT, Drake RE, Bond GR. Recent advances in psychiatric rehabilitation for patients with severe mental illness. *Harv Rev Psychiatry* 1997; 5(3):123-37.
  16. Thornicroft G, Tansella M. Balancing community-based and hospital-based mental health care. *World Psychiatry* 2002; 2: 84-90.