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ABSTRACT

of the dissertation for the degree of Doctor of Science

ORGANIZATIONAL ASPECTS OF DEVELOPING MENTALHEALTH CARE IN AZERBAIJAN

Speciality: 3211.01 – Psychiatry

Field of science: Medicine

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GENERAL CHARACTERISTICS OF THE STUDY

Actuality of the problem. Mental health is an integral part of public health. In fact the World Health Organization motto is "There is no health without mental health"[1]. Good mental health and effective prevention of mental disorders have great importance for development of any country and society, including social wellbeing, economic growth, security, general health of the population and many others. At the moment about 450 million people in the world suffer from mental disorders that is equivalent to 10% of adult population of any country[2].

At the same time according to World Health Report[3], 25% of population experience mental health problems in certain period of the lifespan. At present mental disorders contribute approximately 15% of economic losses related to health[4]. Also the we may consider emotional suffering in patients and their families, deterioration of their quality of life and decreased time for recreational activities as indirect losses of mental illness.

With this regard it is important to study different components of psychiatric care including in-patient and out-patient treatment, psychopharmacology, psychosocial rehabilitation, as well as the factors affecting effectiveness of these services. These factors embrace public attitude towards people with mental illness, human and material resources, standards and regulations on care provision, innovative approaches and cooperation in the field of mental health.

Lack of epidemiological data focusing on prevalence of mental disorders, their distribution at primary and specialized levels of

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[1]*Vladu C, Novac A, Preda A, Bota RG.* No Health Without Mental Health / C.Vladu, A.Novac, A.Preda [et al.] // Ment. Illn., – 2016. 8 (2), – p. 6609.

[2] *Gustavson, K.* Prevalence and stability of mental disorders among young adults:findings from a longitudinal study / K.Gustavson, A.K.Knudsen, R.Nesvåg [et al.] // BMC Psychiatry, – 2018. 18, – p. 65.

[3]*World Health Organization.* The World health report : 2001 : Mental health : new understanding, new hope // World Health Organization, – 2001. – 178 p.

[4]*Doran, Ch. M., Kinchin, I.* A review of the economic impact of mental illness // Australian Health Review, – 2017. 43, – p. 43-48.

care, and care access seems to be an important challenge for our country.

An increasing significance of mental health issues determine the necessity of large-scale reforms in this field and strengthening organization of mental health care. The start of the reforms was related with adoption of the Law on Psychiatric Care and National Mental Health Strategy[5]. It should be noticed that one of the priorities included into the National Strategy is implementation of effective management system in mental health, which emphasize importance of the studies in organizational structure of psychiatric care.

Object of study. Persons suffering from mental disorders receiving in-patient or out-patient treatment; healthy people who were respondents, relatives of patients; medical staff of psychiatric facilities.

The aim of the study is to investigate a wide range of issues related to organization of psychiatric care and determining the ways for its improvement.

The study objectives include:

1. To determine factors participating in development of social stigma towards people with mental disorders and to find a correlation between these factors and socio-demographic variables.
2. To analyze dynamics of the main indicators of mental health care and workforce development in the context of implementation of the National Mental Health Strategy.
3. To evaluate quality of care for people with long lasting hospitalization to what extend the care meets the standards of the UN Convention on Rights of People with Disability (in the framework of the WHO Project on adults with mental disabilities living in institutions in the European Region).
4. To investigate the factors associated with institutionalization of

[5] *Azərbaycan Respublikası Səhiyyə Nazirliyi*. Psixi Sağlamlıq sahəsində Milli Strategiya // Səhiyyə Nazirliyi, – 2011, – 43 s.

patients with severe mental illness with long-term in-patient treatment.

5. To study the aspects of psychotropic drugs prescription in in-patient and out-patient facilities and to define its conformity with the principals of evidence-based medicine and clinical guidelines.

6. To conduct comparative study of social and clinical variables in patients participating in psychosocial rehabilitation program.

7. To develop practical recommendations on improvement of organizational system of psychiatric care in terms of providing better quality of services for people with mental disorders.

Methods of study. Modern psychometric approaches (questionnaires and scales), in-depth interviews, various research designs along with experimental and qualitative research methods.

Main thesis of dissertation for defense:

1. The public attitude towards people with mental disorders is determined by the combined influence of three factors: a) beliefs about social competency of people with mental illness; b) perception of a potential danger associated with the patients; c) realizing necessity to protect human and civil rights of the patients.

2. The structure and main indicators of mental health services is corresponded to the level of economic development in Azerbaijan and its place in World Bank income country rating.

3. The mental health reforms implemented in Azerbaijan promoted achievement of the standards of the UN Convention on Rights of Persons with Disability. However some important issues related to in-patient care should be more straighten.

4. The predictors of institutionalization are social characteristics (living conditions, income sources, number of relatives and attitudes with them, access to care), and clinical variables (illness duration, intervals between hospitalizations, treatment resistance) which should be considered in association with development of in-patient and out-patient care.

5. Less expensive and more personalized out-patient drug treatment in more degree meets principles of rational drug use and represents more preferable alternative of in-patient care.

6. Participation in psychosocial rehabilitation promotes not only developing social skills and better functioning but also has positive impact on productive and negative symptoms.

7. Psychoeducation as an integral part of rehabilitation process better insight to illness, better understanding of a patient's behavior and better compliance to treatment.

Novelty of the study.

For the first time the assessment tool «WHO QualityRights Tool Kit» has been piloted in the joint project with the World Health Organization in our region.

For the first time in Azerbaijan was conducted:

- complex studies of organizational aspects in psychiatric care
- combination of observational (cross-sectional and case-control) designs with experimental and qualitative designs
- study of public stigma towards people with mental illness. The original stigma questionnaire was developed in cooperation with Lithuanian specialists to implement this study.
- use of the modern instruments such as - Life Skills Profile (LSP-16), Health of the Nation Outcome Scales (HoNOS), Birchwood Insight Scale (BIS), Drug Attitude Inventory (DAI), Social Knowledge Questionnaire (SKQ).
- consideration of the issues on rational drug use in out-patient and in-patient facilities was quite new for our country.
- evaluation of effectiveness of newly-established psychosocial rehabilitation program was carried out.

Practical significance of study results. The results obtained allowed to suggest the three-factor model explaining attitudes towards people with mental illness. The model increases our understanding of the effectiveness of stigma and discrimination preventive measures.

The study of dynamics of the main psychiatric care and workforse development indicators made possible to determine the problematic issues in service organization which were included in the National Mental Health Strategy. The author of this study was a member of

the taskforce for the Strategy.

In addition the study results were used in developing the National Workforce Development Strategy for mental health.

In cooperation with WHO officers evaluation of quality of care for institutionalized patients was undertaken. The factors associated with institutionalization as well as the concrete measures for its prevention were determined. The measures included optimal length for in-patient treatment and actions aimed to provide continuity of care.

The findings on psychotropic drugs use revealed important data about the patients' needs in the context of drug provision for in-patient and out-patient facilities. At the same time the monitoring procedures to meet the clinical guidelines were proposed.

An evaluation of psychosocial rehabilitation effectiveness is an important outcome of the study. The practical use of various scales measuring the service outcomes have been considered in this respect.

Approbation of study outcomes: The main findings and results of the dissertation were discussed at various forums and conferences: at the conference dedicated to 80 anniversary of the Psychiatric Hospital No1 of the MH AR (Baku, 2016); at the international forum on the problems and perspectives of modern science and education (Boston, USA, 2016); at 26th (Nice, France, 2018) and 27th (Warsaw, Poland, 2019) Congresses of European psychiatric Association; Conference on "Organization of contemporary psychiatric care in inpatient facilities in Azerbaijan" (Baku, 2019); Conference on "Mental Health: medical and community approaches towards suicide prevention" related to the World Mental Health Day (Baku, 2019); Congress dedicated to 90 Anniversary of Azerbaijan Medical University (Baku, 2020).

The dissertation materials were discussed at the scientific session of the Department of Psychiatry AMU (minute No 2, 11.03.2020) and at scientific seminar of the Dissertation council ED 2.05 operating at Azerbaijan Medical University (minute No 1, 07.04.2021).

Implementation into practice. The dissertation outcomes have been used to improve service provision at the largest hospital in the country – Psychiatric Hospital No1 of the MH AR as well as at the Mental Health Centre of the MH AR. Many proposals formulated by the author as a member of the taskforce on developing National Mental Health Strategy have been incorporated into the named document.

The name of the organization where the dissertation has been accomplished. The research was conducted at the following institutions including the Department of Psychiatry of AMU, Psychiatric Hospital No 1 of the MH AR, Mental Health Centre of the MH AR, psychiatric facilities of Sumgait, Ganja, Sheki, Lenkaran, and Kuba.

Publications. 22 scientific papers including 19 articles (six abroad), three abstracts (abroad).

Dissertation volume and structure. Dissertation is presented at 269 pages of computer text (327 201 symbols) and it includes introduction (8 pages, 12350 symbols), literature review (40 pages, 65589 symbols), material and methods section (15 pages, 26371 symbols), 7 chapters of own studies and their discussion (155 pages, 212366 symbols), conclusions (3 pages, 4817 symbols), practical recommendations (2 pages, 3097 symbols), reference (30 pages), annexes (13 pages). Dissertation is illustrated with 38 pictures, 3 charts, and 33 tables. The reference list includes 285 papers.

MATERIAL AND METHODS

The study participants were 1330 patients with mental disorders receiving in-patient or out-patient services as well as 996 healthy persons who were respondents in the stigma research. In addition 12 family members of the patients and 30 hospital staff members took part in the collaborative WHO study.

The study used the followings assessment tools: The Questionnaire for Assessment Public Attitude Towards People with

Mental Illness, WHO QualityRights Tool Kit[6], Brief Psychiatric Rating Scale (BPRS)[7], Life Skills Profile (LSP-16)[8], Health of the Nation Outcome Scales (HoNOS), Positive and Negative Syndrome Scale (PANSS), Social and Occupational Functioning Assessment Scale (SOFAS), Birchwood Insight Scale (BIS)[9], Drug Attitude Inventory (DAI)[10], Social Knowledge Questionnaire (SKQ)[11].

Different parts of the study utilized various research designs. Cross-sectional design was used in stigma study, rational psychotropic drugs use study, and in the study of dynamics of statistical indicators of psychiatric services.

Case-control design was used to reveal factors affecting institutionalization of patients with severe mental illness. The association between predictive factor and outcome was determinedin relation to frequency and severity of this factor in the main and control groups. Randomized control trial (RCT) design was used for evaluation of effectiveness of psychosocial rehabilitation. In accordance to the RCT requirements all patients were randomly allocated either to experimental or control group. Thus a patient had an equal chance to be in one or another group. The patients in experimental group along with their standard medication participated in several rehabilitation programs including life skills training,

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[6] *World Health Organization.* WHO Quality Rights tool kit to assess and improve quality and human rights in mental health and social care facilities // World Health Organization, Geneva, – 2012. – 93 p.

[7]*Buckingham, W.* Developing a Casemix Classification for Mental Health Services / W.Buckingham, P.Burgess, S.Solomon [et al.] // Commonwealth Department of Health and Family Services, – 1998, Canberra, ACT, Australia, – 38 p.

[8]*Wing, J.K.* Health of the Nation Outcome Scales (HoNOS). Research and development / *J.K.Wing, A.S.Beevor, R.H.Curtis* [et al.] // Br. J. Psychiatry, – 1998. 172, – p. 11-18.

[9]*Birchwood, M.* A self-report Insight Scale for psychosis: reliability, validityand sensitivity to change / M.Birchwood, J.Smith, V.Drury [et al.] // Acta Psychiatr. Scand., – 1994. 89, – p. 62-67.

[10]*Hogan, T.P., Awad, A.G.* Subjective response to neuroleptics and outcome in schizophrenia:a re-examination comparing two measures // Psychol. Med., – 1992. 22, – p. 347-352.

[11]*Oxford University*. Social Knowledge Questionnaire // SchizophreniaBulletin, – 1996. 22 (4), – p. 641-641.

vocational training, group therapy, creative art-therapyand cognitive remediation. Patients in the control group received only standard treatment and they did not participated in rehabilitation activities. Assessment of clinical and functional variables was undertaken before initiation and after completion of the rehabilitation program.

Qualitative research of the care provided to inpatient with long-term hospitalization used method of in-depth interview. This method was based on personal conversation with a respondent(e.g. patients, relatives, hospital staff) who was encouraged to express his or her opinions on the standards of care he or she had been provided with. All the interviews were provided individually in the special room in absence of other persons. The answers of respondents were recorded in a special form attached to the WHO QualityRights Toolkit. Analysis of respondents' answers was implemented as a focus group discussion on a particular standard.

Development of the study included five stages. At the first stage we conducted literature search, drafted a plan for each part of the study, selected instruments, a research design, and inclusion or exclusion criteria.

Implementation of the second stage was associated with a joint project on evaluation of public attitudes towards people with mental illness. In cooperation with Lithuanian team we developed special questionnaire and defined quotas for each survey region. At this stage we conducted the stigma survey and included the data into statistical package. Simultaneously we started gathering information on mental health indicators.

At the third stage we got the data related resource provision for mental health which was coordinated with the taskforce on developing National Mental Health Strategy. At the same time we launched our study on effectiveness of rehabilitation program and continued monitoring dynamics of indicators related to inpatient and outpatient care. The important activity at this stage was research on prescription of psychotropic medication. This research activity was divided into two parallel processes of data collection in in-patient and out-patient facilities.

The fourth stage was coordinated with the WHO Project on

evaluation of quality of inpatient care for persons with long-term hospitalization. In the course of the project implementation we had used WHO methodology to collect information about careprovision which was presented to the WHO European Office. Alsowe provided analysis of social and clinical variables associated with long-term in-patient treatment.

The fifth stage was devoted to systematization, statisticprocessing and analyzing of the data obtained. In addition we compared our results with the similar studies, formulated conclusions and practical recommendations. Finally, we submitted our research as a dissertation for further examination anddiscussion.

THE STUDY RESULTS AND DISCUSSION

Studying the stigma that accompanies mental disorders. The stigma study has been implemented at the first time in our country within the international Project "Empowerment of Mental Health Service Users in Five Regions of Azerbaijan". The study represented a survey among 996 respondents and included the questions related to their attitudes towards people with mentalillness.

We used principal component analysis and parallel analysis to determine factors explaining attitudes towards people with mental illness. The method Kaiser-Meyer-Olkin (KMO) pointed out an adequacy of the sample (KMO = .636), while Bartlett sphericity test revealed strong correlation between the questions (χ^2 (36) = 693, 382, $p < 0.001$). Then we conducted explanatory factor analysis with fixed number of factors and oblique rotation. Ultimately, we obtained three factors explaining public attitudes towards people with mental illness.

The first factor was a public belief on social competency of people with mental illness including their ability to work, to get married, to raise children, as well as a possibility for a child with mental disorder to attend a regular school (Cronbah's $\alpha = 0.572$) (table 1).

The second factor embraced beliefs about unpredictability and potential danger of people with mental disorders. This factor was

associated to a common views that people with mental illnessunlike healthy persons represent a threat and therefore they should be isolated from the society (Cronbach's α = 0.650).

Table 1

Social and demographic variables and attitudes towards people with mental illness

Variables	Social Competency			Unpredictability			Human Rights		
	β	95% CI	p	β	95% CI	p	β	95% CI	p
Sex									
Female	0.048	-0.224;		-0.09	-0.30; -		-0.01	-0.14;	
Male	Ref	0.028	0.13	Ref	0.05	**0.007**	Ref	0.12	0.875
Age									
> 60		0.044;			-0.02;			-0.02;	
30-60	0.085	0.302		0.055	0.14		0.053	0.26	
< 30	0.172	0.115;	**0.009**	0.075	-0.03;	0.092	0.018	-0.11;	0.106
	Ref	0.395	**0.001**	Ref	0.26	0.125	Ref	0.16	0.713
Education									
Higher		-0.292;			-0.24;				
Secondary	-0.086	0.01		-0.04	0.08		0.028		
Primary	-0.037	-0.455;	0.064	-0.03	-0.38;	0.352	0.062	0.11; 0.2	0.542
	Ref	0.17	0.373	Ref	0.21	0.554	Ref	-0.07; 0.5	0.138
Marital status									
married									
not married	0.034	-0.06;		-0.01			0.100		
	Ref	0.192	0.290	Ref	-0.15; 0.1	0.685	Ref	0.08; 0.33	**0.002**
Residence									
urban	0.007	-0.17;		0.017	-0.14;		-0.03	-0.28;	
rural	Ref	0.214	0.823	Ref	0.245	0.594	Ref	0.11	0.376
Familiarity									
Family member		0.193;			-0.13;				
neighbor		0.671			0.37			-0.4; -	
acquaintance	0.179	0.019;		0.049	-0.12;		-0.10	0.01	
not familiar	0.097	0.177	**0.001**	0.046	0.03	0.339	0.04	-0.04;	**0.042**
	0.086	0.004;	**0.015**	0.057	-0.09;	0.250	0.10	0.12	0.310
	Ref	0.108	**0.035**	Ref	0.02	0.165	Ref	0.01; 0.12	**0.015**

The third factor reflected the attitude towards human and civil rights of people with mental illness (Cronbach's α = 0.621).

Multiple linear regression presented in the table 1 confirmed influence of socio-demographic characteristic on stigma towards people with mental illness. Analysis of attitude related to patients'

unpredictability showed that women were prone to overestimate a danger coming from people with mental illness. People from older age groups tended to agree with the statement that psychiatric patients were able to live in the community and to carry out their social functions. The same is true for family members of people with mental illness. However they were reluctant to consider their relatives in the context of human rights that indicated paternalistic approach predominated in their attitude towards patients. Married respondents expressed more positive attitude towards protection of human and civil rights of people with mental illness.

The study found out positive correlation between the awareness about patients' life and the attitude to their social competency ($r = 0.298$; $p<0.001$). The more extend respondents knew about real life circumstances the more extend they accepted a possibility for patients to be integrated into the society.

Also it was a weak correlation ($r = -0.148$; $p<0.001$) between respondents awareness about patients' life and their attitude towards unpredictability of patients' behavior. Obviously, people more informed about patients assume less danger and loss need for isolation of psychiatric patients from the society.

Finally, we observed positive correlation between anacquaintance with patients and attitude towards their rights ($r = 0.288$; $p<0.001$), that indicated better familiarity resulted in better understanding of patients' human rights and interests.

Dynamics of main psychiatric indicators and workforce development in mental health care system. Public attitudes towards people with mental illness is strongly associated with mental health service provision and utilization of services.

The chart 1 shows data from the State Statistical Committee on morbidity of mental disorders. In 2016 the number of people with mental disorders applying for care due to serious mental illness and needed continuous treatment was 97348 in our country.

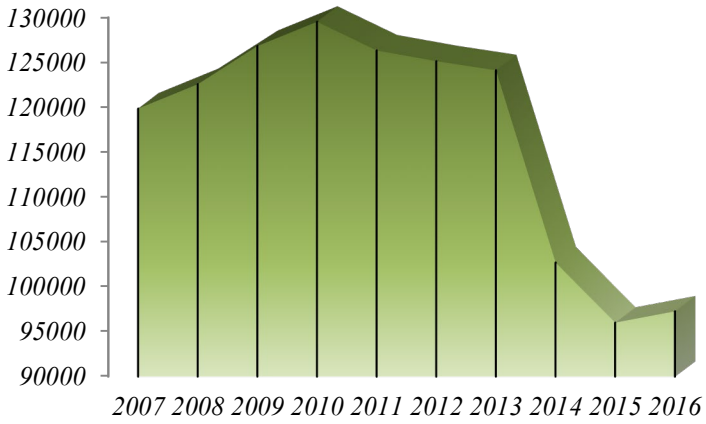

Chart 1. Number of persons with mental disorders at dispensary surveillance

The chart depicts the number of patients administered with dispensary surveillance reduced up to 20%. This decrease was related to developing electronic data base by Mental Health Centrein 2014 that in its turn required renewal of medical records in district polyclinics responsible for dispensary surveillance. Thus many people who had not applied for psychiatric care for many reasons were abolished from dispensary surveillance. As a result the indicators of registered patients made 97%. Certainly these data reflected severe, chronic or recurrent mental disorders because persons with mild mental disorders do not apply for dispensary services and they are not covered by official statistics.

Out-patient services for primary patients are provided by an office of psychiatrist available at district polyclinics (chart 2).

As for in-patient care over the last ten year it was observed significant reduction of beds (up to 14%) in psychiatric facilities - 4135 beds in 2007 and 3535 beds in 2016. These data corresponds with a worldwide trend of deinstitutionalization of psychiatric services (chart 3).

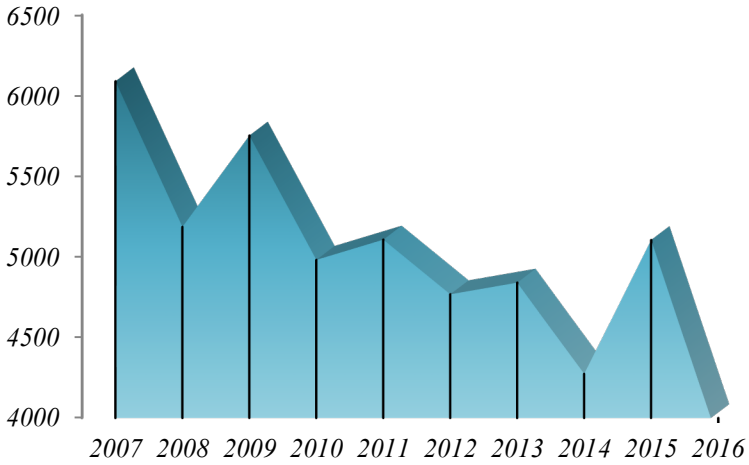

Chart 2. Number of primary patients applying for outpatient care for 10 years.

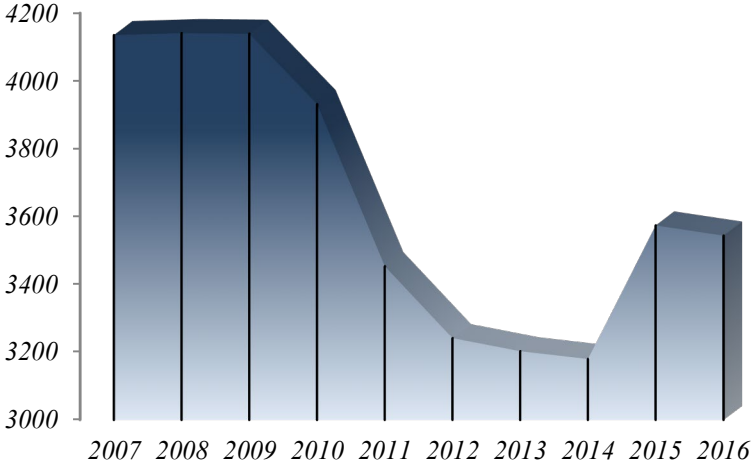

Chart 3. Dynamics of beds rate in psychiatric hospitals.

Analysis of number of hospitalizations in psychiatric hospitals revealed dramatically reduction of a number of inpatients in 2016. This may be explained by repair in three large hospitals in the regions of the country.

The average number of patients admitted to hospitals was 15625 (SD=3170.4). Aproximately the same number of patients (M= 15440; SD=3070.3) were discharged during a year. In spite of difference in patients admission from one year to another the male-female proportion remained similar 2:1. This finding may be explained that male patients in acute period of illness may represent more social risks requiring inpatient treatment.

Analysis of the first time applying for out-patient services revealed decreased number of primary visits. In 2007 the number of patients was 6089, while in 2016 the number of first-time visits was 3863. At the same time gender distribution of primary patients did not demonstrate any difference as compared to previous years and females contributes 1/3 of all cases of primary visits. This fact may be explained by mandatory psychiatric examination of men during conscription for military service while exemption from military service requires receiving official diagnosis and admission to psychiatric dispensary surveillance. On the other hand, women more often than men present less severe affective and anxiety disorders which do not require applying for specialized psychiatric services. Therefore these cases are hardly being included into statistics.

Finally, men have higher risk of developing severe mental disorders including psychoactive substance abuse and organic brain injuries.

Analysis of age dynamic among primary patients revealed an interesting tendency related to decrease of patients younger 18 and increase of patients older 30. Consideration of these data in the context of health reform allows to propose that the pragmas implemented by government in the field of child and adolescent mental health have been resulted in decrease of psychiatric morbidity in the age group below 18.

As for distribution into diagnostic groups we noticed double decrease of primary patients with organic brain disorders from 1731

in 2012 to 966 in 2017. At the same time the statistics on schizophrenia (M=677; SD=39.4) and personality disorders (M=246; SD=42.6) remain stable for the recent years. Interestingly, that the indicators of affective disorders (M=157; SD=34.4) and anxiety disorders (M=493; SD=81.8) were sufficiently low. This phenomena may be explained less frequent utilization of specialized psychiatric services by these patients and their preferences to get treatment from other specialists.

Taking into consideration the issue of primary disability caused by mental disorders it should be noted a clear downward trend - 2033 persons above 18 were accepted as disabled due to mental illness in 2007 while in 2016 the rate decreased up to 23% and made 1556 persons respectively. It is important that the structure of disability by diagnosed did not changed.

The dynamic of age indicators revealed stable numbers in young patients (<18) and older patients (>30) while the number of patients at age 18-30 decreased from 7193 in 2012 г. to 4338 patients in 2016.

Analysis of the distribution by diagnoses found out that themost prevalent mental disorder was schizophrenia (M=3707; SD= 148.1), which contributed to 23.7% of all cases of primary hospitalization. The next frequent diagnosis was organic brain disorder (M= 2711; SD= 519.04) that made 17.3% of all cases. The other common disorders were personality disorders – 10.9%, substance abuse disorders - 8.6%, and affective disorders - 6.8%.

At the same time the number of patients with affective disorders was significantly low the same as it was in out-patient psychiatric care In fact not all cases of depression and bipolar affective disorder require inpatient care, but the grater prevalence of these disorders as compared with schizophrenia let us to assume under- diagnostics of affective disorders in psychiatric hospitals.

Regarding dynamics of involuntary hospitalizations it be noticed decrease this rate from 233 in 2012 to 147 in 2016. This reduction could not be associated with decrease of general admissions to inpatient care, because in the years previous to 2016 we could observe this trend.

Large-scale mental health reform requires the development of human resources, which is one of the main components of effective care. Successful performance of functional tasks in the field of mental health care directly depends on the level of qualifications of personnel, including their education, practical skills and attitude to professional duties. In this regard, it is vital to select, train and retain highly qualified professionals who are the most valuable resource of the mental health system.

When it comes to mental health professionals, we are talking primarily about psychiatrists. Over the past ten years, the number of psychiatrists has dropped significantly from 444 in 2007 to 311 in 2016, or from 5 to 3 per 100 thousand population. This chart 4 is significantly lower than the average number of psychiatrists in the WHO European Region (8.5 per 100,000). Of all psychiatrists, 236 (75.8%) work in health care institutions, and 75 people in other organizations or the private sector. It is important to note that 149 positions for psychiatrists remain vacant.

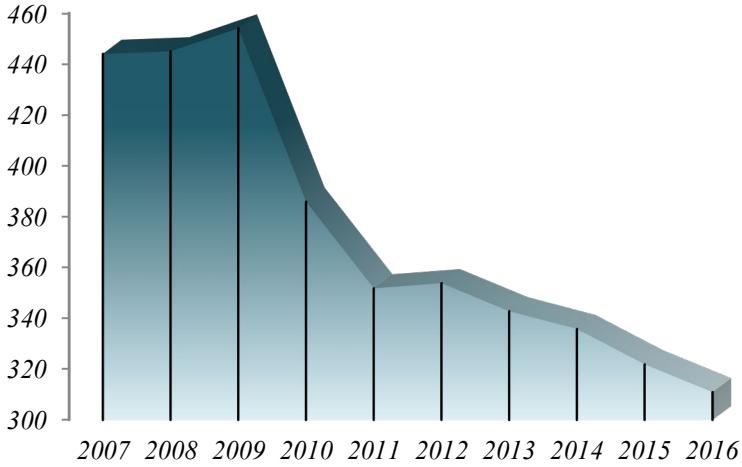

Chart 4. Reduction of psychiatrists.

172 out of 311 psychiatrists work in Baku, and 139 specialists - in the regions, thus, the concentration of specialists in the capital is

7.7 per 100 thousand of the population, which is much higher than in other regions of the country. Of the 236 psychiatrists working in the health care system, 114 work in the inpatient care system and 122 in outpatient facilities.

It is important to note that in 17 administrative districts, positions of psychiatrists are not provided, and in 8 districts these positions are occupied not by psychiatrists, but by other specialists, most often neurologists.

Over the years, health authorities have made great efforts to improve the quality of training for psychiatrists. Along with a constantly updated residency program in psychiatry, new rules have been introduced for the certification of specialists, including testing. Also, many specialists received the opportunity to undergo educational programs and practice abroad. However, as in many other countries, work in psychiatry is less attractive than in other fields of medicine. Due to the stigma associated with mental illness, medical students are less likely to choose psychiatry as their future profession. On the one hand, this impedes the search for and attraction of young specialists to psychiatric institutions, creating a shortage of psychiatrists and a decrease in the availability of mental health services.

Other mental health professionals include clinical psychologists. Recently, one can note the increased interest in this specialty and its development in our country. It should be noted that during this period the range of duties of clinical psychologists was determined, which includes the identification of cognitive, emotional and behavioral problems, examination using psychological tests, provision of counseling and psychotherapeutic assistance, as well as participation in rehabilitation and an expertise.

On the other hand, this does not allow to select the best specialists, which affects success and quality of care.

Psychiatric nurses play an important role in the mental health system. In 2016, the number of nurses in psychiatric institutions was 609, or 6.2 per 100 thousand of the population, and the number of vacancies is 99. It is a positive fact that 229 nurses work in the capital and 380 in the regions. At the same time, the overwhelming

majority (up to 80%) of nurses work in the inpatientcare system. The biggest challenge in training nursing staff for psychiatry is education. Unlike their colleagues in other countries, where psychiatric nurses receive education at the bachelor's level and above, in our country, nursing education is limited to two years of secondary education. In this regard, psychiatric nurses cannot make independent decisions and perform the functions that are performed by nurses in other countries.

Finally, there is a great need in Azerbaijan to involve social workers and rehabilitation specialists in the mental health system. Some universities have programs to train social workers, but their mental health activities are not officially defined. In many countries, social workers perform important functions, including identifying the needs and social problems of people with mental disorders, drawing up a recovery plan that includes short- and long-term goals, a wide range of social interventions, and work with families.

Speaking about specialists in the field of rehabilitation of the mentally ill, first of all, it should be noted their role in the development of life skills, vocational training and maintaining employment.

Unfortunately, the unresolved issue of including these specialists in the list of medical specialties does not allow the use of their knowledge and skills in the mental health system. The implementation of these tasks requires a consistent and comprehensive approach with the participation of various government agencies. Thanks to this approach, planning, regulation, recruitment and training of specialists can be carried out, which will ultimately lead to a qualitative increase in the human resources of the mental health system. In addition, it is imperative to draw on the experience of those countries where these professionals have been successfully integrated into mental health facilities and work to meet the diverse needs of people with mental disorders, their families and society at large.

An important result of the study of indicators of psychiatric carein our country is the confirmation of the need for development, theso-called. community care, which, considering patients from a public

health perspective, creates conditions for the provision of affordable, continuous, multidisciplinary care to a wide range of patients who are not currently covered by traditional mental health services.

The creation of out-of-hospital mental health facilities will not only contribute to an integrated approach to the treatment and rehabilitation of patients with severe and chronic mental disorders, but will also expand opportunities for the use of family and social support to integrate patients into society.

Finally, the development of community care implies the introduction of programs based on the principles of evidence-based medicine, which in turn increases the effectiveness and the cost-effectiveness of mental health services.

Evaluation of quality of care provided for people receiving long-term inpatient treatment. In 2015, the WHO Regional Office for Europe launched a study of treatment conditions for persons with long hospital stays in psychiatric institutions, with the aim of closing major gaps in hospital care. The need for this study stems from the increasing lack of leadership, unclear delineation of responsibilities between different sectors, a weak quality assurance system and limited human resources. In addition, the systematic lack of quantitative data, information on the needs and conditions created for patients who spend long periods of time in specialized psychiatric hospitals is a serious obstacle to the development of effective care. Our country, together with 38 other countries of the WHO European Region, took part in this research project. At the first stage of the project, the number and characteristics of psychiatric hospitals intended for long-term stay of adults with chronic mental health problems were determined, and at the second stage, the quality of services in these institutions was assessed.

The WHO QualityRights Toolkit was used to cover five broad themes of the UN Convention on Rights of Persons with Disability related to quality of care and human rights protection inpsychiatric hospitals.

This toolkit covers five broad themes related to quality of care and respect for human rights in mental health facilities. Each theme

contains several standards, which in turn include criteria that correspond to each standard. All themes, standards and criteria are graded on a four-point scale.

- Achieved in full (A/F) There is evidence that the criterion, standard or theme has been fully realized.
- Achieved partially (A/P) There is evidence that the criterion, standard or theme has been realized, but some improvement is necessary.
- Achievement initiated (A/I) There is evidence that steps have been taken to fulfill the criterion, standard or theme, but significant improvement is necessary.
- Not initiated (N/I) There is no evidence of attempts or steps towards fulfilling the criterion, standard or theme.
- Not applicable (N/A) The criterion, standard or theme does not apply to the facility in question (e.g. rating sleeping quarters for outpatient or day treatment facilities).

The chart 5 shows accomplishment of the majority of the standards related to the Theme 1. At the same time for achieving the standards completely the needs of patients with restricted motor functions should be addressed as well as the daily activities should becoordinated with patients' preferences.

As shown in chart 5, we could state that most of the standards related to the first topic were met. Practically in all departments it was possible to ascertain the fulfillment of the standards related to Theme 1, however, some improvements are required to fully achieve the objectives of this theme. A common problem for all departments is insufficient consideration of the needs of patients with motor impairments. Although the staff of the departments were sufficiently trained to help such patients and were ready to provide this assistance at the first request, patients with physical disabilities experienced difficulties in self-care. At the same time, in order to fully achieve the goals of this theme, it is required to take into account the needs of patients with motor impairments, as well as the organization of the daily routine, depending on the preferences of the patients.

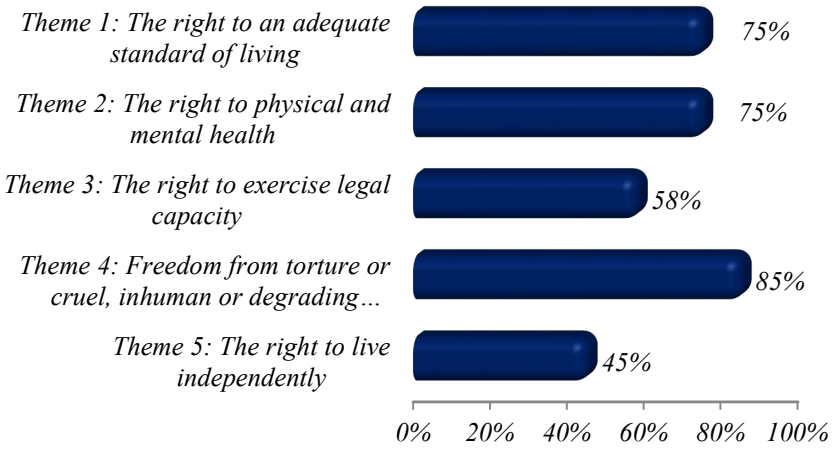

Chart 5. Achievement of the CRPD standards.

The quality of care assessment related to the Theme 2 showed that the standards were generally met, but some aspects of inpatient care need to be improved. For example, although all interviewed psychiatrists, psychologists, and head nurses were well informed about security issues, but nurses and orderlies had insufficient knowledge about the rights of persons with disabilities. In addition, only half of the interviewed patients had adequate information about the prescribed medication, since the decision to prescribe specific medications is usually made by the doctor and is not discussed with the patient. Despite effective interaction with various institutions within the health system, there was insufficient collaboration with other sectors. Thus, it should be pointed out that the administration's efforts to establish partnerships with organizations responsible for social welfare, housing and employment could not be successful due to the underdeveloped activities of these services in terms of providing care to people with mental illness.

The quality of care evaluation related to the Theme 2 revealed general fulfillment the standards but some aspects still need to be improved. For instance, although all interviewed psychiatrists, psychologists and senior nurses were well-informed about patients'

rights protection the junior staff was not sufficiently educated in this respect. In addition, only half of interviewed patients had got an adequate information about their medication because decision on drug prescription was made by doctors and it was not discuss with patients. Despite effective cooperation with medical facilities within health care system coordination with other sectors was insufficient.

Also it should be noted that the efforts of hospital administration on establishing partnership with organizations responsible for social welfare, housing and employment were not successful due to underdeveloped activities of these organizations in provision of services for people with mental illness.

In contrast to previous years we could point out some progress in achievement the standards of the Theme 3, although many ofthe still need to be significantly improved. Many concerns are related to the absence of clear procedures for discharge of patients who have lost their social and family relations. The patients and staff presented many examples when relatives were reluctant to accept patients back in families after termination of in-patient treatment. The majority of patients expressed their wish to bedischarged but they had no place to live. Many relatives hesitated when they were asked about patients' rights to be discharged. Among the reasons of inability to live with a patient they indicated poor living conditions, disagreement of other family members, lack of finances, negative experiences of previous discharge. And unstable psychiatric state of a patient.

The Theme 4 was mostly accomplished and only a few aspects may be improved. In the course of evaluation we did not revealed the facts of violence or neglect towards patients. The most of them talked positively about the staff stressing good attitude and support. The only problem was an absence of free access to legal services which patients need to protect their interests in various organizations.

The data obtained allows to conclude that the activities on achieving the standards related to the Theme 5 have been initiated but far from completion. Despite the legislation on housing provision for people with disability and homeless persons there areno effective

mechanism of effective implementation of these legal provisions

Possibilities for finding paid work for patients are limited dueto absence of supported employment programs intended for peoplewith mental disorders. The staff sometimes helped patients to find a job and some patients participated in rehabilitation were employed in the hospital after discharge.

In fact, receiving secondary or higher education for people with mental disability seems to be extremely difficult because admission to a college or university is a competitive process while special places for these people are not intended.

Study of factors affecting institutionalization of persons with severe mental illness. Due to increasing significance of long-term hospitalization we conducted comparative research of predictive value of social and clinical variables related to institutionalization. With regard to increasing relevance of the duration of inpatient treatment is the subject of numerous studies designed to understand the role of various factors in the institutionalization of patients with mental disorders.

Most studies consider three groups of variables: 1) socio-demographic characteristics of patients (gender, age, ethnic origin, degree of social support); 2) clinical characteristics (diagnosis, severity of symptoms, type of hospitalization, comorbidity, treatment); 3) characteristics of the institution itself (type of hospital, quality of care).

In this regard, the purpose of this section of our study was to determine the prognostic value of social and clinical factors in the institutionalization of patients with chronic mental disorders. . We used binary logistic regression to build a final model which is presented in Table 2. he final model, which best explained the statistically significant association, included the following variables: lack of housing, lack of sources of income, number of relatives, family conflicts, and low compliance to treatment.

Table 2

The final model explaining influence of social variables on institutionalization

Variables	B	SE	Wald	p	OR (95% CI)
Homelessness	2.771	0.718	14.892	0.000	15.97 (3.91; 65.26)
Lack source of income	1.378	0.665	4.291	0.038	3.97 (1.1; 14.62)
Number of relatives visiting a patient	-0.519	0.210	6.083	0.014	0.59 (0.39; 0.9)
Family conflicts	2.763	0.856	10.424	0.001	15.85 (2.96; 84.85)
Low compliance to treatment	2.155	0.635	11.518	0.001	8.63 (2.49; 29.96)
χ^2= 115.316; df=5; p<0.001; Nagelkerke R^2 =0.755					

The participants in the study were patients suffering from severe mental disorders who were undergoing inpatient treatment at Psychiatric Hospital No. 1 of the Ministry of Health. All selected patients were divided into two groups depending on whether they are subject to institutionalization or not. In this study,institutionalization was understood as an uninterrupted hospital stay for more than one year. Thus, one group consisted of patients with relatively short hospitalization periods, who would be discharged home at the end of inpatient treatment, and the second consisted of patients who, for whatever reason, were not discharged from the hospital.

Excluded from the present study were those under 18 years of age, patients undergoing compulsory treatment by a court ruling in connection with a criminal offense, persons with intellectual disabilities, as well as patients whose main diagnosis was psychoactive substance use. Thus, the group of discharged patients included 70 patients (34 men - 48.6% and 36 women - 51.4%), and the group who remained in the hospital included 68 patients (34 men - 50% and 34 women - 50%).

Based on the data of the previous study, it was calculated that out of 7211 men and 3714 women who underwent treatment at the MH # 1, 728 men (10%) and 440 women (11.8%) did not

were discharged from the hospital (OR = 1.2; 95% CI [1.05; 1.36]). Thus, patients regardless of gender have almost equal

chances of not being discharged from the hospital. Therefore, patients were not stratified by gender. Demographic and clinical data were obtained by examining the medical records of patients.

When considering socio-demographic variables under the lack of housing, a situation was assumed in which a person did not have a permanent, safe, conventional place to live, regardless of the length of his stay in the hospital and the housing available to his family members. Patients admitted to the hospital from regions of the country were identified as living in the region, and patients admitted from Baku were identified as city residents.

The lack of sources of income was understood as the lack of a regular flow of funds necessary to meet basic needs. Single, divorced and widowed patients were considered unmarried. The number of relatives was determined from the number of family members with whom the patient is in regular contact and who are involved in providing assistance. A conflict with the law meantthat the patient had committed unlawful acts in the past, recognized as such by an appropriate court decision, which resulted in a stay in a correctional institution or undergoing compulsory treatment. Conflicts between family members were determined regardless of the patient's participation in them. Aggressive behavior included physical and verbal manifestations of aggression during admission or hospital stay. Treatment resistance was defined as no change or a decrease in symptom severity of less than 50% of the baseline Brief Psychiatric Rating Scale (BPRS) score.

Low compliance to treatment was expressed in non-compliance with medical prescriptions regarding the time, dose, frequency of drug intake in the period before the last admission to the hospital.

The duration of hospitalization was calculated as the difference between the date of admission and the date of the patient's inclusion in the present study. The duration of remission was designated as the time interval between the last discharge from the hospital and the last admission to inpatient treatment.

The assessment of the patient's mental state was carried out by specialists who were not informed which group this or that patient belongs to. During the examination, the patient was asked to provide

information that was absent in the medical records (for example, they were asked to indicate the number of relatives involved in the provision of assistance, the presence of conflict relations in the family, contacts with the outpatient service prior to the present admission, etc.)

As would be expected, most patients who were not discharged from the hospital were not provided with a permanent place of residence where they could return after the end of treatment. For these patients, the hospital played the role of a surrogate housing, masking homelessness, since if they were discharged from the hospital, the most likely outcome for them would be to remain on the street. Almost all of the institutionalized patients did not have any sources of income, while the majority of discharged patients had access to material resources that allowed them to meet basic needs. The fact that many of the patients staying in the hospital have never worked is a significant obstacle to receiving a disability pension sufficient to live independently in society.

Although the number of unmarried people among the permanently inpatient patients was less than among the discharged patients, the differences between the groups in marital status did not reach the level of statistical significance. No differences were found in relation to the use of psychoactive substances and conflicts with the law.

With a high level of institutionalization in the families of patients, problematic relationships leading to conflicts were more often noted. These patients were much more likely to have episodes of aggressive behavior during admission to the hospital.

Despite the fact that the diagnosis of schizophrenia was the most common in the group of discharged patients, 12 people had other diagnoses of chronic mental disorders. The duration of the disease in patients who remained in the hospital averaged 25 years, while in discharged patients it was 17 years.

Contrary to expectations, comparison in the groups did notreveal statistically significant differences depending on the age of onset of the disease and the number of previous hospitalizations. It should be noted that patients staying in the hospital were characterized by low

compliance to treatment and lower access to outpatient care before admission to the hospital.

Speaking about the factors associated with inpatient treatment,it should be noted that more than half of the patients remaining in the hospital showed low sensitivity to the therapy, which also distinguished them from discharged patients, among whom resistance was observed in isolated cases. Binary logistic regression was used to identify the association between patient institutionalization and socio-demographic characteristics. The final model, which best explained the statistically significant association, included the following variables: lack of housing, lackof sources of income, number of relatives, conflicts in the family, and low compliance with treatment.

The model explains 77.5% of variation related to institutionalization and correctly classifies 89.1% of cases (86.8% left and 91.4% discharged patients).

The second model also based on binary logistic regression considers the association between clinical variables and long-term hospitalization (Table 3).

Table 3

The final model explaining influence of clinical variables on institutionalization

Variables	B	SE	Wald	p	OR (95% CI)
Duration of illness	0.110	0.031	12.457	0.000	1.116 (1.05; 1.19)
Length of remission	-0.121	0.033	13.391	0.000	0.886 (0.83; 0.94)
Treatment resistance	3.501	0.839	17.413	0.000	33.15 (8.32; 360.5)
Aggressive behaivior	2.416	0.724	11.137	0.001	11.21 (2.71; 46.31)
χ^2= 112.995; df=4; p<0.001; Nagelkerke R^2 =0.745;					

This model includes such variables as illness duration, length of remission, treatment resistance, and aggressiveness. According to this model 74.5% of variation and 87.0% of correctly classified cases can be explained (85.3% left and 88.6% discharged patients).

Due to the finding that institutionalized patients stayed more than five years in the hospital and average length of treatment in discharged patients was 2.5 months, we conducted receiver operating analysis for utmost length of hospitalization (ROC analysis) associated with increased probability to stay in hospital. ROC-analysis revealed that the optimal cut-off point is 3.5 month of inpatient treatment (Se=0.956, Sp=0.814; AUC=0.98; 95% CI=0.95; 1.0), that means the patient staying in hospital for longer period were unlikely to be discharged from the hospital (chart 6).

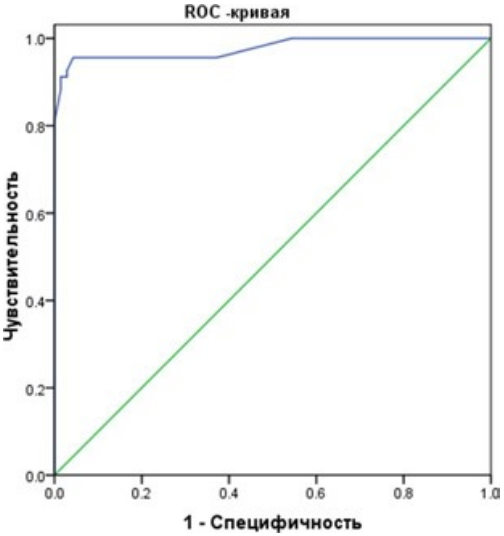

Chart 6. ROC analysis for length of hospitalization.

Yet, we conducted the ROC analysis for severity of symptoms which pointed out the optimal BPRS score 24.5 after an acute treatment (Se=0.794; Sp=0.829; AUS=0.867; 95% CI=0.807; 0.927). Thus higher scores on BPRS after active treatment increased the risk to stay in hospital. Taking into consideration that 10% of patients had been staying in hospital for long periods the positive predictive value of BPRS was 0.693, and negative predictive value was 0.973 (chart 7).

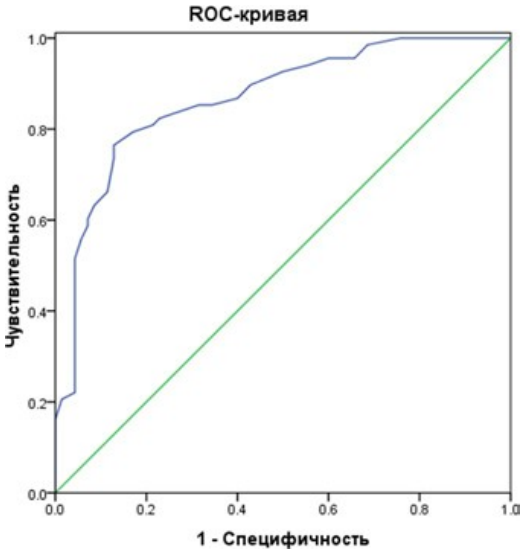

Chart 7. ROC-analysis of severity of symptoms on BPRS after treatment.

As our research has shown, institutionalization of patients is a complex and controversial phenomenon, in which many factors take part.

Our study confirms the prognostic value of the length of hospitalization for determining the future fate of patients. In particular, considering this indicator, it is possible to correctlypredict the institutionalization of 98% of those on treatment for more than 3.5 months.

In most cases, this model prevents unnecessary hospitalization of patients. The second “treatment model” provides the possibility of short-term inpatient treatment for a period of 5 to 14 days. The advantage of this model is the close connection with the outpatient care system, where patients can be referred to continue treatment.

Speaking about international experience, it is important to emphasize that long periods of hospitalization are typical for patients involuntarily admitted to the hospital. At the same time, the

decision on involuntary hospitalization should be reviewed on a regular basis after a certain period of time. These norms, which are also contained in our legislation, are known to prevent long- term hospitalization. At the same time, a specific problem for our country is the fact that the majority of patients who are in the hospital for a long time are formally treated on a voluntary basis,ie. the terms of their treatment are not determined by law, which in turn creates conditions for hospital stay for an unlimited time. In fact, the overwhelming majority of patients with long hospital stays in this study would like and could be discharged from the hospital. However, the lack of relevant provisions and mechanisms for strict implementation of the current legislation creates significant obstacles to discharge.

Speaking about our country in the context of the transition to insurance medicine, it is necessary to take into account the justified desire of insurance organizations to reduce the costs of inpatient treatment of patients in the absence of objective indications for continuing hospitalization. In this case, there is a need to create clear mechanisms preventing the stay in hospital for longer than the required period.

Rational drug use of psychotropic medication in out-patient and inpatient services. The research related to rational drug use in out-patient and in-patient practice was an important part of our study. In accordance with WHO guidelines we explored drug prescription of 1226 patients, 626 patients got in-patient treatment and 600 patients got out-patient services.

Among in-patients 293 (46.8%) persons received monotherapy and 244 persons (39.0%) received two, and 64 (10.2%) – three or more antipsychotic drugs. Thus, the clinical guidelines requirement on monotherapy use was met в большинстве случаев соблюдалось требование протоколов по (M = 1.58; 95% CI [1.52; 1.64]). Among the patients receiving monotherapy the number of persons 158 (53.9%) taking FGA slightly exceeded the number of persons 135 (46.1 taking SGA (χ^2=1.8; df=1; p=0.179). Among patients receiving polypharmacotherapy 180 (54.1%) patients were

treated with FGA, 117 (35.1%) persons had a combination of FGA and SGA, while 36 (10.8%) patients got at least two SGA (χ^2=93.89; df=2; p <0.001).

After converting summarized doses of antipsychotics into CPZeq it was found out that 276 (44.1%) patients received an average daily doses of 300-600 mg (M= 469.4; 95% CI [437; 501.7]), 183 (29.2%) patients were treated with low doses (CPZeq<300 mg), and 167 (26.7%) patients with high doses (CPZeq > 600 mg).

Among out-patients the majority of persons receivedmonotherapy with antipsychotic medication (χ^2= 225.775; df=1; p<0.001). The average number of antipsychotics were lower (M=1.02; 95% CI [0.99, 1.09]) than among the inpatients (t=5.323; df=682; p<0.001). In fact almost all outpatients were treated with low or moderate doses of antipsychotics Only ten patients revealed high doses in CPZeq exceeding 600 mg/daily. Furthermore we did not observe the prescriptions exceeding 1000 mg/daily. It should be noticed that lower doses of antipsychotics in outpatients as compared with inpatients met the level of statistical significance (t=5.169; df=682; p<0.001).

Unlike the inpatients only 18 outpatients were administered with FGA, and 14 of them received a combination with SGA. Yet, we should point out that two or more SGA intake was not typical for outpatients.

The outpatients received no more than two psychotropic drugs that was less than in inpatient population (t = 7.159; df = 1224; p<0.001).

The statistical analysis conducted as multiple logistic regression revealed that higher doses of antipsychotics in inpatient group were associated with male sex (β=0.85; p<0.001; OR= 2.35; 95% CI= 1.55; 3.55), diagnosis of schizophrenia (β=1.14; p<0.001; OR= 4.11; 95% CI= 2.02; 8.36), length of stay in the hospital less than one year (β=0.84; p<0.001; OR= 2.31; 95% CI= 1.61; 3.32), use of FGA, as well as polypharmacotherapy (β=1.04; p<0.001; OR= 2.31; 95% CI= 1.94; 4,16).

At the same time these social-demographic and clinical characteristics did not revealed any association with doses of

antipsychotic drugs. However diagnosis and number of antipsychotics seem to be important predictor of summarized doses of antipsychotic medication. In particular outpatients with schizophrenia received 94 mg in CPZeq more, than patients with other diagnoses диагнозами, and the dose of increased to 187.47 mg in CPZeq with each additional antipsychotic.

The study revealed that in spite of clinical protocols contained clear recommendations on prescribing monotherapy in minimal doses of antipsychotics providing effective treatment of schizophrenia or other psychotic disorders, these recommendations were not followed in the hospitals. Unlike the EU countries where SGA substituted traditional antipsychotics, in Azerbaijan more than half of inpatients continue receive old neuroleptics.

At the same time the study results showed statistically significant association between diagnosis of schizophrenia, treatment with FGA and polypharmacotherapy (χ^2=9.433; p=0.009). In fact, FGA increased odds of undesirable polypharmacotherapy (β=2.83; p=0.007; OR= 16.9; 95% CI= 2.167; 132.311).

In addition the study found out predominant prescription of monotherapy with atypical antipsychotics within out-patient mental health care. The differences between inpatient and outpatient practices may be explained by subjective opinions of many doctors about use of atypical antipsychotic in less severe disorders while in the acute cases they tended to rely on traditional neuroleptics. Moreover, the difference between outpatient and inpatient practices may be caused by intention to reduce costs of treatment in governmental hospitals where less expensive medications seems to be more preferable. At the same time more cost-effective outpatient care is more focused on efficacy, safety and compliance with treatment.

Analysis of effectiveness of rehabilitation in psychiatric hospital. At the moment along with psychopharmacotherapy psychosocial rehabilitation has become increasingly important.

Currently, the term “rehabilitation” in psychiatry refers to helping people with severe mental disorders to increase their ability to

function successfully and to be satisfied in the conditions they consider preferred and with the least amount of professional intervention.

Despite the fact that the theory of psychiatric rehabilitation is in the process of formation, today its main characteristics can be distinguished:

Self-determination - the main role in the healing process belongs to the patient himself, who, being an active participant in rehabilitation programs, determines the ways to solve his problems.

Focus on reality - patients, like all other people, have their own needs (material, social, spiritual) and rehabilitation measures are carried out to meet these needs in everyday life.

Emphasis on the strengths of the individual - due to stigma, patients often receive negative information from the environment about their weakness and inadequacy in life. At the same time, a positive philosophy implies that each person has personal strengths that help them achieve their goals.

Skills development - despite differences in approaches and methods, any rehabilitation program should promote the development and application of skills necessary for social adaptation. Skills development assessment is based more on situational analysis than on formal testing.

Environment change and support - The importance of developing the patient's own skills does not preclude the need for external resources. Therefore, adaptation of the environment to the patient's needs and comprehensive support are essential to increase the likelihood of successful rehabilitation.

Integrating rehabilitation with other types of treatment - Historically, the alliance between psychiatry and psychiatric rehabilitation has been quite complex. As many studies show, the overwhelming majority of patients in need of rehabilitation also need psychotropic medications. Therefore, modern rehabilitation programs must take into account complex interventions.

Multidisciplinary team approach - successful implementation of rehabilitation activities is impossible without the participation of specialists from various fields of mental health. The coordinated

work of psychiatrists, psychologists, social workers, nurses and occupational rehabilitation specialists is essential for the recovery of patients.

Continuity of care - since severe mental disorders are chronic conditions, time-limited interventions are ineffective and patients need long-term care. In this regard, interventions must beconsistent and unrestricted in time.

Focus on recovery - The ultimate goal of rehabilitation is recovery, so all intervention programs should focus on this goal, stimulating autonomy, self-confidence and optimism.

Another important component of behaviorism is modeling, which is based on the theory of social science. According to this theory, learning social behavior occurs through observation. In rehabilitation, simulation is used as a powerful tool to achieve specific patient goals. Often, rehabilitation professionals act as models for shaping social behavior in patients. This role can be played by other patients who have achieved success in rehabilitation, which serves as evidence of the possibility of recovery.

One of the most effective rehabilitation programs is Life Skills Teaching, which includes the acquisition, improvement andretention of skills in self-care, hygiene, communication with others, housekeeping and other activities necessary for social adaptation.

Another form of rehabilitation is vocational training. Mastering a certain specialty can significantly increase the patient's chances of finding a job and receive a permanent source of income.

An effective rehabilitation program is Cognitive Remediation, which addresses cognitive impairments such as information processing, attention fatigue, impairment of short-term memory, planning and decision-making. Repetitive exercise and behavioral reinforcement are widely used in cognitive remediation. With the development of modern technologies, computer programs aimed at restoring cognitive functions have gained great popularity.

Family interventions are of great importance in therehabilitation process, which are aimed at reducing the burden of disease. The programs on family affliction, by developing family members' skills to deal with the patient's various problems, including identifying

early signs

We selected 74 inpatients and randomly allocated them into experimental (35 patients) and control (39 patients) groups to assess effectiveness of psychosocial rehabilitation program in the hospital. The clinical and social variables in these groups were approximately similar. The outcomes evaluation was conducted three months after participation in psychosocial rehabilitation (table 4).

Table 4

Psychosocial variables after rehabilitation

Variables	Experimental group	Control group	t	df	p
	M (SD)				
LCP-16					
Social isolation	4,43 (2,46)	6,03 (3,17)	-2,397	72	**0,019**
Self-care	2,94 (2,07)	4,95 (2,86)	-3,417	72	**0,001**
Cooperation	0,20 (0,72)	0,79 (1,36)	-2,312	72	**0,024**
Associality	2,26 (1,65)	3,00 (1,87)	-1,798	72	**0,076**
LCP (total score)	9,80 (4,92)	14,51 (6,32)	-3,549	72	**0,001**
HoNOS					
Behavior problems	1,40 (1,17)	1,15 (0,96)	0,994	72	0,324
Health problems	1,49 (1,01)	1,15 (1,04)	1,389	72	0,169
Symptoms	1,89 (1,68)	3,05 (2,06)	-2,647	72	**0,010**
Social problems	4,40 (4,08)	3,13 (3,07)	1,524	72	0,132
HONOS (total score)	9,29 (5,23)	8,49 (4,52)	0,683	72	0,497
SOFAS					
SOFAS (total score)	59,37(13,94)	59,13 (14,19)	0,074	72	0,941
PANSS					
Positive symptoms	2,34 (2,25)	5,46 (7,26)	-2,438	72	**0,017**
Negative symptoms	4,51 (3,36)	9,59 (5,74)	-4,570	72	**0,001**
General symptoms	5,97 (3,33)	11,26 (7,27)	-3,943	72	**0,001**

A comparative research of outcomes of rehabilitation showed statistically significant difference in all sections of LCP-16 with exception of associality. But on the HoNOS scale the distinctions were associated only in severity of psychopathological symptoms. These findings were confirmed by decrease of all types of symptoms

on PANSS in experimental group. The SOFAS scores were equal in both groups. An absence of significant changes in HoNOS and SOFAS scores may be explained by insufficient time of observation. The final assessment was done three months after beginning rehabilitation while it requires more time to get prominent effect in terms of improving social functioning.

Psychoeducation program is a crucial part of rehabilitation. This program included 45-minute thematic sessions conducted on weekly basis. Each session was accompanied with slides presentation followed by discussion of information obtained.

Before psychoeducation the study participants had presented relatively low scores on BIS (M = 8.06; SD = 4.12), which were increasing in the course of intervention (M = 10.5; SD = 3.66). Although the changes were modest they reached the level of statistical significance (t= -6.497; df = 34; p <0.001).

In addition the patients revealed low compliance to treatment before psychoeducation (M = 5.43; SD = 2.17), which was assessed with DAI. After completion of psychoeducation we found out increase of compliance (M =6.8; SD = 1.97) which was statistically significant (t= -6.1; df = 34; p <0.001). Thus we could conclude that psychoeducation increased compliance to treatment.

Social knowledge scores on SKQ were lower before psychoeducation (M =4.17; SD = 2.14) than after its completion (M =6.26; SD = 1.72). The same as on the other scales the difference in scored was statistically significant (t= -10.756; df = 34; p <0.001). Our study results are the evidence of effectiveness of psychosocial rehabilitation programs. Participation in this programs allows the patients not only improve or develop social skills but also increase their mental health awareness and ameliorate compliance to treatment.

CONCLUSIONS

1. The most prominent signs of stigma in our country are public misbeliefs about inability of people with mental illness to get married, raise children, get education and work together with healthy individuals. At the same time the attitude towards people with mental illness is associated with sex, age and acquaintance with patients while other variables such as education, marital status and residence do not reveal direct relation with stigma [3, 13].
2. Severity of stigma is determined by combined influence of three factors including awareness of social competence of people with mental illness, beliefs about unpredictability of their behaviorand acceptance of their rights and interests [13].
3. Dynamics of main mental health care indicators basically corresponds to the statistics in upper-middle income countries. However they are inferior to the indicators of the WHO European Region to which our country belongs. With this regard the most important areas to be changed are imbalance of resource allocationbetween out-patient and in-patient services, lack of human resources, insufficient coordination and continuity of care as well as inadequate coordination with other sectors especially with social welfare [5].
4. In the process of mental health reform the serious progress has been achieved in patients' rights protection and improving effectiveness of care. In fact, the services provided to inpatients generally meet standards of the UN CRPD including the right to adequate standard of living and social protection (Article 28 of the CRPD); the right to enjoyment of the highest attainable standardof physical and mental health (Article 25 of the CRPD); freedom from torture or cruel, inhuman or degrading treatment or punishment and from exploitation, violence and abuse (Articles 15and 16 of the CRPD) [12].
5. The standards related to other themes of CRPD including the right to exercise legal capacity and the right to personal liberty and the security of person (Articles 12 and 14 of the CRPD)

and the right to live independently and be included in the community(Article 19 of the CRPD) have not been completely fulfilled [17].

6. Institutionalization associated with long-term stay in hospitals exceeding a reasonable period of treatment is the most significant barrier for patients' rights provision. The social factors of institutionalization include homelessness, lack of income sources, family conflicts and limited access to maintenance treatment. The clinical factors of institutionalization include long illness duration, brief remissions, treatment resistance and aggressive behavior during hospitalization [3].
7. The predictors of institutionalization are length of inpatient treatment exceeding 3.5 months and remaining psychotic symptoms exceeding 24 scores on BPRS after termination of acutetreatment [19].
8. Psychotropic drug use comparison revealed that inpatients are mostly treated with traditional neuroleptics while in out-patient care system inclined to favor various atypical antipsychotics. In addition modern antidepressants, anxiolytics and mood stabilizators are widely represented in outpatients' treatment. These differences caused by specificity and severity of mental disorders in outpatient and inpatient practices, shared experiences and intention to reduce costs of treatment in governmental hospitals [14].
9. Use of higher doses of antipsychotics exceedingrecommended dosage for inpatients is associated with male sex, diagnosed schizophrenia and short-term hospitalization. Yet, prescription higher doses of psychotropic medication is related to polypharmacotherapy including first generation drugs [18].
10. The inpatients participating in rehabilitation presented significant improvement of social functioning including more adequate behavior, better communication, self-care, and reduction of positive, negative and general symptoms of schizophrenia as compared to the patient treated as usual [2, 22].

PRACTICAL RECOMMENDATIONS

1. Increasing public awareness on social competency, common prejudices about exaggerated danger and necessity to protect human rights and interests of people with mental illness should reduce stigma and improve attitudes in mental health.

2. Implementation of the UN CRPD and prevention of institutionalization of people with severe mental disorders require:

- developing community mental health services addressing needs for housing and employment of patients who lost social and family relations
- adoption of the normative documents to regulate maximal period of inpatient treatment and clear procedures of discharging the patients who do not need further hospitalization.
- arranging the system of free legal assistance for patients without legal representatives which is provided by lawyer or social worker and accessible from the moment of admission to the hospital and during all period of inpatient treatment

2. Workforce development in mental health should focus on the followings:

- developing and implementation of standards of care as well asthe procedures of service quality assurance and evaluation.
- providing annual trainings for hospital staff on human rights protection of people with mental disorders and other broad issues related to existing legislation and the UN CRPD.
- inclusion of teamwork skills, management skills and shared decision making skills into the CME programs for psychiatrists and psychiatric nurses.

4. Improvement of psychiatric hospitals provision with modern psychotropic drugs and enhancing requirement for rational drug use in accordance with the clinical protocols adopted in the country.

5. Implementation of procedures of developing complex individual care/recovery plan for people with severe mental illness. Care/recovery plan should include clear descriptions of a patient's needs, short-term and long-term objectives of treatment, proposed interventions and discharge measures for inpatients. This plan

should be regularly reviewed by staff and used as an instrument of outcomes evaluation.

6. Creating opportunities for transition to multidisciplinary teamwork focusing on care provided by various specialists including psychiatrist, clinical psychologist, social worker, occupational therapist and nurse.

7. Strengthening implementation of psychosocial rehabilitation at inpatient and outpatient facilities which should include psychoeducation, life skills development, vocational training, cognitive remediation, and CBT.

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