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The retrospective evaluation of a community mental health center

Zeliha Kaya Erten[1], Canan Kilic[2], Yasemin Simsek[2], Buse Cetinkaya[1], Merve Kilic[2], Ismail Altintop[3]

[1]Nuh Naci Yazgan University, Faculty of Health Sciences , Department of Nursing, Kayseri, Turkey
[2]The Kayseri State Hospital, Department of Psychiatry, Kayseri, Turkey
[3]The Kayseri State Hospital, Medical Director of The Kayseri State Hospital, Kayseri, Turkey

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Abstract

The fact that patients with severe mental disorders are deprived of social skills and professional pursuits to sustain their lives imposes a burden of care on both their families and the society. Considering that the rehabilitation of individuals with this disease will alleviate the care burden of families and governments, community-based mental health services have been started to be provided in Community Mental Health Centers (CMHC). The aim of this study is to reveal the participation rate of patients receiving service from CMHC in rehabilitation programs and to determine the effect of this participation on hospitalizations and cost-effect. In the study, the file data of 550 patients who were enrolled in a CMHC, followed up between 2014 and 2018, and participated in the rehabilitation program for at least one year, were retrospectively analyzed in statistical analysis. Patients; 44.9% schizophrenia, 39.5% Bipolar Affective Disorder, 11.5% Psychosis, 4.2% Schizoaffective disorder followed up with diagnosis. In the study, the mean duration of the disease was 19.59 ± 9.87, and the age of onset of the disease was 24.18 ± 9.56. The patients are followed by CMHC for an average of 33.77±14.68 months. The mean number of cigarette smokers per day (n=289) was 28.30 ± 16.23. of patients while 48.5% receive only medical treatment in CMHC 51.5% benefit from rehabilitation activities. The 5-year average number of hospitalization days before and after rehabilitation and the costs to the state of the patients were also examined. The number of hospitalization days before rehabilitation decreased from approximately 17 days to 7 days for a patient. The average cost of a patient to the state decreased from 1940 TL to 752 TL. CMHC are very important in order to increase the effectiveness of mental health services and reduce the burden and costs of care due to diseases.

Keywords: Cost effect, rehabilitation, public health, community mental health center, psychiatric care

Introduction

In healthcare service delivery, the delivery and efficiency of mental health services is under the responsibility of the state [1]. Community mental health services are opportunities in the course of humanly and efficient care delivery for the individuals constituting the communit [2]. In addition to this, the presence of some situations such as persistents symptoms, frequent hospitalization and failure to return to previous level of functionality in mental disorders cause a group of mental diseases to be evaluated as serious or severe as well as that they impose burden to individuals, families and community [3,4]. The fact that the patients with severe mental disorders do not establish relationships with their environment sufficiently and their loss of social abilities and careers that will continue their lives impose a burden of care to both their families and the society [5]. Taking into consideration of this situation and the fact that a person who ensures the individuals with the disease to get away from home or an institution that provides them to live independently may relieve the burden of care, community based mental healthcare services have been started in recent years instead of hospitalization [5].

The conception of "Community-based Mental Healthcare" aims to prevent patients to withdraw from the society by being hospitalized again and again and the decrease in their functionality, to meet the basic life needs of the patient in his home, neighborhood or workplace in order to continue their follow-up and treatment, to improve their skills to cope with problems and to activate the necessary support systems, in short, it targets treatment in the community [7,8]. Community mental health centers form the basis of the community-based mental health service model in our country [9]. Traditionally, community mental health services is to deliver a combined service to patients by supporting both mental heath care (treatment, crisis care, preventive care and etc.) and social care (work, relationships, personal care support, etc.) [10]. The main purpose of the community-based health services is to record the patients who live in a certain geographical area and have

*Corresponding Author: Buse Cetinkaya, Nuh Naci Yazgan University, Faculty of Health Sciences , Department of Nursing, Kayseri, Turkey
E-mail: bcetinkaya@nny.edu.tr

severe mental diseases and reintroduce them to the community by providing their regular follow-up, treatment and rehabilitation [9]. Thus, the first Community Mental Health Center (CMHC) was established in Bolu and CMHCs started to work actively in other provinces over time. CMHCs often serve individuals who have severe psychiatric illnesses such as schizophrenia, psychosis and bipolar affective disorder (BAD) and who need to be reintegrated into society through rehabilitation [2].

Patients with schizophrenia, psychosis and BAD live in a distinctive world of withdrawal by being away from interpersonal relationships and reality, have significant disturbances in their emotions, thoughts and behaviors, sometimes cannot evaluate their thoughts and perceptions correctly, and as a result, they make wrong inferences about external reality. In addition, patients are affected emotionally and their family relationships and professional and social adaptations are deteriorated [11,13,14]. According to the result of a meta-analysis study including one hundred-year of studies, schizophrenia causes loss of function gradually over the years and makes individuals people dependent on a caregiver [15].

In the treatment of these patients, pharmacological and psycho-social treatment approaches are more efficient when they are applied together [16]. Psycho-social treatment approach aims at making daily life activities such as personal care, interpersonal relationships and professional and academic functionality sustainable and increasing the quality of life [17]. It is known that the service delivered by Community Mental Health Services meets the pharmacological and psycho-social treatment needs of the patients [9,10], but there are not enough quantitative studies on the profile of the patient group served by CMHCs in our country. Knowing this profile is thought to be a guide for CMHC staff in planning the services delivered to the patients and deciding rehabilitation methods. In this context, the main objective of this study is to reveal the sociodemographic profiles, disease characteristics, treatment approaches and participation rate in CMHC activities of the patients receiving service from CMHC and to identify possible problem areas.

Materials and Methods

In the study, recorded datas in the Community Mental Health Center affiliated to Mental Health and Diseases Policlinic of Kayseri State Hospital, were followed-up between 2014 and 2018, participate in the rehabilitation program at least once, diagnosed by a psychiatrist according to DSM-V criteria and related datas were reviewed retrospectively. The study was concluded by examining a total of 550 patient files. The files were evaluated in terms of the socio-demographic characteristics of the patients, medication use and the rates of participating in rehabilitation programs.

The recorded datas were included in the study by evaluating if they belonged to the patients who were followed-up in the CMHC between 2014 and 2018, participated in the rehabilitation program for at least one year, whose file data were complete, interwieved by a psychiatrist working at the CMHC according to DSM-V critearia and diagnosed by a physician.

The datas were evaluated in terms of socio-demographic characteristics, medical history, the state of using healthcare services, smoking history and the features of the medication. The research was conducted in accordance with the ethical committee approval of Nuh Naci Yazgan University and related institutional permission has been obtained.

Results

When Table 1 is examined, it is seen that 63.6% of the patients receiving service from Kayseri CMHC are male, 36.4% are female, 42.2% are single and 43.7% are unemployed. 73.1% of the patients applying for rehabilitation live in a house belong to him/herself or his/her family and 52.5% smoke cigarettes. When the diagnoses of the patients are evaluated, it is found that 44.9% are followed-up for schizoprenia, 39.5% for BAD, 11.5% for psychosis and 4.2% for schizoaffective disorder. Another data identified in the patient files registered in the CMHC is the information related to the clinical features of the patients and the disease. 59.3% of the patients have family history of psychotic disease, and the seasonal fluctuation is determined at the rate of 60.9%. In addition, 66.5% of the patients show psychotic feature and 32.7% have had the attempt of suicide. 19.8% of the patients have received ECT before.

Table 1. Socio-demographic and disease characteristics of the Patients 1

Demographic and Disease Characteristics	Number	Percentage
Gender		
Female	200	% 36.4
Male	350	% 63.6
Marital Status		
Single	228	% 42.2
Married	232	% 41.5
Divorced-widowed	90	% 16.4
Occupation		
Unemployed	240	% 43.7
Tradesman	16	% 2.9
Officer	19	% 3.5
Others	275	% 50.0
Housing		
Own-family house	402	% 73.1
Rent	148	% 26.9
Smoking		
Yes	289	% 52.5
No	261	% 47.5
Diagnoses of the patients		
Schizophrenia	247	44.9
Bipolar Affective Disorder	217	39.5
Psychosis	63	11.5
Schizoaffective Disorder	23	4.2
Family history of psychotic disease		
Yes	326	% 59.3
No	224	% 40.7
Seasonality		
Yes	335	% 60.9
No	215	% 39.1
Psychotic Feature		
Yes	366	% 66.5
No	184	% 33.5
Suicide Attempt		
Yes	180	% 32.7
No	370	% 67.3
ECT		
Yes	110	% 19.8
No	440	% 80.0
Total	550	%100

Mean age of the patients is 43.00±12.27, Disease period average is 19.59 ± 9.87, average Age at disease onset is 24.18±9.56. Mean follow-up time of patients is 33.77±14.68 months.The longest follow-up patient was followed-up for 72 months. The average number of cigarettes patients smoke per day (n=289) was 28.30±16.23 (Table 2).

Table 2. Socio-demographic and disease characteristics of the Patients 2

	Mean ± SS	(Min-Max)
Age	43.00 ± 12.27	19-81
Disease period	19.59 ± 9.87	2-60 (year)
Age at disease onset	24.18 ± 9.56	8-70
Follow-up time (month)	33.77 ± 14.68	1-72 (month)
Number of cigarettes smoked	28.30 ± 16.23	1-100

Most of the patients (44.2%) use a mood stabilizer and an antipsychotic drugs together. While 24.9% of the patients use a single antipsychotic, 23.1% use multi antipsychotic medications (Table 3).

Table 3. Medication use features of the patients

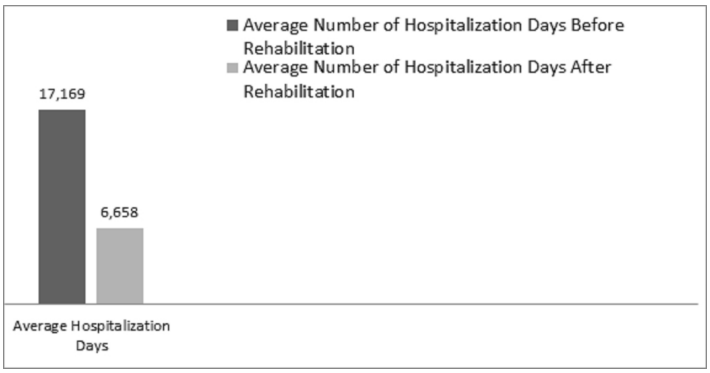
Medication used	Number	Percentage
Mood stabilizer + Antipsychotic	243	% 44.2
Single Antipsychotic	137	% 24.9
Multi Antipsychotic	127	%23.1
Antipsychotic + Antidepressant	12	% 2.2
Those use only depakene	10	% 1.8
Those use only lithium	8	% 1.5
Lithium + Depakene	5	% 0.9
Depakin + Lamictal	5	% 0.9
Lamictal + Lithuril	4	% 0.7

While 48.5% of the patients receive only treatment from CMHC, 51.5% of them make use of rehabilitation activities. Those participating in the rehabilitation activities less than two days a week or irregularly were included in the group consisted of those receiving only treatment. Patients coming to the institution were tried to be rehabilitated by activities such as hand crafts, sports, painting, music, wood painting, and besides these, helping some work in the CMHC (Table 4).

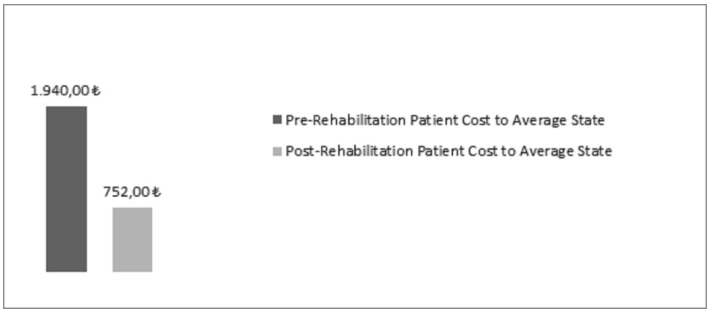
Table 4. The distribution of the rehabilitation programs patients participated in

Rehabilitation Programs Patients Participated in	Number	Percentage
Those Coming to the Institution Only to Receive Treatment Service	268	% 48.5
Hand Craft	55	% 10
Worker	55	% 10
Sports	43	% 7.8
Painting	40	% 7.2
Music	40	% 7.2
Wood painting	32	% 5.8
Training activities	17	% 3.09
Total	550	%100

In Graphic 1 and 2, the 5-year average hospitalization days of the patients and their cost to the state before and after rehabilitation were examined. In the diagrams, while the number of hospitalization days was about 17 before rehabilitation, it decreased to 7 days, and as a result, the average cost of a patient to the state also decreased.



Graphic 1. Hospitalization days for 5 years



Graphic 2. Treatment cost for 5 years

Discussion

The main target group of the community-based mental health model is constituted by the patients who have severe mental disorders and hospitalized for a long time. The frequency of occurrence of mental diseases have increased rapidly, and these diseases cause a significant loss of ability in individuals. This situation is an important finding indicating that only hospitalization remains incapable in patients' treatments. Patients with severe mental disorders have often disability expressed as not being able to perform the daily routines as they do before and incompliance with daily life. Loss of skill occurs in the fields of thinking, planning, solving problems, working, self-sufficiency, socialization and adjustment [18]. Therefore, psychiatric rehabilitation studies should continue with permanency with therapeutic psychiatry approaches. Patient profiles, the results of CMHC services, (how is affecting the length of hospitalization, relapses and cost of a patient to the state) at CMHCs should be known in order to run rehabilitation works efficiently and sufficiently.

When Table 1 is analysed, it is determined that 63.6% of the patients receiving service from Kayseri CMHC are male, 36.4% are female, 42.2% are single and 43.7% are anemployed. When the socio-demographic characteristics of the patients are analysed in the study conducted in Antalya CMHC, it is stated that 58% of the patients are male and 42% are female [19]. The results of this study is similar with ours in terms of gender. The fact that men apply to CMHC more than women is attributed to two reasons.

The first is that mental disorders are more common in men [20] and the other may be cultural reasons. In Turkey, men mostly prefer to spend their time outside the home. They work outside the home or spend their time in places where they will spend their free time [21]. CMHC can be seen as an alternative for male patients to spend their free time. In addition, women can prefer to stay at home due to Turkish culture.

52.5% of the patients smoke cigarette. The results of a study aiming at revealing the prevalence of smoking in mental disorders in the United States have revealed that smoking cigarette is common in psychiatric disorders. In addition, it is handled as a community health problem since smoking cessation rates of psychiatric patients are two to six times lower than those of healthy adults [22]. There are mood-enhancing effects of nicotine obtained by smoking. Psychiatric patients can maintain their mood levels with nicotine consumption [23]. The fact that almost more than half of our patients smoked in our study and the average number of cigarettes was 28 per day can be interpreted as using nicotine as a reward mechanism.

In our study, the incidence of psychiatric disease in the family was found to be 59.1%. This rate is higher than the studies in the literature [24,25]. This may be due to the fact that disease information of both 1st and 2nd degree relatives was recorded. However, this high rate is very important in terms of showing how serious families are a risk factor for mental illnesses. Psychoeducation given to the families in CMHCs is important as it will enable early recognition of the disease symptoms that may develop in other members of the family. In family studies, it has been shown that while the lifetime rate of schizophrenia is 1% in people with healthy parents, this rate rises to 35% in people with schizophrenia in both parents [26]. This rate is 13% in those with schizophrenia in one of the parents. The incidence of schizophrenia in first-degree relatives of people with schizophrenia is 10 times higher than in the general population [27].

A substantial degree of suicide attempt (32.7%) of patients followed up in the center may be due to factors that trigger suicidal behavior such as patients' impulses, aggression, hopelessness, depressive mood, history of substance or alcohol use, suffering and family history of suicide [28]. The presence of a past suicide attempt is an important risk factor for future suicidal behavior (Akgül and Demirel, 2020). At this point, it is thought that a possible new attempt can be prevented by frequent follow-up of the patients in the community mental health center. In the literature, there are studies showing that the seasons affect mental and behavioral symptom levels and that a significant portion of psychiatric disorders experience seasonal sensitivity [30,31]. In our study, more than half of the patients (60.9%) show seasonality. This can be interpreted as that the differences in the duration of daylight that patients benefit from cause sleep problems and mood swings [32]. Schizophrenia is a disease typically diagnosed in the late teens to early thirties [33]. The age of onset of the disease was found to be 24.18 ± 9.56 years in the study, which may be due to the fact that the majority of the patients were diagnosed with schizophrenia (44.9%). In a study examining the general profile of 45 CMHCs in our country, it was found that the frequency of clients coming to the center constantly was 7.8% [7]. Considering these rates, it is noteworthy that Kayseri CMHC is actively used by patients and their relatives. It is seen that 48.5% of the patients who actively use the center receive only treatment and 51.5% rehabilitation services from the CMHC. The fact that half of the patients do not participate in rehabilitation activities may be due to the fact that the society bases mental illnesses on biological causes like physiological diseases and focuses on the pharmacological aspect of treatment [34]. In addition, it is thought that the widespread negative attitudes of the society towards mental patients and the fear of stigmatization of patients/relatives lead them to continue treatment from home [35]. In addition, considering the limited number of healthcare professionals per patient in Turkey, it may be difficult to include practices that will motivate patients to participate in rehabilitation services. Although nurses regularly make follow-up calls and remind them of the center's facilities, this practice does not apply to patients remains limited to include in rehabilitation. Apart from the stigma anxiety of the patients, transportation, financial problems, daily routines, and the related responsibilities of the caregivers can also be considered as obstacles to participating in rehabilitation. The preferences of the patients who benefit from rehabilitation are activities such as handicrafts, sports, painting, music and wood painting. In the rehabilitation process of mental disorders, skill development, occupation hours and the use of social resources are frequently used as educational resources in CMHCs [4].

When the medication use characteristics of the patients are interpreted, it is seen that most of the patients use antipsychotics together with mood stabilizers (44.3%). Single antipsychotic use rate is 20.3%, multi antipsychotics use rate is 21.49%, and although bipolar disorder rate is 39.7% , the rate of only mood stabilizer use is 7%. In these data, it is noteworthy that the majority of patients with bipolar disorder were given antipsychotics in addition to mood stabilizers. When patient group characteristics are analysed, the fact that 59.1% have a family history of the disease, 65.7% have psychotic features, and an average disease duration of 18 years suggests that a relatively severe patient group is worked with. However, it is thought that more detailed studies are needed to comment on the combined use of medication.

Another aspect of the study is cost-benefit. In the study, the number of hospitalization days and the costs to the state before and after the patients' an average of 5-year use of the rehabilitation center were analyzed (Diagram 1-2). While the average number of hospitalization day was 17 before the rehabilitation, it decreased to 7 days, and as a result, the cost of a patient to the state also decreased. The fact that people who have to come back to the hospital in cases where the follow-up and rehabilitation of the disease is insufficient cause an increase in the current workload of the healthcare professionals, that hospital beds are full since they stay in the hospital for a certain number of days and failure to show sufficient attention to other patients admitted to the hospital can be considered as an opportunity cost. In addition to the opportunity cost, the material and nonmaterial difficulties that patients and caregivers experience after complications can be handled as social cost [36].

Consequently, when the cost factor is taken into account, the benefit of CMHCs is undeniable in terms of minimizing the variable costs (real cost, opportunity cost and social cost) that arise as a result of the inability to control the disease, the inability to rehabilitate the

patient, and the constant hospitalization of patients while they can be followed in centers such as CMHC.

Conflict of interests
The authors declare that they have no competing interests.

Financial Disclosure
All authors declare no financial support.

Ethical approval
The research was conducted in accordance with the ethical committee approval of Nuh Naci Yazgan University and related institutional permission has been obtained (2020/10-22/09/2020).

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