



## Original Article

# Comparison of self-stigma and subjective recovery status of patients receiving Community Mental Health Service and outpatient psychiatry policlinic

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### Abstract

**Objectives:** The aim of this study is to investigate the efficacy of Community Mental Health Center (CMHC) services on self stigmatization and subjective recovery feeling of schizophrenia diagnosed individuals and to determine the factors that affecting the subjective recovery.

**Methods:** The study included 145 individuals with a diagnosis of schizophrenia or schizoaffective disorder. Of them, 64 treated in the psychiatry policlinics and 81 who received service from the CMHC. Socio-demographic and disease/treatment data forms, Self Stigma Inventory for Patients (SSI-P) and Subjective Recovery Assessment Scale (SRAS) were used to collect data. Patients were divided in two groups according to followed up at CBMHC or psychiatry policlinics. To compare the mean SSI-P and SRAS scores of groups independent samples t test was used.

**Results:** According to results, the mean SSI-P points of CMHC and policlinic groups were  $45.33 \pm 16.0$  and  $41.23 \pm 16.35$  and there were no significant difference between groups. Mean SRAS points of CMHC and policlinic groups was  $54.84 \pm 17.17$  ve  $45.97 \pm 17.63$  and the mean SRAS points were significantly higher in CMHC group ( $p < 0.05$ ). There was a strong negative correlation between self stigma and subjectiv erecovery points.

**Conclusion:** Due to the results of study, the feelings of subjective recovery was significantly higher in the CMHC group but there was no difference between groups self stigmatization degrees. Although it's thought that, CMHC services alleviate the personal recovery and social functionality of schizophrenia diagnosed individuals, the need for structured and generalised psychosocial programs about self-stigma also has been shown with this study.

**Keywords:** Community Mental Health Center (CMHC); schizophrenia; self-stigma; subjective recovery.

Stigmatization is a process that causes individuals to feel excluded from the society and lose their social status as a result of prejudiced, stereotyped thoughts and attitudes projected by other individuals.<sup>[1]</sup> Patients with serious mental disorders are one of the most stigmatized groups in society. Stigmatization of such individuals begins with labeling them using segregating, derogatory and negative qualities. Schizophrenia is one of the mental disorders where stigmatization

is most common.<sup>[2,3]</sup> The most common stereotypes and prejudices about individuals diagnosed with schizophrenia are "these individuals are dangerous",<sup>[4,5]</sup> "unpredictable",<sup>[6]</sup> "inadequate, unable to work, and cannot recover".<sup>[7]</sup>

Self-stigmatization (internalized stigma) can be evaluated as the acceptance and internalization of negative prejudices and stereotypes against serious mental disorders or individuals with this disorder in the society.<sup>[8]</sup> Self-stigmatization is a con-

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**What is presently known on this subject?**

- In the literature, it has been reported that psychosocial services applied in Community Mental Health Centers (CMHCs) reduce the level of self-stigmatization and increase the level of subjective recovery.

**What does this article add to the existing knowledge?**

- This is the first study evaluating self-stigmatization and subjective recovery in patients receiving CMHC services in Turkey. The findings revealed that psychosocial interventions applied in CMHCs increase the subjective recovery of individuals diagnosed with schizophrenia and that self-stigmatization negatively affects the subjective recovery of patients diagnosed with this condition. The results will be useful in guiding future studies in this field.

**What are the implications for practice?**

- The results of this study reveal the necessity of implementing structured and disseminated training to overcome self-stigmatization in CMHCs.

dition frequently encountered in individuals diagnosed with schizophrenia, which disrupts their social and occupational functioning and negatively affects their clinical and subjective recovery.<sup>[9]</sup> In a large-scale study conducted in 14 European countries, the rate of self-stigmatization in individuals diagnosed with schizophrenia was found to be 41.7%,<sup>[10]</sup> and in another study conducted in South American countries it was reported to be between 28.6% and 48.7%.<sup>[11]</sup>

It is known that self-stigmatization in individuals diagnosed with schizophrenia influences the patient's clinical symptoms, quality of life, and many treatment and recovery parameters. In previous studies, it has been shown that quality of life is lower,<sup>[12]</sup> treatment compliance is worse,<sup>[13,14]</sup> negative symptom severity is higher,<sup>[15]</sup> level of insight, especially cognitive insight, is higher,<sup>[13,15]</sup> self-esteem is lower,<sup>[16,17]</sup> hopelessness is more pronounced, social functioning levels are lower, avoidance behavior, social withdrawal, and depressive symptoms are higher,<sup>[9]</sup> unemployment levels<sup>[18]</sup> and suicide risk [19] are higher, and clinical and subjective recovery levels are lower<sup>[20]</sup> in individuals with a diagnosis of schizophrenia with high-levels of self-stigmatization.

The effect of self-stigma on treatment and recovery parameters starts with the decrease in self-esteem and increase in hopelessness of individuals diagnosed with schizophrenia. Decreased self-esteem and feelings of hopelessness also have negative effects on recovery, leading to an increase in the risk of suicide and the development of depression, social withdrawal of the individual, and a change in the ability to cope with symptoms and stress in favor of avoidant strategies.<sup>[21]</sup> In addition, the adoption of stereotyped attitudes observed in self-stigmatization and alienation has a negative effect on self-esteem and self-efficacy, resulting in the development of negative emotions such as shame, guilt, and anxiety, and negatively affecting their recovery.<sup>[22]</sup>

The level of self-stigmatization of individuals also seriously affects their recovery. Today, with different perspectives such as clinical and subjective recovery, recovery has become the main goal of the treatment and rehabilitation process. The schizophrenia study group defined clinical recovery as the individual's ability to fulfill social and occupational functions

with partial or complete improvement of mental disorder symptoms.<sup>[23]</sup> Subjective recovery can be defined as having new meanings and goals in the life of the individual despite the destructive effects of mental disorder and the individual's ability to lead a satisfying and productive life.<sup>[24]</sup> Regaining hope, reconstruction of identity, having a meaning in one's life, and taking responsibility for recovery are highlighted as the basic components of subjective recovery.<sup>[25]</sup> Recovery is not an outcome but a process through which the individual learns to live with the disorder. Clinical recovery and subjective recovery are not synonymous but complementary concepts, and subjective recovery affects the patient's quality of life at least as much as clinical recovery.<sup>[26,27]</sup>

There are many factors related to both personality traits and symptoms of mental disorders that affect the subjective recovery levels of individuals with schizophrenia. Low levels of psychological resilience,<sup>[28]</sup> presence of depressive symptoms,<sup>[28,29]</sup> high level of hopelessness and decreased self-esteem, high level of self-stigmatization,<sup>[9]</sup> presence of negative affect,<sup>[21,30]</sup> presence of negative symptoms,<sup>[29,31]</sup> low social support,<sup>[31]</sup> and high side effects of the drugs used<sup>[32]</sup> can negatively affect subjective recovery. Again, individuals diagnosed with schizophrenia have lower level of subjective recovery than those with other mental disorders such as bipolar disorder and depression.<sup>[3]</sup>

Although antipsychotic drugs are effective in improving the positive and negative clinical symptoms seen in individuals diagnosed with schizophrenia, they alone are not sufficient to achieve treatment goals such as combating self-stigmatization and enhancing subjective recovery.<sup>[33]</sup> To achieve these goals, a community-based mental health model was adopted in Italy in the 1970's and then in other European countries.<sup>[34]</sup> In 2008, Turkey began the transition to community-based mental health model inspired by changes in European countries.<sup>[34]</sup> In this context, CMHCs were established for the follow-up and treatment of individuals with serious mental disorders such as schizophrenia in their living environment, to increase their social functionality, to contribute to their clinical and subjective recovery processes, and to combat stigmatization.<sup>[35]</sup> However, when the literature is reviewed, it is seen that there are no studies other than a few Master's theses on the effect of CMHC services on self-stigmatization of individuals with mental disorders in Turkey.<sup>[36,37]</sup> Moreover, there are no studies comparing self-stigmatization and/or subjective recovery in individuals diagnosed with schizophrenia receiving psychiatric outpatient clinic services and CMHC services.

Our primary aim was to determine the self-stigmatization and subjective recovery levels of individuals diagnosed with schizophrenia who receive routine CMHC services and who are treated and followed up in psychiatric outpatient clinics of general hospitals. The secondary aim of the study was to determine the factors affecting the self-stigmatization and subjective recovery levels of individuals diagnosed with schizophrenia.

The research questions were as follows:

- Is there a difference between the self-stigmatization levels of individuals diagnosed with schizophrenia who receive CMHC service and psychiatric outpatient service?
- Is there a difference between the subjective recovery levels of individuals diagnosed with schizophrenia who receive CMHC service and psychiatry outpatient service?
- What are the factors affecting the self-stigmatization levels of individuals diagnosed with schizophrenia?
- What are the factors affecting the subjective recovery levels of individuals diagnosed with schizophrenia?

## Materials and Method

### Research Type

The research was conducted as a descriptive comparative research.

### Research Variables

The dependent variables of the study were the "Self-Stigmatization Scale for Patients" and "Subjective Recovery Assessment Scale" scores of individuals diagnosed with schizophrenia. Independent variables were the mental disorder/treatment characteristics of individuals diagnosed with schizophrenia.

### Place and Time of the Study

The study was carried out between March 15, 2019 and December 31, 2019 in the psychiatric outpatient clinics of Niğde Training and Research Hospital and the CMHC building affiliated to the hospital.

### Study Sample

One hundred and forty-five patients diagnosed with schizophrenia and schizoaffective disorder according to the DSM-5 (American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fifth edition) diagnostic criteria who met the inclusion criteria and accepted to participate in the study were included. Among them, 64 were treated in a Training and Research Hospital Psychiatric outpatient clinic (hospital group), and 81 received services from the CMHC (CMHC group). In addition to drug therapy (antipsychotic group drugs), a semi-structured psychosocial rehabilitation program consisting of psychoeducation, occupational therapy, participation in social activities, and home visits was applied to the individuals in the CMHC group. On the other hand, only drug treatment was applied to those in the hospital group.

*Inclusion criteria:*

- 1) Being diagnosed with schizophrenia or schizoaffective disorder according to DSM-5 diagnostic criteria.
- 2) Having benefited from the services at the center for at least one year for individuals diagnosed with schizophrenia in the CMHC group.
- 3) Continuing psychiatry outpatient clinic follow-up for indi-

viduals in the hospital group but not receiving regular CMHC service 4) Not having comorbid psychiatric disease, mental retardation, or pervasive developmental disorder. 5) Not having any significant physical discomfort that may affect social functionality. 6) Agreeing to participate in the study. 7) Being 18 years of age or older.

### Measurement Tools

*Introductory Information Form:* This form includes individual characteristics such as age, gender, marital status, educational status, diagnosis of the disease, the number of hospitalizations in the last year, the drugs used, the use of depot antipsychotics and clozapine.

*Self-Stigmatization Scale for Patients (SSI-P):* SSI-P was used to evaluate the participants' thoughts, feelings, and attitudes about self-stigmatization. The validity and reliability studies of this scale, developed by Yildiz et al.<sup>[38]</sup> (2018), were also conducted by the same group. The score obtained from this 5-point Likert-type scale ranges between 17 and 85. It is a self-report scale and consists of 17 items. Higher scores on the scale indicate that the individual has a higher level of stigmatization. In the study of Yildiz et al. (2018), the Cronbach alpha coefficient was determined to be 0.93. In the present study, the Cronbach alpha coefficient was found to be 0.79.

*Subjective Recovery Assessment Scale (SRAS):* SRAS was used to assess the participants' feelings and thoughts about subjective recovery. The validity and reliability studies of this scale, developed by Yildiz et al.<sup>[39]</sup> (2018), were also performed by the same group. The score obtained from this 5-point Likert-type scale ranges between 17 and 85. It is a self-report scale and consists of 17 items. Higher scores indicate better subjective recovery of the patient. The Cronbach alpha coefficient was determined to be 0.98 in the study of Yildiz et al. (2018). In the present study, the Cronbach alpha coefficient of the scale was found to be 0.83.

### Data Collection

While the introductory information form was filled by the researchers, the SSI-P and SRAS scales were filled in by the participants themselves in private test rooms in the CMHC and the Training and Research Hospital. Data collection took an average of 30–45 minutes to complete the introductory information form and scales.

### Ethical Considerations

Ethics committee approval for the study was obtained from Niğde Ömer Halisdemir University Rectorate Ethics Committee (27.02.2019, Decision No: 2019/02-12). Written permission was obtained from the Chief Physician's Office of the Training and Research Hospital in which the study was conducted. All participants were given detailed information about the study, and verbal and written consent was obtained from the patients and their legal guardians, if any.

## Analysis of Data

The data obtained from the study were entered in the Statistics Program for Social Sciences (SPSS, ver. 22) and evaluated. Kolmogorov Smirnov test was applied to determine whether the data were normally distributed, Skewness and Kurtosis values were checked, and histogram graphs were examined. Independent samples t-test was used to compare the mean scores of SSI-P and SRAS, which were normally distributed. Multiple linear regression analysis was used to determine the factors predicting self-stigmatization and subjective recovery of the participants. Variables were analyzed at a 95% confidence level, and a p value of <0.05 was considered significant.

## Results

The individual characteristics of the participants diagnosed with schizophrenia are given in Table 1. It was noted that 31% (45) of the participants were women, 69% (100) were men, and the mean age of the CMHC and outpatient clinic (hospital) groups were  $45.83 \pm 9.28$  (19–65) and  $41.19 \pm 11.87$  (19–69) years, respectively. While there was no significant difference between the CMHC and outpatient clinic groups in terms of gender, educational status, marital status, or employment status ( $p > 0.05$ ), the mean age was significantly higher in the CMHC group ( $p < 0.01$ ).

The characteristics of the mental disorders/treatments of the groups are given in Table 2. It was inferred that 86.9% (126) of the participants were diagnosed with schizophrenia and that the mean duration of the disease was  $19.27 \pm 9.12$  (3–41) years and  $16.11 \pm 10.09$  (1–39) years in the CMHC and hospital groups, respectively. According to these data, the individuals in the CMHC and outpatient clinic group were similar in terms of duration of mental disorder, diagnosis, antipsychotic use, and depot antipsychotic and clozapine use, and there was no significant difference between the groups ( $p > 0.05$ ).

SSI-P and SRAS scores of the groups are shown in Table 3. Independent samples t-test was used to compare the mean scores of SSI-P and SRAS of the CMHC and outpatient clinic groups. The mean SSI-P scores of the participants in the CMHC and outpatient clinic groups were found to be  $45.33 \pm 16.60$  and  $41.23 \pm 16.35$ , respectively. The mean SRAS scores of the CMHC and outpatient clinic groups were  $54.84 \pm 17.17$  and  $45.97 \pm 17.63$ , respectively. While the mean SRAS score was significantly higher in the CMHC group than in the outpatient clinic group ( $t = 3.053$ ,  $p < 0.01$ ), there was no statistically significant difference between the groups in terms of mean SSI-P scores ( $t = 1.486$ ,  $p > 0.05$ ).

Pearson or Spearman correlation analysis was performed according to the distribution and type of data to determine the relationship between the participants' SSI-P and SRAS scores

**Table 1. Individual characteristics of the participants (n=145)**

	CMHC group (n=81)		Hospital group (n=64)		p
	Mean	Standard deviation	Mean	Standard deviation	
Age	45.83	9.28	41.19	11.87	<0.01
	n	%	n	%	
Gender					
Female	24	29.6	21	32.8	>0.05
Male	57	70.4	43	68.2	
Education					
Illiterate	3	3.7	5	7.8	>0.05
Primary school	40	49.4	26	40.6	
Middle School	14	17.3	12	18.8	
High school	22	27.1	15	28.4	
University	2 <sup>nd</sup>	2.5	6	12.2	
Marital status					
Single	41	50.6	35	54.7	>0.05
Married	23	28.4	20	31.3	
Widowed/Divorced	17	21	9	14	
Working status					
Working	0	0	0	0	>0.05
Not working	57	70.4	55	85.9	
Retired	10	12.3	2 <sup>nd</sup>	3.1	
Retired with disability	14	17.3	7	11 <sup>th</sup>	

CMHC: Community Mental Health Center.

**Table 2. Mental disorder and treatment characteristics of the participants (n=145)**

	CMHC group (n=81)		Hospital group (n=64)		p
	Mean	Standard deviation	Mean	Standard deviation	
Duration of mental disorder	19.27	9.12	16.11	10.09	<0.05
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>	
Diagnosis					
Schizophrenia	72	88.9	54	84.4	>0.05
Schizoaffective disorder	9	11.1	10	15.6	
Antipsychotic use					
Atypical AP	41	50.6	40	62.5	>0.05
Typical AP	3	3.7	0	0	
Atypical+Typical AP	18	22.2	16	25	
AP+MS	17	21	8	12.5	
No	2	2.5	0	0	
Depot use of antipsychotics					
Yes	40	49.4	27	42.2	>0.05
No	41	50.6	37	57.8	
Use of clozapine					
Yes	12	14.8	5	7.8	>0.05
No	69	85.2	59	92.2	

AP:Antipsychotic; MS: Mood Stabilizer; CMHC: Community Mental Health Center.

**Table 3. Comparison of mean SSI-P and SRAS scores between the groups (n=145)**

	CMHC (n=81)	Hospital group (n=64)	t	p
Total SSI-P Score	45.33±16.60	41.23±16.35	1.486	>0.05
Total SRAS score	54.84±17.17	45.97±17.63	3.053	<0.001

SSI-P: Self-Stigma Scale for Patients; SRAS: Subjective Recovery Assessment Scale; CMHC: Community Mental Health Center.

**Table 4. Factors predicting the participants' self-stigmatization level (n=145)**

	B	se	t	β	Partial r	Binary r	p
Constant	81.97	10.34	7.93				<0.001
SRAS Score	-0.48	0.07	-7.17	-0.51	-0.52	-0.49	<0.001
Gender	-1.93	2.52	-0.77	-0.05	-0.07	-0.05	>0.05
Education level	-1.40	1.12	-1.25	-0.09	-0.11	-0.09	>0.05
Spiritual break time	0.28	0.12	0.16	0.16	0.20	0.16	<0.05
Depot AP usage	-0.63	2.29	-0.28	-0.02	-0.02	-0.02	>0.05
Use of clozapine	-5.90	3.59	-1.65	-0.12	-0.14	-0.11	>0.05

B: Regression coefficient; se: Standard error; t: Critical value; β: Standardized regression coefficient; R: Multiple correlation coefficient; R<sup>2</sup>: Multiple explanatory coefficient; adjusted R<sup>2</sup>: Adjusted multiple explanatory coefficient; F: Groups for analysis of variance test difference between; VIF: Variance inflation factor; AP: Antipsychotic; SSI-P: Self-stigmatization scale for patients; SRAS: Subjective recovery assessment scale.

Constant (dependent variable) - CAS-H score, R=0.591, R<sup>2</sup>=0.349, corrected R<sup>2</sup>=0.320, p=0.000, F=12.318, tolerance=0.922-0.989, VIF=1.012-1.085, status index=26.603.

and individual and disease/treatment characteristics. As a result of correlation analysis, a strong positive correlation (r=0.723, p<0.001) was found between the duration of the disease and

age, while a weak positive correlation (r=0.235, p<0.01) was found between the duration of the disease and SSI-P score. A weak positive correlation (r=0.228, p<0.01) was found between

**Table 5. Factors predicting the subjective recovery of the participants (n=145)**

	B	se	t	β	Partial r	Binary r	p
Constant	85.38	11.57	7.38				<0.001
SSI-P score	-0.57	0.08	-7.17	-0.53	-0.521	-0.500	<0.001
Gender	-3.46	2.76	-1.26	-0.09	-0.106	-0.088	>0.05
Education level	1.99	1.22	1.63	0.12	0.137	0.114	>0.05
Duration of mental disorder	-0.02	0.13	-0.12	-0.01	-0.010	-0.008	>0.05
Depot AP usage	-1.92	2.50	-0.77	-0.05	-0.065	-0.054	>0.05
Use of clozapine	-3.23	3.96	-0.82	-0.06	-0.069	-0.057	>0.05

B: Regression coefficient; se: Standard error; t: Critical value; β: Standardized regression coefficient; R: Multiple correlation coefficient; R<sup>2</sup>: Multiple explanatory coefficient; Adjusted R<sup>2</sup>: Corrected multiple explanatory coefficient; F: Difference between the groups for analysis of variance test; VIF: Variance inflation factor; AP: Antipsychotic; SSI-P: Self-stigmatization scale for patients; SRAS: Subjective recovery assessment scale Fixed (dependent variable) - OHSS score, R=0.573, R<sup>2</sup>=0.329, adjusted R<sup>2</sup>=0.299, p=0.000, F=11.254, tolerance=0.894-0.992, VIF=1.008-1.118, state index=27.24.

education status and SRAS score and a weak negative correlation was found between education level and SSI-P score ( $r=-0.210$ ,  $p<0.05$ ). Finally, a strong negative correlation was found between the SSI-P and SRAS scores ( $r=-0.550$ ,  $p<0.001$ ).

Multiple linear regression analysis was performed to determine the predictors of self-stigmatization. Age was not included in the multiple regression analysis because there was a strong positive correlation ( $r=0.723$ ) between age and disease duration in the Pearson correlation analysis. In the multiple linear regression analysis, SSI-P score was included as the dependent variable, while the SRAS score, gender, education level, disease duration, and depot antipsychotic and clozapine use were entered as the independent variables. It was inferred that all independent variables included in the model explained 32% of the variance in the SSI-P score (adjusted  $R^2=0.320$ ). Furthermore, the total SRAS score had a strong negative effect on the total SSI-P score ( $\beta=-0.513$ ,  $p<0.001$ ) and the duration of the disease positively affected the total SSI-P score ( $\beta=0.164$ ,  $p<0.05$ ). On the other hand, it was shown that the independent variables of gender, education level, and depot antipsychotics and clozapine use did not have an effect on the total SSI-P score ( $p>0.05$ ) (Table 4).

## Discussion

According to the results of the study, no significant difference was found between the CMHC and outpatient clinic groups in terms of self-stigmatization. Review of studies on this topic conducted in Turkey revealed that no study on schizophrenia patients has so far compared the self-stigmatization between patients followed up in CMHC's and in the psychiatric units of general hospitals.

In the present study, there was no significant difference in self-stigmatization between the CMHC and outpatient clinic groups, suggesting that individuals with schizophrenia may have increased insight while receiving CMHC services which may increase self-stigmatization.<sup>[13,15]</sup> Therefore, self-stigmatization scores may have been similar in both groups. In addition,

since self-stigmatization may be related to cognitive distortions and myths in the mind, psychoeducation alone may not be able to alleviate this situation. An extensive meta-analysis was conducted by Mestdagh and Hansen<sup>[40]</sup> (2014) that included 18 studies in the United States, England, European countries, and Australia on stigmatization and self-stigmatization in individuals diagnosed with schizophrenia receiving community-based mental health services. It was discerned that individuals diagnosed with schizophrenia, despite receiving community-based mental health services, had a high level of self-stigmatization and were exposed to discrimination and exclusion by the society. In another study, it was argued that high self-stigmatization may be a possible unintended consequence of bringing individuals diagnosed with schizophrenia together in institutions providing community-based mental health services.<sup>[41]</sup>

Another reason for the lack of a significant difference in terms of self-stigmatization between the CMHC and outpatient clinic groups may be that a structured program to combat self-stigmatization was applied to individuals diagnosed with schizophrenia in the CMHC where this study was conducted. As a matter of fact, many studies have asserted that psychosocial intervention programs designed to combat self-stigmatization are effective in reducing self-stigmatization in individuals diagnosed with schizophrenia. Yanos et al.<sup>[42]</sup> (2015) reviewed the psychosocial coping programs used against self-stigmatization in schizophrenia spectrum disorders. In this review, structured programs such as the concept of healthy self, self-stigmatization reduction program, self-stigmatization, narrative and cognitive therapy, overcoming pride, and anti-stigmatization photography and audio intervention were evaluated. It was inferred that psychoeducation for myths about mental disorders, cognitive therapy to gain coping skills, and narrative technique to confront patients' backgrounds were commonly used to combat self-stigmatization. In all studies where these programs against self-stigmatization were applied, they were found to be highly effective in alleviating self-stigmatization. On the other hand, in a randomized, controlled, and 9-month longitudinal study by Li et

al.<sup>[43]</sup> (2018) in China that involved 327 individuals diagnosed with schizophrenia, although the “strategies against discrimination and stigmatization” program was applied in addition to psychoeducation, social skills training, and cognitive behavioral therapy, no significant difference was found between the intervention group and the control group in terms of self-stigmatization.

It was determined that the duration of the disease positively affected self-stigmatization. No significant relationship was seen between self-stigmatization and the other variables. In contrast to this study, previous studies on self-stigmatization in individuals diagnosed with schizophrenia failed to establish any relationship between self-stigmatization and age and duration of disease.<sup>[2,20]</sup> In two studies evaluating self-stigmatization in individuals with mental disorders (including those diagnosed with schizophrenia) who were followed up in outpatient clinics in Turkey, one found that self-stigmatization was low in the male gender, when the education level was high and when the number of hospitalizations was low.<sup>[16]</sup> The other study found that self-stigmatization was low in the male gender and when income level was high.<sup>[44]</sup> In yet another large-scale study involving 1229 individuals with a diagnosis of schizophrenia in 14 European countries, it was reported that male gender, high social relations, working, and high education level were protective against self-stigmatization.<sup>[10]</sup> On the other hand, in the study by Yildiz et al.<sup>[2]</sup> (2012), which is one of the most comprehensive studies on self-stigmatization in individuals diagnosed with schizophrenia in Turkey, no relationship was found between self-stigmatization and sociodemographic and clinical variables. Likewise, in the study of Vass et al.<sup>[20]</sup> (2015), no relationship was perceived between age and gender and self-stigmatization. In studies conducted till date, conflicting results have been reported regarding the relationship between self-stigmatization and variables such as age, education level, and duration of disease. Therefore, further well-planned studies investigating the relationship between self-stigmatization and sociodemographic and disease characteristics are needed.

According to the results of the present study, the subjective recovery level of the participants in the CMHC group was found to be significantly higher than that of the outpatient group. As stated earlier, semi-structured psychosocial rehabilitation services were applied to individuals in the CMHC group in this study. These services consisted of having a manager for each case, psychoeducation for patients and their relatives, self-care training, occupational therapy, supportive group therapy, and home visits. Based on the results of this study, it could be stated that the routine psychosocial services offered in CMHC contribute positively to the subjective recovery of the patients. It was seen that psychoeducation and supportive group therapy are widely used in these centers for the rehabilitation of individuals diagnosed with schizophrenia and that they positively affect the clinical and subjective recovery of individuals. In a 2-year longitudinal study by Sibitz et al.<sup>[45]</sup> (2007) involving 103 individuals diagnosed with schizophrenia who benefited from psychoeducation groups, it was reported that psychoed-

ucation increased both the individuals' clinical symptoms and their quality of life and subjective recovery. Similarly, Bechdolf et al.<sup>[46]</sup> (2010) investigated the effectiveness of group cognitive behavioral therapy and psychoeducation on the quality of life of individuals in a 6-month longitudinal study comprising 88 schizophrenia inpatients and found that both group therapy and psychoeducation had a positive effect on the subjective quality of life of the individuals. In light of this information in the literature, it can be said that the psychoeducation applied in the CMHC where the study was conducted was effective in enhancing the subjective recovery of individuals diagnosed with schizophrenia.

Similar to this study, the research conducted by Şahin and Elboğa<sup>[47]</sup> (2019) involved 88 individuals diagnosed with schizophrenia, schizoaffective disorder, and bipolar disorder who received CMHC service for at least 6 months and 88 individuals who did not receive CMHC service. The participants were compared in terms of insight, treatment compliance, symptom severity, quality of life, general functionality, and functional improvement. In patients receiving routine CMHC service, a significant increase was found in all areas evaluated, including reduction in symptom severity and quality of life and functional improvement, regardless of the diagnosis, compared to the group that did not receive CMHC services. A 1-year longitudinal study was conducted by Ensari et al.<sup>[48]</sup> (2013) to investigate the effectiveness of routine services offered in CMHC. At the end of one year, they found a significant increase in the quality of life, social functionality, and general functionality and a decrease in the disability scores of 30 individuals diagnosed with schizophrenia who were treated and rehabilitated in CMHC. In parallel with the present study and the studies mentioned above, there are other studies establishing that both the structured<sup>[49,50]</sup> and unstructured services provided in CMHCs<sup>[51]</sup> increase the treatment compliance, general and social functionality, and quality of life of individuals.

In this study, no significant relationship was observed between the subjective recovery levels of individuals diagnosed with schizophrenia and sociodemographic data such as age, gender, and education level and disease duration, depot antipsychotic use, and clozapine use. After reviewing the literature on this subject, it was evident that no relationship existed between subjective recovery and sociodemographic data such as age, gender, and duration of illness, in line with the results of the present study.<sup>[3,29,31,32]</sup>

Finally, certain studies have claimed that the type or method of administration of the antipsychotic drug in individuals diagnosed with schizophrenia is effective in the clinical and subjective recovery of the patient. In a study conducted by Jenkins et al.<sup>[32]</sup> (2005) that involved 90 individuals diagnosed with schizophrenia, it was reported that those using atypical antipsychotics had higher clinical and subjective recovery rates compared to those using typical antipsychotics. Besides, patients using clozapine had higher clinical and subjective recovery rates than those using other antipsychotic drugs.

Likewise, it was shown that individuals diagnosed with schizophrenia who used long-acting antipsychotic injections for treatment had higher rates of clinical and psychosocial remission.<sup>[33,52]</sup> In the present study, the use of depot antipsychotics and clozapine, which may affect clinical and subjective recovery, was similar ( $p>0.05$ ), which supports the point that the difference in subjective recovery levels between the groups is the result of psychosocial services performed in the CMHC rather than pharmacotherapy.

According to the results of the study, a strong negative relationship was found between self-stigmatization and subjective recovery in individuals diagnosed with schizophrenia. To the best of our knowledge, this is the first study in Turkey investigating the relationship between subjective recovery and self-stigmatization in individuals diagnosed with schizophrenia who were treated and followed up in CMHCs and hospitals. Hence, the findings from this study are likely to be useful for future research on this subject in the country. Although there is no study investigating the relationship between self-stigmatization and subjective recovery in Turkey, several studies on this topic are available in the international literature. In a 6-month longitudinal study conducted by Vass et al.<sup>[20]</sup> (2015) in England that involved 80 inpatients with a diagnosis of schizophrenia, the effect of self-stigmatization on clinical and subjective recovery was investigated. It was shown that self-stigmatization negatively affects both clinical and subjective recovery, which is in accordance with the findings of the present study. In the same study, it was also stated that a direct relationship exists between symptom severity and subjective recovery and that self-stigmatization is effective in increasing positive symptoms. Furthermore, it was observed that increased hopelessness and decreased self-esteem play a mediating role in the relationship between self-stigmatization and subjective recovery. Similarly, in a study conducted in Spain with a total of 216 individuals diagnosed with schizophrenia, it was shown that self-stigmatization negatively affects emotional well-being and subjective recovery by causing a decrease in positive affect and an increase in negative affect.<sup>[22]</sup> In a study involving 100 individuals diagnosed with schizophrenia in two separate community rehabilitation centers in Taiwan, a negative relationship was found between self-stigmatization and the individual's quality of life.<sup>[12]</sup> Although this study did not examine the relationship between subjective well-being and quality of life, it agrees with our study in the aspect that increased self-stigmatization negatively affects subjective well-being and causes a decrease in the quality of life.<sup>[26]</sup> However, in a study conducted by Yanos et al.<sup>[9]</sup> (2008) that examined 102 individuals diagnosed with schizophrenia and schizoaffective disorder, it was shown that the level of self-stigmatization is negatively related to the clinical recovery of the patient. Besides, it was reported that the increase in the level of self-stigmatization has a negative effect on the increase in symptom severity and recovery results. The relationship between self-stigmatization and clinical recovery was not directly examined in the present study. However, although clinical and subjective recovery are not identical concepts, it is known that

they are in a tight and direct relationship with each other.<sup>[20,53]</sup> In general, there is a weak-to-moderate correlation between symptom severity and subjective recovery, while the link between affective symptoms and subjective recovery is stronger.<sup>[54]</sup> In fact, early onset of the disease enhances the significance of the relationship between clinical and subjective recovery.<sup>[27]</sup> At the same time, in the study by Kukla et al.<sup>[55]</sup> (2014), it was reported that higher subjective recovery scores in individuals with high positive symptom severity provided a better level of basic social relationship and social role performance.

### Limitations

The most important limitation of this study is the lack of an assessment scale to evaluate the clinical recovery of individuals with schizophrenia included in the study. Clinical and subjective recovery are concepts that are directly related and complement each other. The availability of clinical recovery data on individuals with a diagnosis of schizophrenia could aid in evaluating the relationship between clinical and subjective recovery and facilitate the comparison of current study data with others in the literature.

Another limitation of the study is its cross-sectional planning. Measuring the self-stigmatization and subjective recovery levels of individuals diagnosed with schizophrenia at the beginning and at the end of the study would have been more meaningful in demonstrating the effects of routine services carried out in CMHCs on these parameters. However, the requirement of benefiting from CMHC services for at least 1 year for the individuals included in the study partially overcomes this limitation.

### Conclusion

The strength of the study is that it is one of the rare studies investigating the effects of services offered in CMHCs on self-stigmatization and that it is the first study examining the relationship between self-stigmatization and subjective recovery in individuals with schizophrenia. It was found that subjective improvement was felt more clearly in individuals diagnosed with schizophrenia who received CMHC services; however, there was no difference between the groups in terms of self-stigmatization. This result shows that CMHC services positively contribute to increasing the social functionality and subjective recovery of individuals diagnosed with schizophrenia. However, it also reveals the need for structured and widespread training to combat self-stigmatization in CMHCs. Moreover, institutional and public activities related to stigmatization are required, especially for the healthcare workers in CMHCs. These results should be supported by well-planned and longitudinal studies that are to be conducted in the future.

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