

INTERNALIZED STIGMA, PERCEIVED SOCIAL SUPPORT, AND LIFE QUALITY IN PATIENTS ADMITTED TO A FORENSIC PSYCHIATRY UNIT

ADLİ PSİKİYATRİ SERVİSİNDE TEDAVİ GÖREN HASTALARDA İÇSELLEŞTİRİLMİŞ DAMGALANMA, ALGILANAN SOSYAL DESTEK VE YAŞAM KALİTESİ

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ABSTRACT

Objective: This study aimed to examine internalized stigma, perceived social support, and the quality of life and its associations among patients admitted to a forensic psychiatry unit.

Material and Method: A total of 97 patients treated at a High Security Forensic Psychiatry Unit were included. A Sociodemographic Data Form, the Multi-Dimensional Scale of Perceived Social Support (MSPSS), the Internalized Stigma of Mental Illness (ISMI), and the World Health Organization Quality of Life Short Form (WHOQOL) were administered to all patients.

Results: The mean ISMI, MSPSS, and WHOQL scores were 74.3 \pm 8.4, 38.3 \pm 8.4, and 75.9 \pm 10.5, respectively. A negative correlation between the total MSPSS and total ISMI scores as well as between total the ISMI and total WHOQOL scores was found; on the other hand, a positive and significant association was determined between the total MSPSS and total WHOQOL scores (p<0.001, r=-0.367; p<0.001, r=-0.550; p<0.001, and r=0.496, respectively). The MSPSS total and sub-scale scores, age, alienation, stereotype endorsement, and perceived discrimination predicted the total WHOQOL score (R²=0.613; Model F=12.242; p<0.001).

Conclusion: Forensic psychiatry patients experience internalized stigma and reduced social support. Increasing levels of internalized stigma were associated with progressively lower levels of perceived social support and life quality. Predictors of the quality of life include the perceived social support, stereotype endorsement, discrimination, and alienation. This study sheds

ÖZET

Amaç: Çalışmanın amacı adli psikiyatri servisinde yatan hastalarda içselleştirilmiş damgalanma, algılanan sosyal destek ve yaşam kalitesinin ve aralarındaki olası ilişkilerin değerlendirilmesidir.

Gereç ve Yöntem: Çalışmaya Yüksek Güvenlikli Adli Psikiyatri Servisi'nde yatarak tedavi gören 97 hasta dahil edilmiştir. Tüm hastalara sosyodemografik veri formu, Çok Boyutlu Algılanan Sosyal Destek Ölçeği (ÇBASD), Ruhsal Hastalıklarda İçselleştirilmiş Damgalanma Ölçeği (RHİDÖ), Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği Kısa Formu (WHOQOL) uygulanmıştır.

Bulgular: Hastaların ortalama RHİDÖ skoru 74,3±8,4, ortalama ÇBASD skoru 38,3±8,4 ve ortalama WHOQOL skoru 75,9±10,5 bulunmuştur. ÇBASD toplam puan ile RHİDÖ toplam puanı arasında ve RHİDÖ toplam puanı ile WHOQOL toplam puanı arasında negatif yönde, ÇBASD toplam puanı ile WHOQOL toplam puanı arasında ise pozitif yönde anlamlı bir ilişki görülmüştür (sırasıyla; p<0,001, r=-0,367; p<0,001, r=-0,550; p<0,001, r=0,496). ÇBASD toplam puanı ve alt boyutları, yaş, yabancılaşma, kalıp yargıların onaylanması ve algılanan ayrımcılık, WHOQOL toplam puanını yordamaktadır (R²=0,613; Model F=12,242; p<0,001).

Sonuç: Adli psikiyatri hastaları içselleştirilmiş damgalanma yaşamakta ve sosyal desteği az hissetmektedirler. Hastaların içselleştirilmiş damgalanmaları arttıkça algıladıkları sosyal destek ve yaşam kaliteleri azalmaktadır. Hastaların algıladıkları sosyal destek, kalıp yargıları onaylamaları, ayrımcılık ve yabancılaşma hissetmeleri yaşam kalitelerini yordamaktadır. Bu çalışma az çalışılmış bir

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some light on factors affecting the quality of life in this relatively under examined group of forensic psychiatry patients.

Keywords: Internalized stigmatization, perceived social support, quality of life, forensic psychiatry

grup olan adli psikiyatri hastalarının yaşam kalitelerini etkileyen bu faktörlerin değerlendirilmesi adına ışık tutmaktadır.

Anahtar Kelimeler: İçselleştirilmiş damgalanma, algılanan sosyal destek, yaşam kalitesi, adli psikiyatri

INTRODUCTION

Forensic psychiatry units providing inpatient care (high or medium security level) are special institutions for the care and treatment of mentally disordered offenders who are thought to have an impaired ability to judge the reality. In these institutions, forensic psychiatry patients are kept in a confinement, safe both for themselves and the society (1). As previously established, one of the main functions of forensic psychiatry units is to reduce the rates of re-offending when these individuals integrate with society following their discharge (2, 3). However, stigmatization may represent a different entity.

Stigmatization is defined as the devaluation and discrimination of an individual or a group due to prejudice. Stigmatized individuals, who are associated with many negative properties, feel that they are different and isolated from society, with psychological and social consequences (4). Mentally disordered individuals represent a main target of stigma in societies, and are frequently exposed to discriminative behavior and emotions (5). Internalized stigma, on the other hand, is accepting that stigmatizing views held by society (6). Overall, 36% of the psychiatric patients have been reported to be affected by internal stigma (7). Such negative judgements have negative effects on self-esteem, adherence to treatment, educational and occupational opportunities, quality of life, and social adaptation among the mentally disordered (8, 9). Furthermore, internalized stigma may also lead to a worsening of symptoms associated with the existing disorder (6). In this regard, forensic psychiatry patients may experience even more negative consequences, as the stigmatization involves an "offending act" against law and moral principles, in addition to the disease itself (10). These individuals, considered "dangerous" by society, may have exacerbated feelings of guilt, isolation, and shame, with a significantly reduced life quality (11). One of the determinants of the quality of life is the "perceived social support" (12). Perceived social support is defined as the belief held by an individual that he/she can have the desired level of support in any relationship and at any time (13). Perceived social support may actually represent a more significant concept than the received social support, since the subjective perception regarding the support provided by the family, friends, or spouse is in the focus of the perception. Perceived social support has been regarded as a factor that may protect individuals from mental disorders, or that may reduce the recurrence of

existing mental disorders (13). Quality of life, on the other hand, is a measure of self-satisfaction from life. In this regard, quality of life is closely linked with mental health and societal health (14).

Reduction, and even prevention of stigmatization among forensic psychiatric patients may assist in integration to society and fulfill the need for social support. Unsurprisingly, this may lead to an improvement in both existing psychiatric symptoms as well as in the quality of life. The objective of this study was to examine internalized stigma, perceived social support, quality of life, and their associations among forensic psychiatric patients, who, we believe, represent one of the most vulnerable groups of social stigmatization.

MATERIAL AND METHOD

Ethical approval

The study procedures were carried out in accordance with the principles of the Helsinki Declaration following approval from the Firat University Ethics Committee for Non-Interventional Research (Date: 16.09.2021, No: 2021/09-59). The study was performed at the High Security Forensic Psychiatry Unit (HSFPU) of the Elaziğ Fethi Sekin City Hospital between 20 September 2021 and 20 October 2021. All patients provided written informed consent after adequate information on the purpose of the study was given.

Power analysis

A statistical power analysis suggested that at least 70 patients were required for a statistical power of 95% at 95% confidence interval.

Patients

A total of 97 inpatients over 18 years of age and admitted to the Elazığ Fethi Sekin City Hospital HSFPU were included in the study if they met the inclusion criteria. Since the women's section of the HSFPU was out of service at the time of the study, only male patients were included. Patients were interviewed for a minimum duration of 30 minutes using the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Also, the Multidimensional Scale of Perceived Social Support (MSPSS), the Internalized Stigma of Mental Illness (ISMI), and the World Health Organization Quality of Life Scale short form (WHOQOL-BREF) were administered to all inpatients.

Controls

There were no control subjects in the study.

Inclusion criteria

- 1) Being inpatient in the forensic psychiatry unit and being over 18 years old
- Absence of any significant physical or neurological condition that may have an effect on any existing psychiatric symptoms
- 3) Absence of mental retardation
- 4) Acceptance for study participation, and signing the written consent form

Exclusion criteria

Failure to meet any of the inclusion criteria was taken as the exclusion criteria.

Study tools

The sociodemographic and clinical data form: In accordance with clinical experience, literature data, and study objectives, a semi-structured sociodemographic and clinical data form developed by our study team was used to collect information on sociodemographic data such as age, gender, marital status, educational level, occupation, place of residency, economical status, and family, as well as on clinical data such as disease duration, presence/absence of psychosocial stressors at the disease onset.

The Internalized Stigma of Mental Illness (ISMI) scale:

The original scale was developed by Ritsher et al. (15), and the validity and reliability studies of the Turkish version were performed by Varan (16). This tool consisting of 29 items in total has 5 subscales measuring alienation (6 items, with a max. score of 24), stereotype endorsement (7 items, max. score of 28), perceived discrimination (5 items, max. score of 24, social withdrawal (6 items, max. score of 24), and stigma resistance (5 items, max. score of 20). These five subscales are scored using a Likert-type scale ranging between 1 and 4. Resistance to the stigma subscale is reverse scored. The total ISMI score ranges between 4 and 91. The total ISMI score is the sum of all the subscale scores, with higher scores indicating more severe stigma. The alpha coefficient of reliability was 0.93 (16).

The Multi-Dimensional Perceived Social Support Scale (MSPSS): This scale was originally developed by Zimet et al. (17). The validity and reliability of the Turkish version was shown by Eker and Arkar (18). It contains 12 items and 3 sub-scales, i.e. "family support", "friend support", and "significant other". Each item is scored on a scale from 1 to 7 (min: 4, and max: 20 points with a total score ranging between 12 and 84. Higher scores indicate stronger perceived social support levels. The reported alpha

coefficients of reliability for significant other, family support, and friend support subscales in the Turkish version are 0.90, 0.87, and 0.87, respectively (18).

World Health Organization Quality of Life Scale, short form (WHOQOL-BREF): The validity and reliability of the Turkish version was shown by Eser et al. (19). It contains 26 items, measuring general health (0-15 points), physiological health (9-35 points), psychological health (6-30 points), social relationships (3-15 points), and environmental health (16-40 points). Each sub-domain provides an independent measure of the quality of life, with a total score range of 49 to 120. Higher scores indicate a better quality of life. The reported alpha-coefficients for reliability for the above-listed subdomains in the Turkish version are 0.83, 0.66, 0.53, 0.73, and 0.73, respectively (19).

Statistical analyses

Statistical analyses were carried out using the SPSS v.22 software pack (Statistical Package for Social Sciences; SPSS Inc., Chicago, IL). Descriptive data were expressed as number (n) and percentage (%) for categorical variables, and as mean±standard deviation (mean±SD) for continuous variables. Chi-square analysis (Pearson's chisquare analysis) was performed to compare categorical variables between the groups. The normal distribution of the continuous variables was assessed using the Kolmogorov Smirnov test. The pairwise group comparisons were done with the Student's t test for variables with normal distribution, while more than two groups were compared using the One Way ANOVA test for variables with normal distribution. The Pearson's correlation analysis was done to examine the association between continuous variables. Also, predictive factors for quality of life were evaluated with multiple linear regression analysis. For all analyses, a p level of <0.05 was considered statistically significant.

RESULTS

A total of 97 patients between 19 and 81 years of age (37.2±11.6 y) and admitted to the Elazığ Fethi Sekin City Hospital High Security Forensic Psychiatry Unit were included. Sixty eight patients (70.1%) were single, and 29 (29.9%) were married. Fifty seven patients (58.8%) resided in a village/district, while 40 (41.2%) were living in cities. Thirty eight patients (39.2%) had a poor economic status while 59 (60.8%) had a moderate economic status. While 47 patients (48.5%) were employed, 50 (51.5%) were unemployed.

Comorbid physical conditions were present in 13 patients (13.4%), and 60 (61.9%) were receiving psychiatric medications at the time of the study. The disease duration was less than 5 years in 27 patients (27.8%), 5 to 10 years in 21 (21.6%), and more than 10 years in 49 (50.5%). Overall, 89 patients (91.8%) had received prior psychiatric treatment. A history of self-mutilation, suicide attempts,

cigarette smoking, and alcohol/substance use was present in 19 (19.6%), 18 (18.6%), 65 (67.0%), and 18 (18.6%) patients, respectively.

The mean ISMI, MSPSS, and WHOQOL scores in the overall patient group were 74.3±8.4, 38.3±8.4, and 75.9±10.5, respectively. The ISMI subscale scores were 12.8±2.1, 18.3±2.5, 13.6±2.3, 16.5±2.5, and 13.2±2.1 for alienation, stereotype endorsement, perceived discrimination, social withdrawal, and stigma resistance, respectively. The MSPSS subscale scores for family support, friend support, and significant others were 16.4±4.2, 11.9±4.0, and 9.6±3.6. The WHOQOL subscale scores for general health, physiological health, psychological health, social well-being, and environmental well-being were 5.9±1.5, 21.6±3.7, 17.5±3.0, 7.7±2.0, and 24.1±3.9, respectively.

Thirty one patients (32.0%) were diagnosed with bipolar disorder, 21 (21.6%) with schizophrenia, 12 (12.4%) with affective disorder not otherwise specified, 23 (23.7%) with psychosis not otherwise specified, and 10 (10.3%) with other disorders (Table 1).

Patients with an educational level equal to or less than secondary school had significantly higher "social withdrawal" scores in ISMI, compared to patients with a higher educational level (p=0.039). Those with a lower economic status had significantly elevated "perceived discrimination" (p=0.031) and 'resistance to stigma' (p=0.035) than those with moderate/high economic status. Those who were currently employed had significantly lower alienation (p=0.01), stereotype endorsement (p=0.023), perceived discrimination (p=0.001), and total ISMI (p=0.009) scores, in comparison with unemployed patients (Table 2).

Patients living in villages/districts had a significantly lower MSPSS total score than those living in cities (p=0.028). Patients with a low economic status had significantly lower MSPSS total (p=0.004) and WHOQOL total (p=0.011) scores than those with a moderate/high economical status. Employed patients had significantly higher WHO-QOL total scores than unemployed patients (p=0.047). Also, subjects currently receiving psychiatric medications had a significantly higher MSPSS total score than those receiving no such medications (p=0.021) (Table 3).

A negative and significant correlation between age and the WHOQOL total scores was found. The MSPSS total score was negatively correlated with the ISMI total score and positively correlated with the WHOQOL total score. Also, there was a significant negative correlation between the ISMI total score and the WHOQOL total score (Table 4).

A model to predict the WHOQOL total score was applied $(R^2=0.613; Model F=12.242; p<0.001), indicating that the$

Table 1: Study patient characteristics		
	n	%
Age, mean±SD	37.2	±11.6
Marital status		
Single	68	70.1
Married	29	29.9
Educational status		
Secondary or less	64	66.0
High school or higher	33	34.0
Place of residency		
Village	57	58.8
City	40	41.2
Economic status		
Low	38	39.2
Moderate/High	59	60.8
Employment status		
Employed	47	48.5
Unemployed	50	51.5
Comorbid physical conditions		
Yes	13	13.4
No	84	86.6
Current use of psychiatric medication	0 1	00.0
Yes	60	61.9
No	37	38.1
Disease duration	37	50.1
< 5 years	27	27.8
5-10 years	21	21.6
> 10 years	49	50.5
Prior psychiatric treatment	47	30.3
Yes	89	91.8
No	8	8.2
Self-mutilation	O	0.2
Yes	19	19.6
No	78	80.4
Suicide	70	00.4
	18	18.6
Yes		
No	79	81.4
Smoking	7.5	(7.0
Yes	65	67.0
No	32	33.0
Alcohol/substance use	4.0	40.7
Yes	18	18.6
No	79	81.4
Diagnosis		0.5 -
Bipolar	31	32.0
Schizophrenia	21	21.6
Affective disorder	12	12.4
Psychosis NOS	23	23.7
Other	10	10.3

SD: standard deviation, NOS: not otherwise specified

Table 2: Comparison of ISMI scores with respect to different patient characteristics

Married status		Alienation		Stereotype endorsement		Perceived discrimination		Social withdrawal		Resistance to stigma		ISMI-to	otal
Single 129±22 2583 18.4±27 0.632 13.8±24 0.25 16.7±25 0.091 13.1±23 0.58 75.0±91 0.04 Marriad 126±20 18.1±17 13.1±22 15.8±24 13.4±17 19.7±25 13.2±19 0.097 74.4±18 0.095 0		Mean±SD	р	Mean±SD	р	Mean±SD	р	Mean±SD	р	Mean±SD	р	Mean±SD	р
Married 12.6±2.0 18.1±1.7 13.1±2.2 15.8±2.4 13.4±1.7 72.7±6.7	Marital status												
Secondary or less	Single	12.9±2.2	0.583	18.4±2.7	0.632	13.8±2.4	0.226	16.7±2.5	0.091	13.1±2.3	0.538	75.0±9.1	0.220
Secondary or less	Married	126+20		18 1+1 7		13 1+2 2		15 8+2 4		13 4+1 7		72 7+6 7	
Secondary or less		12.0-2.0						10.0-2.1				, 2., -0.,	
Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of residency Place of Residency Place o		12.9±2.0	0.394	18.6±2.5	0.09	13.8±2.2	0.167	16.8±2.2	0.039	13.2±2.3	0.937	75.4±8.1	0.098
Village/District 13.1±2.3 0.172 18.4±2.2 0.769 13.8±2.3 0.326 16.7±2.5 0.319 13.4±2.3 0.206 75.3±8.3 0.175 0.25±1.5	,	12.5±2.3		17.7±2.4		13.1±2.5		15.8±2.7		13.2±1.9		72.4±8.8	
City City	0												
City	Village/District	13.1±2.3	0.172	18.4±2.2	0.769	13.8±2.3	0.328	16.7±2.3	0.319	13.4±2.3	0.206	75.3±8.3	0.17
Low	•	12.5±1.9		18.2±2.9		13.3±2.4		16.2±2.6		12.9±1.8		72.9±8.5	
Moderate/High 12.7±2.3 18.1±2.6 13.2±2.3 16.4±2.8 12.8±2.6 73.0±8.9 12.8±1.0 17.7±2.6 0.023 12.8±2.0 0.001 16.1±2.3 0.112 13.3±1.7 0.720 72.1±7.6 0.025	Economic status												
Employed 12.2±1,9 0.01 17.7±2.6 0.023 12.8±2.0 0.001 16.1±2.3 0.112 13.3±1.7 0.720 72.1±7.6 0.001 10.1±2.3 0.112 13.3±1.7 0.720 72.1±7.6 0.001 10.1±2.0 13.3±1.7 0.720 72.1±7.6 0.001 10.1±2.0 13.3±2.5 76.5±8.7 76.5±9.7 7	Low	13.0±1.9	0.471	18.6±2.2	0.314	14.2±2.3	0.031	16.6±1.9	0.803	13.7±1.8	0.035	76.4±7.3	0.05
Employee 12±19 0.01 17.7±26 0.023 12.8±20 0.001 16.1±2.3 0.112 13.3±1.7 0.720 72.1±7.6 0.001 0.00	Moderate/High	12.7±2.3		18.1±2.6		13.2±2.3		16.4±2.8		12.8±2.2		73.0±8.9	
Comprision 13.3±2.													
Comorbid physical conditions Yes 13.3+2.1 0.363 18.8+2.0 0.454 13.8+2.4 0.751 15.8+2.4 0.270 13.2+1.9 0.969 74.8+8.9 0.8 No 12.7+2.1 18.2+2.5 13.5+2.3 16.6+2.5 13.2+2.2 13.2+2.2 74.3+8.4 Possibly Park (and in the properties of physical properties of physi	Employed	12.2±1.9	0.01	17.7±2.6	0.023	12.8±2.0	0.001	16.1±2.3	0.112	13.3±1.7	0.720	72.1±7.6	0.00
Combrid physical conditions	Unemployed	13.3±2.2		18.8±2.3		14.3±2.4		16.9±2.5		13.1±2.5		76.5±8.7	
No 12.7±2.1 18.2±2.5 13.5±2.3 13.5±2.3 13.6±2.5 13.2±2.2 74.3±8.4 74.3±8.4 74.5±8.4	Comorbid physical												
Current use of psychiatric medication Yes 13.0±2.0 0.394 18.3±2.7 0.822 13.5±2.3 0.814 16.7±2.3 0.252 13.0±2.3 0.258 74.6±8.3 0.7 Disease duration Spears 12.3±2.3 0.217 18.3±2.3 0.494 12.8±2.2 0.112 16.1±2.5 0.344 13.0±1.7 0.803 72.7±8.3 0.25 10.9ears 12.3±2.3 0.217 18.3±2.3 0.494 12.8±2.2 0.112 16.1±2.6 0.344 13.0±1.7 0.803 72.7±8.3 0.5 5.10 years 12.6±2.4 17.8±3.3 13.6±2.4 16.1±2.6 0.344 13.0±1.6 73.4±9.1 74.6±8.2 75.6±8.2	Yes	13.3±2.1	0.363	18.8±2.0	0.454	13.8±2.4	0.751	15.8±2.4	0.270	13.2±1.9	0.969	74.8±8.9	0.845
of psychiatric medication Mesication 13.0±2.0 0.394 18.3±2.7 0.822 13.5±2.3 0.814 16.7±2.3 0.252 13.0±2.3 0.258 74.6±8.3 0.7 74.0±8.2 74.0±8.2	No	12.7±2.1		18.2±2.5		13.5±2.3		16.6±2.5		13.2±2.2		74.3±8.4	
No	of psychiatric												
Separs 12.3±2.3 0.217 18.3±2.3 0.494 12.8±2.2 0.112 16.1±2.5 0.344 13.0±1.7 0.830 72.7±8.3 0.35 0.510 0.9ars 12.6±2.4 17.8±3.3 13.6±2.4 16.1±2.6 13.2±1.6 73.4±9.1 73.4±9.1 75.6±8.2 75			0.394		0.822		0.814		0.252		0.258		0.757
Syears 12.3±2.3 0.217 18.3±2.3 0.494 12.8±2.2 0.112 16.1±2.5 0.344 13.0±1.7 0.830 72.7±8.3 0.5-10 years 12.6±2.4 17.8±3.3 13.6±2.4 16.1±2.6 13.2±1.6 73.4±9.1 > 10 years 13.2±1.9 18.5±2.2 14.0±2.3 16.8±2.4 16.1±2.6 13.3±2.5 75.6±8.2 Prior psychiatric treatment Yes 12.9±2.1 0.146 18.4±2.3 0.216 13.7±2.3 0.128 16.6±2.4 0.106 13.2±2.2 0.596 74.8±8.3 0.0 No 11.8±2.0 17.3±4.0 12.4±2.3 15.1±2.9 13.0±.8 69.5±8.8 Self-mutilation Yes 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 No 12.8±2.1 0.974 18.4±2.5 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 No 12.8±2.1 0.974 18.4±2.5 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance Use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 13.8±2.0 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4		12.6±2.3		18.2±2.2		13.6±2.4		16.1±2.7		13.5±1.7		74.0±8.7	
5-10 years 12.6±2.4 17.8±3.3 13.6±2.4 16.1±2.6 13.2±1.6 73.4±9.1 17.8±3.3 14.0±2.3 16.8±2.4 13.3±2.5 75.6±8.2 17.6±8.2 1													
Prior psychiatric treatment	•		0.217		0.494		0.112		0.344		0.830		0.30
Prior psychiatric treatment Yes 12.9±2.1 0.146 18.4±2.3 0.216 13.7±2.3 0.128 16.6±2.4 0.106 13.2±2.2 0.596 74.8±8.3 0.00 No 11.8±2.0 17.3±4.0 12.4±2.3 0.128 16.6±2.4 0.106 13.2±2.2 0.596 74.8±8.3 0.00 Self-mutilation Yes 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.88 No 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.5±2.6 13.2±1.8 74.0±8.0 0.88 Suicide 74.9±8.0 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>													
Yes 12.9±2.1 0.146 18.4±2.3 0.216 13.7±2.3 0.128 16.6±2.4 0.106 13.2±2.2 0.596 74.8±8.3 0.00 No 11.8±2.0 17.3±4.0 12.4±2.3 15.1±2.9 13.0±.8 69.5±8.8 Self-mutilation Yes 12.8±2.1 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 No 12.8±2.1 18.3±2.5 13.7±2.4 16.5±2.6 13.2±1.8 74.4±8.6 0.8 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 Suicide Yes 13.4±2.2 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 Smoking Yes 13.4±2.5 0.50 13.6±2.2 0.65 16.7±2.6	•	13.2±1.9		18.5±2.2		14.0±2.3		16.8±2.4		13.3±2.5		75.6±8.2	
No 11.8±2.0 17.3±4.0 12.4±2.3 15.1±2.9 13.0±.8 69.5±8.8 Self-mutilation Yes 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 No 12.8±2.1 18.3±2.5 13.7±2.4 16.5±2.6 13.2±1.8 74.4±8.6 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4	treatment												
Self-mutilation Yes 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.88 No 12.8±2.1 18.3±2.5 13.7±2.4 16.5±2.6 13.2±1.8 74.4±8.6 74.4±8.6 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.4 0.965 16.6±2.6 0.185 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.5 13.6±2.4 0.965 16			0.146		0.216		0.128		0.106		0.596		0.09
Yes 12.8±2.1 0.974 18.4±2.2 0.876 13.2±1.9 0.384 16.3±2.0 0.679 12.9±3.3 0.603 74.0±8.0 0.8 No 12.8±2.1 18.3±2.5 13.7±2.4 16.5±2.6 13.2±1.8 74.4±8.6 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4		11.8±2.0		17.3±4.0		12.4±2.3		15.1±2.9		13.0±.8		69.5±8.8	
No 12.8±2.1 18.3±2.5 13.7±2.4 16.5±2.6 13.2±1.8 74.4±8.6 Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4													
Suicide Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 <td></td> <td></td> <td>0.974</td> <td></td> <td>0.876</td> <td></td> <td>0.384</td> <td></td> <td>0.679</td> <td></td> <td>0.603</td> <td></td> <td>0.84</td>			0.974		0.876		0.384		0.679		0.603		0.84
Yes 13.4±2.2 0.160 17.6±3.1 0.199 13.1±2.2 0.349 16.2±2.7 0.633 12.5±3.2 0.134 72.3±8.9 0.2 No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4		12.8±2.1		18.3±2.5		13.7±2.4		16.5±2.6		13.2±1.8		74.4±8.6	
No 12.7±2.1 18.4±2.3 13.7±2.4 16.5±2.4 13.3±1.8 74.8±8.3 Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4													
Smoking Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.8 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS <t< td=""><td></td><td></td><td>0.160</td><td></td><td>0.199</td><td></td><td>0.349</td><td></td><td>0.633</td><td></td><td>0.134</td><td></td><td>0.25</td></t<>			0.160		0.199		0.349		0.633		0.134		0.25
Yes 12.7±2.0 0.597 18.4±2.5 0.588 13.6±2.4 0.965 16.7±2.6 0.185 13.1±2.3 0.454 74.5±8.6 0.88 No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 74.0±8.3 Alcohol/substance use 3.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1		12.7±2.1		18.4±2.3		13.7±2.4		16.5±2.4		13.3±1.8		74.8±8.3	
No 13.0±2.5 18.1±2.5 13.6±2.2 16.0±2.2 13.4±1.7 74.0±8.3 Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4	=												
Alcohol/substance use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4			0.597		0.588		0.965		0.185		0.454		0.802
Use Yes 13.4±2.5 0.160 18.7±1.9 0.412 13.6±2.1 0.965 16.6±1.6 0.795 13.1±2.0 0.888 75.4±7.1 0.5 No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4		13.0±2.5		18.1±2.5		13.6±2.2		16.0±2.2		13.4±1.7		74.0±8.3	
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No 12.7±2.0 18.2±2.6 13.6±2.4 16.4±2.6 13.2±2.2 74.1±8.7 Diagnosis Bipolar 12.2±2.3 0.097 17.9±2.2 0.652 13.4±2.5 0.957 16.1±2.4 0.670 13.7±1.9 0.265 73.7±8.6 0.7 Schizophrenia 12.6±1.7 18.8±2.5 13.5±2.2 16.6±2.3 12.9±3.1 74.2±9.1 Affective disorder 13.1±2.2 18.8±2.1 13.9±2.7 16.3±2.8 13.8±1.4 75.8±8.9 Psychosis NOS 13.8±2.0 18.4±3.1 13.8±2.0 17.1±2.3 12.7±1.6 75.7±8.4		12 /1 - 2 5	0.140	10 7⊥1 0	0.412	12 4 ± 2 1	0.045	14 4 1 4	0.705	12 1 + 2 0	∩ 000	75 <i>1</i> ±7 1	0 541
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Other 12.5±2.2 17.8±2.3 13.4±2.5 16.3±3.0 12.7±1.6 71.7±6.8	-									12.7±1.6 12.7±1.6			

ISMI: Internalized Stigma of Mental Illness scale. NOS: not otherwise specified

Table 3: Comparison of MSPSS and WHOQOL scores with respect to different patient characteristics

Table 3: Comparison of MSPSS and WHOQ	<u>.</u>		•		
	MSPSS-total		WHOQOL-total		
	Mean±SD	р	Mean±SD	р	
Marital status					
Single	37.7±8.7	0.315	75.4±11.1	0.495	
Married	39.6±7.4		77.0±9.2		
Educational status					
Secondary or less	38.0±8.2	0.614	75.6±10.7	0.730	
High school or higher	38.9±8.8		76.4±10.3		
Place of residency					
Village/district	36.8±8.3	0.028	75.7±9.8	0.847	
City	40.5±8.0		76.1±11.6		
Economic status					
Low	35.3±7.5	0.004	72.5±9.6	0.011	
Moderate/high	40.3±8.4		78.0±10.6		
Employment status					
Employed	39.3±7.8	0.241	78.1±10.1	0.047	
Unemployed	37.3±8.8		73.8±10.6		
Comorbid physical conditions					
Yes	40.8±10.1	0.242	71.9±11.4	0.146	
No	37.9±8.1		76.5±10.3		
Current use of psychiatric medication					
Yes	39.8±7.2	0.021	76.2±9.9	0.731	
No	35.8±9.5	0.02.	75.4±11.6	0.7 0 .	
Disease duration	00.0=7.0		7011=1110		
< 5 years	40.8±8.2	0.101	78.2±12.1	0.366	
5-10 years	35.6±5.9		75.9±8.7		
> 10 years	38.1±9.1		74.6±10.3		
Prior psychiatric treatment	3311=711		7 110= 1010		
Yes	38.0±8.5	0.243	75.0±10.4	0.005	
No	41.6±5.5	0.2 10	85.8±6.9	0.000	
Self-mutilation	11.0=5.5		03.0=0.7		
Yes	36.2±6.4	0.224	77.2±11.6	0.540	
No	38.8±8.7	0.221	75.6±10.3	0.5 10	
Suicide	30.0±0.7		7 3.0 = 10.0		
Yes	38.2±5.4	0.937	76.1±12.2	0.917	
No	38.3±8.9	0.757	75.8±10.2	0.717	
Smoking	30.3±0.7		75.0±10.2		
Yes	38.2±7.6	0.835	76.8±10.9	0.212	
No	38.6±9.9	0.055	74.0±9.6	0.212	
Alcohol/substance use	30.0±7.7		74.017.0		
Yes	38.6±6.5	0.866	75.8±9.6	0.985	
No	38.2±8.8	0.000	75.9±10.8	0.703	
Diagnosis	30.2±0.0		7 J.7±10.0		
Bipolar	37.0±8.1	0.662	76.1±10.2	0.989	
Schizophrenia	40.1±9.2	0.002	76.1±10.2 76.2±10.5	0.707	
Schizophrenia Affective disorder					
	39.3±9.6		76.8±11.8		
Psychosis NOS	37.3±6.8		75.3±10.6		
Other	39.5±9.7		74.8±11.7		

MSPSS: Multidimensional Perceived Social Support Scale, WHOQOL: World Health Organization Quality of Life Scale, Short Form, SD: standard deviation

Table 4: Correlation between scales according to age

			5 5
	Age	MSPSS-total	ISMI-total
MSPSS-total			
r	-0.167		
р	0.102		
ISMI-total			
r	0.045	-0.367	
р	0.659	0.000	
WHOQOL-total			
r	-0.215	0.496	-0.550
р	0.034	0.000	0.000

MSPSS: Multidimensional Perceived Social Support Scale, ISMI: Internalized Stigma of Mental Illness scale, WHOQOL: World Health Organization Quality of Life Scale, Short Form

WHOQOL was predicted by the MSPSS total score and sub-scale scores, age, and alienation, stereotype endorsement, and perceived discrimination subscale scores of ISMI (Table 5).

ly ill (21-24), and that is even more pronounced in forensic psychiatric patients, since these individuals are also offenders (10). As suggested in a study by Arabacı et al., even nurses have considered forensic psychiatric patients "dangerous", exhibiting unfavorable attitudes toward these individuals. Such observations have indicated the need for improvement in knowledge, skill, and attitudes of forensic psychiatry nurses (26). Such adverse attitudes are associated with an increased internalized stigmatization among patients (20). However, until now, there have been fewer studies examining the internalized stigma among forensic psychiatry patients compared to the overall population of psychiatric patients (10). Although internalized stigma is known to be associated with adverse psychosocial consequences (27, 28), we believe that more emphasis should be placed on forensic psychiatry patients in this regard, since internalized stigma is an important determinant of remission risk and treatment response in many mental disorders (29-31). Forensic psychiatry institutions facilitate re-integration with the society, helping to reduce re-offence and recurrence rates (2). Thus, it may be important to evaluate the degree of internalized stigma in such patients.

Table 5: Predictors of WHOQOL total score in patients included in the study

	Unstandardized coefficients			C:	95.0% Confidence interval for B		
	В	Std. error	t	Sig.	Lower bound	Upper bound	
(Constant)	101.373	9.656	10.498	0.000	82.174	120.571	
Age	-0.155	0.067	-2.304	0.024	-0.288	-0.021	
MSPSS-total	-0.926	0.419	-2.207	0.030	-1.760	-0.092	
ISMI-total	0.788	0.494	1.594	0.115	-0.195	1.771	
MSPSS-family	1.690	0.431	3.920	0.000	0.833	2.547	
MSPSS-friend	1.433	0.485	2.954	0.004	0.469	2.398	
MSPSS-special person	1.200	0.475	2.529	0.013	0.257	2.143	
Alienation	-1.410	0.624	-2.260	0.026	-2.650	-0.170	
Stereotype endorsement	-1.537	0.656	-2.343	0.021	-2.841	-0.233	
Perceived discrimination	-1.392	0.643	-2.165	0.033	-2.670	-0.114	
Social withdrawal	-1.173	0.604	-1.942	0.055	-2.374	0.028	
Resistance to stigma	-1.132	0.604	-1.875	0.064	-2.332	0.068	

MSPSS: Multidimensional Perceived Social Support Scale, ISMI: Internalized Stigma of Mental Illness scale, WHOQOL: World Health Organization Quality of Life Scale

DISCUSSION

It has been well established in both national and international studies that mentally ill people are stigmatized. Most of these studies suggest that psychiatric patients are considered by society to be unreliable individuals who should be isolated (20-22). Studies from Turkiye have revealed a high rate of stigmatization against the mental-

According to our findings, our patients had increased total and sub-scale scores in ISMI, indicating that forensic psychiatry patients experience moderate levels of alienation and social withdrawal, resistance to stigma, and discrimination, and endorse stereotypes. Patients with bipolar disorder, schizophrenia, affective disorder NOS, psychosis NOS, and other mental disorders (mental retar-

dation and anxiety) comprised 32%, 21.6%, 12.4%, 23.7%, and 10.3% of our study population. In a similar study from our country, 75.9% of the patients had psychotic disorders (schizophrenia, psychosis NOS, schizoaffective disorder) and experienced moderate levels of internalized stigma (32). Among psychiatric disorders, schizophrenia and bipolar disorder have been reported to be exposed to the highest levels of internalized stigma (33). In a study of 100 psychiatric patients mainly with psychotic disorders and affective disorders admitted to governmental or private institutions, again moderate levels of internalized stigma were reported, although to a lesser degree than in our study (34). Another observation in our study involves a negative and moderately significant correlation between the ISMI and MSPSS scores. In other words, this finding indicates that increasing levels of internalized stigma is associated with lower levels of social support in forensic psychiatry patients. That the patients with higher levels of internalized stigma perceive reduced social support is not an unexpected result. Stigmatization is very likely to lead to reduced perceived social support and increase predisposition to isolation. Also, forensic psychiatric patients who believe that they do not get adequate social support may internalize stigma even more strongly.

The mean score for the perceived social support score was low at 38.3 points. The lowest scores among our patients were recorded for the "significant other" subscale, followed by the "friend support" subscale, suggesting low levels of involvement in relationships with family, partner, or spouse, or low levels of satisfaction in such relationships. Perceived social support has a very important role in mental illness. For instance, reduced perceived social support has been found to be a predictor of lower response to therapy and an increased risk of remission in depressive patients (35). Similarly, patients with bipolar disorders have been found to experience more severe depressive symptoms if they have low perceived social support (36). Furthermore, in patients with a bipolar disorder, reduced perceived social support was found to result in greater impairments in functionality, while increased perceived social support was associated with a reduced risk of recurrence of depressive and manic attacks within a one year period (37).

The quality of life scores among our patients averaged 75.9 points, out of a maximum of 120 points. Low physical sub-domain scores for mobility, sleep, and energy may be related to the anergia associated with the disease or with psychopharmacologic side effects. Social isolation due to stigmatization may help explain the observed scores for psychological, social, and environmental subdomains. Using data from a previous study comparing schizophrenic patients with healthy controls (38), we can conclude that our forensic psychiatric patients experience reduced satisfaction from life, social communication, and productivity, which are components of quality of life. Determinants of

quality of life are not limited to the satisfaction of basic needs, but also include the fulfillment of societal expectations and the ability to benefit from opportunities presented by society. In this regard, the possible association between internalized stigma and low quality of life is not surprising. People experiencing feelings of isolation will have a reduced quality of life. Furthermore, the challenges regarding employment opportunities and productivity among forensic psychiatry patients may further complicate the picture. Such factors may lead to a vicious cycle of increased isolation with an impaired ability to communicate healthily with others. This was reflected in the negative moderate correlation between the ISMI and WHOQOL scores in our patient group. Patients with higher scores for internalized stigma also experienced a lower quality of life, as expected. Internalized stigma is known to impact almost all aspects of life quality among schizophrenics. A 2018 study of schizophrenic patients showing a link between lower life quality and higher internalized stigma is just one of the many similar pieces of evidence (39). In these patients, internalized stigma is associated with lowered social and occupational functions, reduced treatment adherence, and impaired quality of life (29, 30). Furthermore, in patients with bipolar disorder, higher levels of internalized stigma were found to be related to an increased frequency of exacerbations and admissions, shorter remissions, and reduced social support and functions (31). Although our data are consistent with the published literature, they do not present a causal relationship and provide a description only. However, although data regarding the quality of life among general psychiatric patients is ample (38), to our knowledge, specific information on forensic psychiatric patients is lacking.

There was a negative and significant correlation between age and the WHOQOL scores of our patient group, suggesting a decreasing quality of life with ageing. Ageing, a natural process, is associated with lowered quality of life. For example, musculoskeletal alterations occurring with ageing result in reduced mobility and autonomy. Advanced age leads to a reduced quality of life as a result of impaired independence and reduced social activities, and also causes problems of health and social life (40). Although age is a factor that is independent of a psychiatric diagnosis, we may assume that it impairs the quality of life.

Another observation of our study was the detection of a positive and moderately strong correlation between the MSPSS and WHOOQOL scores, indicating a higher quality of life with increasing perceived social support. In a study by Ritsner et al. (12) where schizophrenic patients were followed up for 16 months, multi-dimensional social support and family support were found to increase quality of life scores. All sub-scales of the perceived social support scale, as well as alienation, stereotype endorsement, and perceived discrimination sub-scales of internalized stigma scale were found to predict quality of life. In other

words, low scores in tools assessing family, friends, and significant other support, as well as high scores in alienation, stereotype endorsement, and discrimination, were predictors of a lowered quality of life. In line with our observations, a recent systematic review also found that increased perceived social support was a predictor of a better quality of life and social functions (41).

One strength of our study is the fact that it represents one of the few studies examining the quality of life among forensic psychiatry patients with a good sample size. However, a weakness of our study was the inclusion of male patients only and the inclusion of patients who received inpatient treatment only, which might have had an impact on the parameters examined during the process of admission. Another limitation relates to the subjective nature of the parameters assessed through self-assessment tools.

CONCLUSION

Our study showed the presence of moderately internalized stigma and reduced perception of social support in a group of patients admitted to a high-security forensic psychiatry unit. Increasing levels of internalized stigma was associated with reduced social support and quality of life. Predictors of the quality of life were the perceived social support, stereotype endorsement, discrimination, and alienation. Our results suggest that internalized stigma, perceived social support, and the quality of life require need to be addressed in forensic psychiatric patients, who are also offenders. Until now, only a few studies have examined forensic psychiatric patients, mostly providing sociodemographic data (42, 43). We believe that in this relatively neglected group of forensic psychiatry patients, therapeutic measures alone may fail to provide a significant benefit, and the subjective experience of internalized stigma should also be addressed to improve the quality of life.

Ethics Committee Approval: This study was approved by Firat University Ethics Committee for Non-Interventional Research (Date: 16.09.2021, No: 2021/09-59).

Informed Consent: Written consent was obtained from the participants.

Peer Review: Externally peer-reviewed.

Author Contributions: Conception/Design of Study- K.K.A., Y.S., S.E.B., K.O.; Data Acquisition- S.E.B.; Data Analysis/Interpretation- K.K.A., K.O.; Drafting Manuscript- K.K.A., Y.S., K.O.; Critical Revision of Manuscript- K.K.A., Y.S., S.E.B.; Approval and Accountability- K.K.A., Y.S., S.E.B., K.O.

Conflict of Interest: The authors declare that they have no competing interest.

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