

Are the consequences of substance use disorder more severe than schizophrenia?: Effects on the mothers and the patients

Madde kullanım bozukluğunun sonuçları şizofreniden daha şiddetli olabilir mi?: Annelere ve hastalara olan etkileri

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SUMMARY

Objective: The aim of this study is to examine the effects of mental disorders on patients with schizophrenia and their mothers. Also, it was aimed to evaluate the patients in terms of internalized stigma, and their mothers' in terms of beliefs about the illness and their mental status as hopelessness, depression, and burnout levels. **Method:** Participants with SUD (n=30), SCH (n=30), control group (CG) (n=30) and all their mothers (n=90) were included in the study. Pearson chi-square, t test, ANOVA, Dunnet's C post hoc and Scheffe post hoc tests, effect size test eta squared (η^2) and Pearson correlation tests were used. **Results:** The internalized stigma of patients was similar and different from CG. Depression and burnout levels of mothers of patients with SUD were higher than in other groups. The depression levels of mothers were significantly different and had a large effect. Hopelessness was higher in mothers of SUD patients than in mothers of CG. A relationship was found between SUD patients' mothers' depression, hopelessness, burnout and their negative beliefs toward MI. **Discussion:** It is seen that the presence of MI has a huge impact on the self-stigmatization of the patient and depression, burnout and hopelessness in their mothers. SUD effects on the mother are more severe. The mental health of the mothers affects their perspectives on MI. **Key Words:** Substance use disorder, Schizophrenia, Internalized stigma, Mother, Depression, Burnout

(*Turkish J Clinical Psychiatry* 2023;26:19-27)

DOI: 10.5505/kpd.2023.57873

ÖZET

Amaç: Bu çalışmanın amacı, ruhsal bozukluğun, şizofreni olan hastalar ile madde kullanım bozukluğu olan hastalar ve anneleri üzerindeki etkilerini incelemektir. Ayrıca hastaların içselleştirilmiş damgalanma düzeylerinin, annelerinin hastalığa ilişkin inançlarının, annelerin ruhsal durumlarının umutsuzluk, depresyon, tükenmişlik düzeyleri açısından değerlendirilmesi amaçlanmıştır. **Yöntem:** Madde kullanım bozukluğu (n=30), şizofreni (n=30) ve kontrol (n=30) gruplarından oluşan katılımcılar ile anneleri (n=90) çalışmaya dahil edildi. Pearson ki-kare, t testi, ANOVA, Dunnet's C post hoc ve Scheffe post hoc testleri, etki büyüklüğü testi eta kare (η^2) ve Pearson korelasyon testleri kullanıldı. **Bulgular:** Hastaların içselleştirilmiş damgalanmaları, kontrolden farklı, hasta grubunda benzerdi. Madde kullanım bozukluğu olan hastaların annelerinin depresyon ve tükenmişlik düzeyleri diğer gruplara göre daha yüksekti. Annelerin depresyon düzeyleri anlamlı derecede farklıydı ve etkisi büyüktü. Madde kullanım bozukluğu hastalarının annelerinde umutsuzluk, kontrolün annelerine göre yüksekti. Bu grubun annelerinde depresyon, umutsuzluk ve tükenmişlikleri ile hastalığa olumsuz bakış açıları arasında ilişki bulundu. **Sonuç:** Ruhsal hastalığın varlığının hastanın kendini damgalamasında ve annelerinde depresyon, tükenmişlik ve umutsuzluk üzerinde büyük etkisi olduğu görülmektedir. Madde kullanım bozukluğunun anneler üzerindeki etkileri daha şiddetlidir. Annelerin ruhsal durum, ruhsal hastalığa bakış açılarını da etkilemektedir.

Anahtar Sözcükler: Madde kullanım bozukluğu, şizofreni, içselleştirilmiş damgalama, anne, depresyon, tükenmişlik

INTRODUCTION

Substance use disorder (SUD) and schizophrenia (SCH) are mental illnesses (MI) that affect relationships and cause mental stress and harm for individuals and their families. Patients lose their productivity and can not fulfil their own and family needs. In this case, the burden on patients' families increases and their family role distribution reshapes. SCH faces extensive caregiving challenges that can deteriorate family functioning. SUD can cause family destruction and disturbed relationship (1,2).

Stigma towards SCH and SUD is more severe among MIs (3,4). Dysfunctions (movement, speech, etc), and unusual and inappropriate behaviours of some patients attract attention in society. This situation creates unrest, fear and anxiety in society. Individuals with MI are mostly labelled as "dangerous", "unpredictable", "unstable", and "damaging to the environment" and excluded from social groups. This is how the MI stigmatization process generally takes place in society (5,6). In the presence of a family member with a mental illness, stigma is an important factor affecting individuals and their families, as well as the increasing burden on the family (7). Stigma could cause mental distress in families. Family members (FM) of those with MIs also live a process of self-stigma and experience shame, and social rejection (3). FM also hide the patient and illness to cope with shame and anxiety caused by society's approach (7).

Society's prejudiced and negative attitudes towards people with MI lead to internalized stigma (IS). IS causes shame, anger, fear, worthlessness, hopelessness, loss of social status, social exclusion, marginalization, and social isolation (8,9). Stigmatized individuals have difficulties in finding a job, owning a home, receiving treatment support, and establishing interpersonal relationships. Stigma can lead to depression and a decrease in quality of life (8,10). It is reported that 22-36% of individuals with MI experience IS (11).

Parents mostly experience frustration, guilt, denial, surprise, anger, shame, fear, embarrassment, aban-

donment, and hopelessness in the face of their children's substance use. Individuals who use substances cannot fulfil their responsibilities, and experience legal and financial problems. These situations create economical, judicial and psychological difficulties in the family environment. In addition, society's negative attitude, avoidance of treatment, failure to quit substance use, and failure to fulfil promises lead to hopelessness and helplessness in families (12,13,14). It has been reported that depression, anxiety and stress are common in the families of individuals with SUD (13,15).

SCH is a chronic psychiatric disorder that seriously affects family life and causes burnout in relatives of patients. In particular, it has been reported that patients' positive and negative symptoms provoke burnout in the family (16). SCH patients' families have emotional responses such as anxiety, fear, guilt, stigma, frustration, anger, and sadness (17).

This study includes the comparison of people with SCH and SUD, which are considered to be important in terms of IS and its effects on mothers. The study is aimed to evaluate the IS levels of the patients, their mothers' beliefs about MI and addiction, and mothers' hopelessness, depression and burnout levels. In addition, the relationship between patients' IS scores and their mothers' beliefs about the disease was evaluated.

METHOD

It is a case-control study that examines individuals with SUD and SCH and their mothers by comparing them with CG.

Participants

The sample of this study consisted of 30 adult male patients with SUD and their mothers (n=30); 30 adult males with SCH and their mothers (n=30), and 30 healthy controls and their mothers (n=30). The control group was matched for age, sex and marital status with patient groups. In the healthy control group, the exclusion criteria included also substance use and the presence of present or past neurological and psychiatric disorders. The sample

consisted of 6 groups and 180 people.

Instruments

Demographic Information Form: Two separate forms were prepared for individuals with MI and their mothers. Socio-demographic information and MI characteristics (substance use, and SCH) were asked of adult males. Socio-demographic information and information about their children's illnesses were also asked of their mothers.

Internalized Stigma of Mental Illness (ISMI): It is a 29-item Likert-type self-report scale developed by Ritsher et al. (2003) to assess IS (18). The scale consists of five sub-scales as stereotype endorsement, alienation, stigma resistance, discrimination experience and social withdrawal.

Addiction Belief Inventory (ABI): The 5-point Likert-type scale, which evaluates beliefs and attitudes towards addiction, was developed by Luke in 2002. The scale has eight factors that are the inability to control, chronic disease, reliance on experts, responsibility for actions, responsibility for recovery, genetic basis, coping, and moral weakness (19).

Belief toward Mental Illness Scale (BMI): The scale developed by Hirai and Clum (2000) was created to determine the positive and negative beliefs of people with different cultural characteristics regarding MI (20). The sub-dimensions of the scale are “shame”, “dangerousness” and “helplessness and deterioration in interpersonal relations”.

Beck Depression Inventory (BDI): The inventory developed by Beck (1961) aims to objectively quantify the degree of depression by evaluating the vegetative, cognitive, emotional and motivational symptoms observed in depression (21).

Maslach Burnout Inventory (MBI): The 22-item 3-dimensional scale, which was developed by Maslach and Jackson (1986) aims to evaluate burnout (22). The scale consists of emotional exhaustion, depersonalization and personal accomplishment.

Beck Hopelessness Scale (BHS): The scale developed by Beck et al. (1974) to evaluate the level of hopelessness (23). It is a self-report scale consisting of 20 items. The scale has three factors: feelings about the future, loss of motivation and expectations.

Procedures

This study was conducted at two treatment agencies as Alcohol and Substance Addiction Treatment and Training Center (ASATTC) for people with SUD and Community Mental Health Centers (CMHC) for SCH patients. The study was approved by the Human Research and Ethics Committee of Ege University, Turkey.

A total of 30 male patients diagnosed with SCH and 30 patients with SUD according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) were included in the study. Additionally, mothers of patients who volunteered to participate in the study were invited to the ASATTC and CMHC. Healthy controls were 30 males without substance use and any psychiatric diseases who matched for sex, age and marital status of the patients. Controls and their mothers participated in the study voluntarily. Written informed consent was obtained from all subjects following detailed explanations of the protocol of the study.

Data analysis

In statistical analysis, Pearson chi-square, t-test, one-way analysis of variance (ANOVA), and Pearson correlation tests were used. Dunnett's C post hoc and Scheffe post hoc tests were used as advanced tests to compare the 3 groups and to reveal the differences between the groups. $P < 0.05$ level was considered statistically significant. Effect size test for ANOVA was used, eta squared (η^2) values were determined according to effect size $0.06 < \eta^2 < 0.14$ medium ; $0.14 < \eta^2$ large effect.

RESULTS

The sociodemographic characteristics of the subjects in the patient and control groups are listed in

Table 1. Demographic features of the participants

Group features	SCH	SUD	CG	p	Test value
SCH,SUD and CG Groups	% (n)	% (n)	% (n)		
Marital Status					
Single	100 (30)	96.7 (29)	100 (30)	0.364	χ^2 :2.002
Divorced	0	3.3 (1)	0		
Educational level					
Primary school	6.6 (2)	10.0 (3)	0		
Secondary school	26.7 (8)	43.3 (16)	0	0.0001*	χ^2 :48.044
High school	66.7 (20)	43.3 (13)	46.7 (14)		
University	0	3.3 (1)	53.3 (16)		
Employment Status	16.7 (5)	40.0 (12)	36.7 (11)	0.108	χ^2 :4.459
History of psychiatric illness of FM	16.7 (5)	13.3 (4)	0	0.075	χ^2 :5.185
Regular medicine use	86.7 (26)	30.0 (9)	-	0.0001*	χ^2 :19.817
	Mean – SD	Mean – SD	Mean – SD	p	Test value
Age	25.0 – 4.2	24.9 – 4.6	23.7 – 3.8	0.387	F=0.95
FM numbers	4.03 – 1.1	4.0 – 1.2	3.33 – 0.8	0.022*	F=4.00
Disease onset age	17.73 – 3.9	17.76 – 5.0	-	0.977	t=-0.28
Disease duration year	7.3 – 4.0	7.2 – 4.9	-	0.955	t=0.57
Hospitalization numbers	3.1 – 2.4	0.9 – 1.1	-	0.0001*	t=4.30
Mothers Group	% (n)	% (n)	% (n)	p	Test value
Age	51.8 – 6.4	50.0 – 6.3	48.7 – 6.1	0.181	F=1.74
Marital Status					
Married	90.0 (27)	93.3 (28)	90.0 (27)	0.135	χ^2 :7.024
Divorced	10.0 (3)	0	10.0 (3)		
Widow	0	6.7 (2)	0		
Educational level					
<Primary school	10.0 (3)	20.0 (6)	0		
Primary school	63.3 (19)	63.3 (19)	30.0 (9)	0.001*	χ^2 :25.680
Secondary school	16.7 (5)	10.0 (3)	26.7 (8)		
High school	6.7 (2)	3.3 (1)	16.7 (5)		
University	3.3 (1)	3.3 (1)	26.7 (8)		
Employment Status					
Worker	26.7 (8)	26.7 (8)	43.3 (13)	0.280	χ^2 :2.544
Housewife	73.3 (22)	73.3 (22)	56.7 (17)		

Notes: * p<0.05 Abbreviations: FM, Family Member; SD, standart deviation; F, F test in analysis of variance; χ^2 , Pearson's

chi-squared test; p, p value; SCH, Schizophrenia; SUD substance use disorder; CG, control group

Table 1. There were no significant differences in age and marital status among the 3 groups ($p > 0,05$). In terms of patient groups, the education levels of SCH and SUD patients were similar ($p = 0.225$ χ^2 :5.675), but the working status was different ($p = 0.045$). Employment status in SUD patients (40%) was higher than in SCH patients (16.7%) and was similar to CG (36.7%). Family members (FM) were close among SCH and SUD groups ($p = 0.913$ $t = 0.109$), different from CG ($p = 0.022$ $F = 4.00$). A history of psychiatric disorders among FM was similar in the patient groups ($p = 0.718$ χ^2 :0.131). There were no differences in the mean age of onset and duration of MI in the patient groups ($p > 0.05$). The hospitalization number ($p = 0.0001$) was higher in SCH than in SUD patients. There were no significant differences in age, marital status, employment and income between mother groups ($p > 0.5$). Mothers of CG had a higher education level than patient groups

($p = 0.001$), educational levels of mothers of SCH and SUD groups were similar ($p = 0.76$) (Table 1).

According to the 3 group results, ISMI total scores of SCH and SUD patients were higher than CG ($p = 0.0001$, $F = 36.87$). A similar difference was seen in the sub-dimensions of ISMI as “alienation”, “stereotype endorsement”, “discrimination experience”, and “social withdrawal” ($p = 0.0001$). According to the Dunnet C post hoc test, the difference was due to the control group and had a large effect ($0.14 > \eta^2$) (Table 2). In terms of SCH and SUD groups; there was no difference in ISMI total scores ($p = 0.303$ $t = 1.040$); alienation ($p = 0.152$ $t = 1.452$), stereotype endorsement ($p = 0.317$ $t = 1.009$), discrimination experience ($p = 0.336$ $t = 0.971$), social withdrawal ($p = 0.245$ $t = 1.175$) and stigma resistance ($p = 0.157$ $t = -1.433$). When the relationship between disease characteristics and self-stigmatization had examined, a linear relation-

Table 2. ISMI results of the groups

ISMI	SCH (Mean – SD)	SUD (Mean – SD)	CG (Mean – SD)	p	F	η^2
ISMI Total	71.00 – 14.87	67.07 – 14.42	45.30 – 6.23	0.0001*	36.87	0.459***
Alienation	15.13 – 4.38	13.50 – 4.34	7.30 – 1.51	0.0001*	38.19	0.467***
Stereotype endorsement	16.17 – 4.19	15.10 – 3.99	11.37 – 2.62	0.0001*	14.15	0.245***
Discrimination experience	12.80 – 4.09	11.80 – 3.89	6.70 – 1.80	0.0001*	27.44	0.387***
Social withdrawal	14.93 – 4.35	13.60 – 4.44	7.60 – 1.99	0.0001*	32.22	0.425***
Stigma resistance	11.97 – 2.36	13.07 – 3.48	12.33 – 2.78	0.334	1.11	0.025

Notes: F: One Way ANOVA $p < 0.05$, η^2 : effect size *Difference between the groups Dunnet s C post hoc test

*ISMI Total: SCH, SUD>CG *Alienation: SCH, SUD>CG

*Stereotype endorsement: SCH, SUD>CG *Discrimination experience: SCH, SUD>CG

*Social withdrawal: SCH, SUD>CG *** $0.14 > \eta^2$: large effect size

Abbreviations: ISMI, Internalized Stigma of Mental Illness; SCH, Schizophrenia; SUD substance use disorder; CG, control group; SD,

standart deviation; F, F test in analysis of variance; p, p value; η^2 , eta squared

Are the consequences of substance use disorder more severe than schizophrenia?: effects on the mothers and the patients

Table 3. Addiction Belief Inventory, Belief toward Mental Illness, Depression, Burnout, Hopelessness Results of mothers

Mothers Group	SCH (Mean – SD)	SUD (Mean – SD)	CG (Mean – SD)	P	F	η^2
Addiction Belief Inventory (ABI)						
Inability to control	10.83 – 2.61	11.13 – 2.50	9.97 – 2.90	0.222	1.53	0.034
Chronic disease	15.10 – 2.06	16.23 – 1.55	15.43 – 2.74	0.121	2.16	0.047
Reliance on experts	13.00 – 1.17	13.43 – 1.14	13.60 – 1.43	0.166	1.83	0.040
Responsibility for actions	8.80 – 1.90	8.43 – 2.57	10.07 – 2.33	0.018*	4.22	0.088**
Responsibility for recovery	10.93 – 1.80	12.40 – 2.04	10.87 – 2.81	0.015*	4.41	0.092**
Genetic basis	8.13 – 1.87	7.37 – 1.81	7.20 – 2.46	0.181	1.74	0.039
Coping	17.03 – 3.07	17.13 – 3.49	17.30 – 4.71	0.963	0.04	0.001
Moral weakness	19.03 – 2.46	19.23 – 2.05	18.80 – 3.74	0.840	0.18	0.004
Beliefs toward Mental Illness (BMI)						
Dangerousness	64.67 – 16.24	66.30 – 9.58	57.80 – 18.97	0.083	2.56	0.056
Helplessness and deterioration in interpersonal relations	26.50 – 6.17	28.36 – 5.03	25.87 – 7.45	0.284	1.27	0.029
Shame	36.10 – 10.12	35.67 – 5.34	30.70 – 12.06	0.059	2.93	0.063**
Beck Depression (BDI)	2.07 – 2.20	2.27 – 1.60	1.23 – 1.55	0.068	2.77	0.060**
Beck Depression (BDI)						
Beck Depression (BDI)	10.07 – 7.67	19.00 – 9.47	5.43 – 3.87	0.0001*	26.19	0.376***
Maslach Burnout Index (MBI)						
Emotional exhaustion	7.30 – 5.69	14.43 – 6.75	4.90 – 3.74	0.0001*	24.09	0.356***
Depersonalization	1.53 – 1.87	4.0 – 2.95	1.57 – 1.57	0.0001*	12.29	0.220***
Personal accomplishment	24.33 – 4.88	20.20 – 5.80	28.00 – 3.19	0.0001*	20.24	0.318***
Beck Hopelessness Scale (BHS)						
Beck Hopelessness Scale (BHS)	4.90 – 4.30	6.87 – 4.37	2.77 – 2.64	0.0001*	8.50	0.163***
Feelings about the future	0.83 – 1.51	1.37 – 1.38	0.33 – 0.88	0.01*	4.85	0.100**
Loss of motivation	2.77 – 1.87	3.73 – 1.91	1.60 – 1.45	0.0001*	11.10	0.203***
Expectations	1.30 – 1.70	1.77 – 1.89	0.83 – 1.15	0.087	2.52	0.055

Notes: One Way Anova $p < 0.05$ * Difference between the groups Dunnett s C post hoc test (BDI, MBI)

* Difference between the groups Scheffe post hoc test (ABI, BHS) * ABI Responsibility for actions: CG>SUD

* ABI Responsibility for recovery: SUD> SCH, CG * BDI: SUD> SCH>CG

* MBI Emotional exhaustion: SUD> SCH, CG * MBI Depersonalization: SUD> SCH, CG

* MBI Personal accomplishment: CG> SCH>SUD * BHS Total: SUD> CG

* BHS Feelings about the future: SUD> CG * BHS Loss of motivation: SUD, SCH> CG

** $0.06 < \eta^2 < 0.14$: medium effect size *** $0.14 > \eta^2$: large effect size

Abbreviations: SCH, Schizophrenia; SUD substance use disorder; CG, control group; SD, standart deviation; F, F test in analysis of variance; p, p value; ABI, Addiction Belief Inventory; BDI, Beck Depression; BMI, Beliefs toward Mental Illness; MBI, Maslach Burnout Index; BHS, Beck Hopelessness Scale; η^2 , eta squared

ship was found between ISMI and hospitalization number among SCH patients ($p = 0.018$ $r = 0.430$).

In terms of the mothers' group about beliefs towards addiction, there were statistical differences in "responsibility for actions" ($p = 0.018$) and "responsibility for recovery" ($p = 0.015$). The results of the Scheffe post hoc test showed that the scores of "responsibility for actions" in mothers of the CG group were higher than the mothers of the SUD group. A medium effect size was found between CG and SUD ($\eta^2 = 0.08$). According to the Scheffe post hoc test, "responsibility for recovery" subscale scores were statistically higher in the mothers of the SUD group than in the other two groups. A medium effect size was found between the SUD and the other groups ($\eta^2 = 0.09$). There were no significant differences in BMI total point and subscales as dangerousness ($p = 0.131$), helplessness and deterioration in interpersonal relationships ($p = 0.059$), and shame ($p = 0.068$) (Table 3).

Depression, burnout and hopelessness levels of mothers were also evaluated. It was determined that the depression levels of mothers were significantly different and had a large effect ($0.14 < \eta^2$).

According to the Dunnett C post hoc test, the BDI score of mothers of the SUD group was higher than mothers of the SCH group; mothers of the SCH group were higher than mothers of the CG. In terms of mothers' burnout scores, "emotional exhaustion" and "depersonalization" scores were found to be higher in mothers of the SUD group than in SCH and CG ($p = 0.0001$). It was found that mothers' "personal achievement" scores of CG were higher than those of mothers of the SCH group. The scores of mothers those with SCH were higher than mothers of the SUD group ($p = 0.0001$). Evaluating to hopelessness scores of mothers; according to the Scheffe post hoc analysis, mothers of the SUD group have significantly higher scores on "hopelessness" and "feelings and expectations about the future" compared to CG and had a large effect ($p = 0.0001$). It was determined that the "loss of motivation" of mothers of the SUD group and SCH group were higher than CG ($p = 0.0001$). (Table 3)

The relationship between mothers' mental health and their beliefs toward MI and addiction was evaluated. A correlation was found between MBI depersonalization and stigma toward MI in mot-

Table 4. Correlation between mental scores and beliefs toward mental illness (BMI) / addiction (ABI) of the mothers of patients

Mothers	Depression	Hopelessness	(MBI) Emotional exhaustion	(MBI) Depersonalization	(MBI) Personal accomplishment
SCH group					
BMI	p=0.076 r=0.329	p=0.128 r=0.284	p=0.234 r=0.224	p=0.020* r=0.424	p=0.187 r=-0.247
ABI- Chronic disease	p=0.233 r=0.225	p=0.280 r=0.204	p=0.744 r=0.062	p=0.287 r=0.201	p=0.914 r=-0.021
ABI- Responsibility for actions	p=0.037* r=-0.382	p=0.133 r=-0.281	p=0.011* r=-0.456	p=0.030* r=-0.396	p=0.111 r=0.297
ABI- Coping	p=0.488 r=0.132	p=0.326 r=0.186	p=0.360 r=0.173	p=0.457 r=0.141	p=0.842 r=-0.038
SUD group					
BMI	p=0.009* r=0.469	p=0.020* r=0.423	p=0.0001* r=0.622	p=0.155 r=0.266	p=0.002* r=-0.532
ABI- Chronic disease	p=0.008* r=0.478	p=0.420 r=0.153	p=0.037* r=0.383	p=0.358 r=0.174	p=0.268 r=-0.209
ABI- Responsibility for actions	p=0.057 r=-0.352	p=0.070 r=-0.336	p=0.047* r=-0.365	p=0.021* r=-0.419	p=0.030* r=0.396
ABI- Coping	p=0.129 r=0.284	p=0.040* r=0.377	p=0.206 r=0.238	p=0.062 r=0.345	p=0.149 r=-0.270

MBI: Maslach Burnout Index; ABI, Addiction Belief Inventory; BMI, Beliefs toward Mental Illness p=0.0001

hers of SCH patients ($r = 0.424$). There was a relationship between ABI-responsibility for actions and depression ($r = -0.382$); emotional exhaustion ($r = -0.456$); depersonalization ($r = -0.396$) in mothers of SCH patients. A correlation was found between stigma toward MI and depression ($r = 0.469$), hopelessness ($r = 0.423$), emotional exhaustion ($r = 0.622$), and personal accomplishment ($r = -0.532$) among SUD patients' mothers. In terms of beliefs toward addiction, there was a relationship between belief in chronic disease and depression ($r = 0.478$); emotional exhaustion ($r = 0.383$). A correlation was between responsibility for actions and emotional exhaustion ($r = -0.365$); depersonalization ($r = -0.419$); personal accomplishment ($r = 0.396$) (Table 4).

The relationship between patients' IS and their mothers' beliefs about MI was evaluated. No statistically significant correlation was found between the ISMI scores of the SCH patients and the BMI scores of their mothers ($p > 0.05$). There was a correlation between the SUD group's "alienation" scores of ISMI and their mothers' "inability to control" scores of ABI ($p = 0.024$ $r = 0.41$). That is, as SUD individuals' self-alienation increases, their mothers' belief in their "inability to control" the disease increase.

DISCUSSION

In this study, SUD and SCH patients were evaluated about internalized stigma and their mothers were evaluated in terms of their beliefs toward MI

and addiction; mothers' depression, hopelessness and burnout levels. Our study pointed out that IS among SCH and SUD patients were higher than CG. This situation could be interpreted as the presence of MI playing a huge impact on the self-stigmatization of a person. It is stated that individuals living with MI face two major problems such as illness and stigma (11). Nevertheless, the results of the study showed that IS levels of SCH and SUD patients were not different. One study found that internalized stigma of SUD and SCH patients did not differ from as our study (24). The same study also showed that SUD patients' IS scores were significantly higher than those with bipolar disorder and anxiety disorder. We can say that the burden of these two diseases on the patient could be similar. We also found a linear relationship between hospitalization number and IS scores in patients with SCH. This situation can be interpreted in two ways. Hospitalization increases self-stigma or self-stigma complicates the recovery processes and increases hospitalization. This linear relationship was also shown in another study conducted in Turkey (25).

Stigma towards MI constitutes a serious problem in the processes of managing mental health. It has been revealed that 61% of society, 19% of family members, 11% of spouses/relatives and 14% of friends stigmatize individuals with psychiatric disorders (26). This indicates that the general population and family members approach psychiatric disorders differently. In this study, we noticed that mothers of patient groups had more negative beliefs about the diseases. Especially, SUD patients' mothers were more stigmatized toward

MI. Even though this situation revealed the difference in scores between the groups, it was not at a significant level. It was determined that the mental status of the mothers played a role in the negative evaluation of the illness. This research showed an association between MI stigmatization and depression, hopelessness, emotional exhaustion, and personal accomplishment in mothers of SUD patients. MI stigmatization was also associated with their depersonalization to the disease in terms of mothers of SCH patients. Exhaustion also negatively affects the ability to cope with the disease. It was found that when caregivers of SCH patients perceived that they were not coping with their patients' symptoms, there was an increase in their critical/hostile behaviour (27).

This study showed that mothers were different in their beliefs about addiction. Mothers of SUD patients hold addicted people more responsible for their actions. This evaluation could be associated with the mental status of the mothers. Depression and emotional exhaustion of the mothers affect them to see addiction as a more chronic and unending process. In addition, the relationship between burnout of the mothers and the responsibilities of SUD patients for their own actions came to the fore. Since substance use is perceived as one's own choice by society, individuals are held responsible for their disease (28). This factor also leads to a more negative evaluation of addiction than other MIs in society (29).

Family members both provide care and experience the spillover effects of MI (30). In a qualitative study, MI patients' families stated that they experience depression, apathy, pain, confusion, isolation, anger, destruction, helplessness, hopelessness, denial, disappointment, uncertainty, blame, and chronic sadness (31). An essential result of our study is that the depression levels of the mothers of those with SUD are higher than the mothers of those with SCH. In the study conducted with caregivers of SCH patients, distress, worry, shame, guilt, stigma, depression, grief, anxiety levels and somatic complaints were found at high levels (32). In a study conducted among adolescents with SUD, mood disorder was observed in 43.2% of the mothers (33). The most frequent disorder was found depression (40.5%), and anxiety disorder (21%)

among SUD patients' caregivers (13). It is stated that the caregiver burden was more severe in the SUD population (34). Increased levels of burden cause depression, exhaustion, and sleep disturbance among caregivers of people with SUD (35). In our study, it was concluded that emotional exhaustion and depersonalization were higher in mothers of SUD patients compared to SCH and CG. Caregivers of individuals with SUD have difficulty in solving their problems because they receive little support from the social environment, and some families experience emotional exhaustion (36). According to our study, mothers of SUD people were more hopeless than mothers of CG. In particular, it has been reported that parents experience frustration, guilt, denial, surprise, anger, shame, fear, expectation, hopelessness and helplessness due to their children's substance use (12,13,14). It was stated that up to five people in the family of a person with SUD can be negatively affected by the disease (28). So we can point out that SUD, which is one of the mental illnesses, has more severe effects on mothers.

In this study, we focused on controlling two demographical variables age and marital status when matching the groups. The limitation of this study is that the education level of CG was higher than the patient groups.

CONCLUSION

This study provided a more detailed evaluation of individuals with SUD and SCH, especially their mothers. The study revealed that the self-stigmatization of individuals with SCH and SUD is similar, but that having a mental illness imposes a separate burden on self-stigmatization. So therapy models related to the reduction of self-stigma should be developed. This study provided that the effect of SUD on mothers is more devastating and may affect the mental health of the mothers. In addition, in this study, the relationship between the mental states of SUD mothers and their perspectives on the disease was revealed. It was seen that as the mental state of the mothers deteriorated, they began to have a more negative perspective on their children's illnesses. On the other hand, we can look at this situation from a different perspective.

We can also say that the process of children's illness affects their evaluation of the disease and their mental health begins to deteriorate. In addition, depression, emotional exhaustion and depersonalization were more severe in mothers of SUD patients than in mothers of SCH patients. Hopelessness and loss of motivation were both seen at high levels among mothers of SUD patients and mothers of SCH patients. In light of our findings, it is seen that having a child with SUD and the effect of substance use problem on the mother is more severe. In particular, the mental status of mothers should be evaluated and individual therapy opportunities should be offered. We can add that mother-oriented therapies can change their perspective on the disease and contribute to the recovery process of the patient.

Ethical Considerations

All the participants, both patients, and caregivers gave written informed consent before the test and all the ethical procedures were performed. The study was approved by the Human Research and Ethics Committee of Ege University (No.18-4.1/43).

Conflicts of interest: The authors declare that they have no conflict of interest.

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