

ORIGINAL ARTICLE

Investigation of the Relationship of Suicidal Ideation and Suicide Attempt History with Early Maladaptive Schemas in Individuals with Major Depressive Disorder

Major Depresif Bozukluk Tanılı Bireylerde İntihar Düşüncesi ve İntihar Girişim Öyküsü Varlığının Erken Dönem Uyumsuz Şemalar ile İlişkisinin İncelenmesi

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ABSTRACT

Objective: We aimed to examine the relationship between the presence of suicidal ideation and attempt history and maladaptive schemas in individuals with major depressive disorder.

Materials and methods: The experimental group consisted of 28 individuals who were diagnosed with major depressive disorder, had a history of suicide attempt and active suicidal ideation. 26 individuals who did not have active suicidal ideation and any history of suicide attempt constituted the control group. Sociodemographic data form, Beck Anxiety Scale, Beck Depression Scale, Beck Suicidal Ideation Scale and Young Schema Scale-Short Form-3 were administered to the participants.

Results: The groups differed in terms of all scale scores ($p < 0.5$). There was a significant positive correlation between "emotional inhibition" and "dependence" subscales with the severity of depression. There was positive correlation between "pessimism", "mistrust", "emotional inhibition", "dependence", "entitlement/insufficient self-control" and "self-sacrifice" subscales with the severity of suicidal ideation. There was positive correlation between the number of suicide attempts and all schema dimensions.

Conclusion: It is known that schemas have important effects on suicidal thoughts and attempts. However, the data on which schema dimensions increase this risk are limited and contradictory. Therefore, defining schemas that can predict suicide risk may be useful in case formulation and risk assessment.

Keywords: Mental disorders, depression, schema, suicide

Öz

Amaç: Çalışmamızda majör depresif bozukluk tanılı bireylerde intihar düşüncesi ve intihar girişim öyküsü varlığının, erken dönem uyumsuz şemalar ile ilişkisinin incelenmesi amaçlanmıştır.

Materyal ve Metod: Majör depresif bozukluk tanılı, intihar girişimi öyküsü olan ve aktif intihar düşüncesine sahip 28 birey deney grubunu oluşturmaktadır. Majör depresif bozukluk tanısı almış, aktif intihar düşüncesine sahip olmayan ve intihar öyküsü bulunmayan 26 birey ise çalışmamızın kontrol grubunu oluşturmaktadır. Katılımcılara sosyodemografik veri formu, Beck Anksiyete Ölçeği, Beck Depresyon Ölçeği, Beck İntihar Düşüncesi Ölçeği ve Young Şema Ölçeği-Kısa Form-3 uygulanmıştır.

Bulgular: Gruplar tüm ölçek skorları açısından farklılık göstermekteydi ($p < 0.5$). Deney grubunda şemalar ile diğer ölçek skorları arasındaki ilişkiler incelendiğinde; Depresyon şiddeti ile "duyguları bastırma" ve "bağımlılık" alt boyutları, intihar düşünce şiddeti ile "karamsarlık", "güvensizlik", "duyguları bastırma", "bağımlılık", "aynıcılık/yetersiz özdenetim" ve "kendini feda etme" alt boyutları pozitif yönlü anlamlı düzeyde korelasyon göstermekteydi. İntihar girişim sayısı ile tüm şema boyutları arasında pozitif yönlü anlamlı düzeyde korelasyon gözlenmekteydi.

Sonuç: İntihar düşüncesi ve girişimlerinde şemaların önemli etkileri olduğu bilinmektedir. Ancak hangi şema boyutlarının bu riski arttırdığına dair veriler kısıtlı ve çelişkilidir. Bu nedenle intihar riskini öngörebilecek şemaların tanımlanması, vaka formülasyonunda ve risk değerlendirilmesinde faydalı olabilecektir.

Anahtar Kelimeler: ruhsal bozukluklar, depresyon, şema, intihar

Introduction

Depression is a mental disorder characterized by depressed mood, inability to enjoy life, sleep and appetite problems, weakness, fatigue, decreased self-esteem, slowed movements and thoughts of death, which significantly impairs functionality (1). Due to its high lifetime prevalence and relapsing nature, it causes significant social disability and constitutes an important public health problem (1). The cognitive model suggests that depressed individuals view themselves, their environment and their future negatively. According to this concept called cognitive triad, there

is the loss of some things necessary for well-being and happiness, the prediction that the attempts that can be made due to this loss will result negatively, and the inability to see in oneself the competence to realize all these efforts (2). The basic structure that determines the emotions and behaviors of individuals is usually not the events but the meanings they attribute to them. These meanings often manifest themselves on the surface as automatic thoughts. Automatic thoughts are thoughts that come to mind instantaneously, usually specific to the current environment or situation (2). Automatic

thoughts can be considered as an expression or the surface reflection of schemas. On the other hand, schemas are relatively permanent cognitive structures that generally emerge from the early stages of life through personal experiences and identifications with important people in our environment are reinforced by similar experiences in the following periods, and lead the individual to process, interpret and transform information into emotions and behaviors, and in short, shape his/her life (3,4). Schemas exist in positive and negative pairs (e.g., I am loved and I am not loved) in every individual and one of these pairs becomes dominant from time to time according to life circumstances. In mental disorders, it is stated that negative schemas are generally dominant, positive schemas are very weak or absent, and negative schemas that are rapidly activated in a negative experience lead to biased and negative evaluations of events (5). Due to their resistant and rigid structure, schemas cause the process to gain chronicity in the absence of intervention (6).

There are studies showing that early maladaptive schemas (EMS) are associated with depression (7-9). It is emphasized that many maladaptive schemas are associated with depression and severity of symptoms. Although it is stated that the main ones are failure, vulnerability to harm, abandonment, emotional deprivation, defectiveness, dependency, entitlement and insufficient self-control, it is emphasized that all maladaptive schemas may be associated with depression (10-12).

Schemas are shaped by the experiences, life events and social environment of individuals, starting from the early stages of life, continuing in the following years and showing continuity (13). They are triggered by environmental situations and stimuli. Therefore, when evaluating schemas in mental disorders, it is important to evaluate not only on the basis of symptoms but also according to the sociocultural conditions of individuals.

Suicide is the deliberate act of ending one's life. According to World Health Organization data, suicide-related deaths constitute 1.3% of all deaths and depression and related disorders are shown as the cause of 60-70% of suicides (14). The fact that suicide is observed quite frequently and is preventable shows the importance of identifying suicidal thoughts and the conditions associated with these thoughts. The most effective way to prevent suicide is early diagnosis and treatment. Identifying the risk groups is important in this regard. Beck associated suicidal behavior especially with schemas related to hopelessness and helplessness (15). These schemas may lead the individual to the conclusion that suicide is the solution to negative situations. Risk factors, together with general psychiatric disorder, can lead to the activation of suicide-related schemas and suicidal behavior.

In our study, we aimed to examine the relationship between the presence of suicidal ideation and suicide attempt history and EMS in individuals diagnosed with

major depressive disorder (MDD). The main hypotheses of our study were that individuals diagnosed with MDD with suicidal ideation may have more negative schemas than individuals diagnosed with MDD without suicidal ideation, that schemas in individuals diagnosed with MDD with suicidal ideation may be related to depression severity, suicidal ideation severity and number of suicide attempts, and that schemas in individuals diagnosed with MDD may differ according to variables such as gender, marital status, employment status and presence of mental disorders in the family.

Materials and Methods

Study Plan

Patients admitted to outpatient mental health clinics between March 2021 and December 2021 and were diagnosed with MDD according to DSM-5 (Diagnostic and Statistical manual of Mental Disorders, Fifth edition) after evaluation interviews conducted by a psychiatrist, 28 individuals with a history of suicide attempt and active suicidal ideation (MDD+suicide group) and 26 individuals who were diagnosed with MDD according to DSM-5 after evaluation interviews conducted by a psychiatrist and who did not have active suicidal ideation and did not have a history of suicide (MDD group) were randomly selected by non-probability sampling method as the control group. Our study was a cross-sectional study and informed consent was obtained from the participants.

Inclusion criteria were as follows: having an ongoing diagnosis of MDD determined by a psychiatrist, being between the ages of 18-65, and having at least 5 years of education. Having neurodevelopmental disorder and having comorbid mental disorder were determined as exclusion criteria. In addition, the presence of active suicidal ideation and past history of suicide attempt were also determined as exclusion criteria for the control group. Ethics committee approval dated 05/12/2019 and numbered Ethics Committee-E-19126 was obtained from Ankara Training and Research Hospital for our study. Our study was conducted in accordance with the Declaration of Helsinki.

Data collection tools:

After the assessment interview, the participants were administered the sociodemographic data form, Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), Beck Suicidal Ideation Scale (BSIS) and Young Schema Scale - Short Form 3 (YSS-SF3). The scales are self-report scales and were administered by the participants.

Sociodemographic Data Form: It is a form prepared by the researchers to assess the demographic characteristics of the participants such as gender, age, marital status, occupation, education level, income level, family history, and clinical characteristics such as suicide history, history of alcohol and cigarette use, and history of physical illness.

Beck Depression Inventory (BDI): It is a self-report scale consisting of 21 items in which symptoms likely to be observed in depression are evaluated and each item is scored between 0-3 points (16). The scale was adapted to the Turkish population by Hisli (17).

Beck Anxiety Inventory (BAI): It is a self-report scale consisting of 21 items designed to measure the severity of anxiety symptoms experienced by the individual, with each item scored between 0-3 points (18). The scale was adapted to the Turkish population by Ulusoy (19).

Beck Suicide Ideation Scale (BSIS) Beck et al. developed a self-report scale consisting of 21 items to measure suicidal ideation in individuals who attempt suicide (15). The last two questions of the scale are not included in the scoring and are intended to obtain information about previous suicide attempts. The highest score that can be obtained from the scale is 38. Cut-off score is not specified and high scores indicate high suicidal ideation. The Turkish validity and reliability of the scale was performed by Özçelik et al (20).

Young Schema Scale - Short Form 3 (YSS-SF3): The scale consists of 90 items in 6-point Likert type and aims to evaluate 18 schemas (3). The Turkish version of the scale was adapted by Soygüt et al. and it was found appropriate to evaluate 14 schema dimensions in the Turkish version (6). The schemas evaluated in the scale are emotional deprivation, failure, pessimism, social isolation/mistrust, emotional inhibition, approval seeking, enmeshment/dependence, entitlement/insufficient self-control, self-sacrifice, abandonment, punitiveness, defectiveness, vulnerability to harm and unrelenting standards.

Statistical Analysis

The data obtained in the study were analyzed using SPSS (Statistical Package for the Social Sciences) for Windows 26 (SPSS Inc., Chicago, IL, USA). Categorical variables are expressed as number and percentage, and continuous variables as mean \pm standard deviation. Continuous variables were considered suitable for normal distribution provided that the skewness and kurtosis values were between -1.5 and +1.5 (21). According to this condition, continuous variables were normally distributed. Therefore, Independent Two Sample T Test was used to compare quantitative data between two independent groups. Chi-square test was used to compare categorical data. The level of relationship between the scales applied to the participants was evaluated using Pearson Correlation Test. In statistical analyses, significance was evaluated as $p < 0.05$.

Results

The study included 54 participants diagnosed with MDD according to DSM-5. While 28 of the participants had a history of suicide attempt and active suicidal ideation, 26 had no history of active suicidal ideation and no past history of suicide. Participants were between 18 and 60 years old and had education

between 5 and 16 years. The number of suicide attempts of the participants ranged between 0-3, with a mean of 0.67 ± 0.75 .

When the groups were compared according to their sociodemographic characteristics, they were similar in terms of gender, duration of education, presence of comorbidities, smoking and alcohol use, and presence of mental disorders in their families, but different in terms of age, marital status, employment status, income level, and living alone (Table 1).

Table 1. Comparison of groups by sociodemographic characteristics

	MDD + Suicide N (%)	MDD N (%)	Test Statistic	p
Gender				
Female	17 (60,7)	15 (57,7)	=<0,01	1,00*
Male	11 (39,3)	11 (42,3)		
Marital Status				
Married	7 (25,0)	17 (65,4)	=7,34	<0,01*
Single	21 (75,0)	9 (34,6)		
Employment Status				
Employed	13 (46,4)	20 (76,9)	=4,07	<0,05*
Unemployed	15 (53,6)	6 (23,1)		
Income				
0-2000 TL	7 (25,0)	2(7,7)	=11,17	<0,01*
2001-5000 TL	14 (50,0)	6 (23,1)		
>5000 TL	7 (25,0)	18 (69,2)		
Additional Medical Illness				
Yes	5 (17,9)	9 (34,6)	=0,20	0,27*
No	23 (82,1)	17 (65,4)		
Smoking				
Yes	21 (75,0)	18 (69,2)	=0,03	0,87*
No	7 (25,0)	8(30,8)		
Alcohol Use				
Yes	10 (35,7)	7 (26,9)	=0,16	0,69*
No	18 (64,3)	19 (73,1)		
Presence of Mental Disorder in the Family				
Yes	15 (53,6)	9 (34,6)	=1,27	0,26*
No	13 (46,4)	17 (65,4)		
Living Alone				
Yes	19 (67,9)	7 (26,9)	=7,48	<0,01*
No	9 (32,1)	19 (73,1)		
	MDD + Suicide (mean \pm SD)	MDD (mean \pm SS)	p	
Age	29,22 \pm 8,28	35,65 \pm 6,90	<0,05**	
Education (Year)	10,89 \pm 2,11	10,73 \pm 3,14	0,83**	

MDD: Major Depressive Disorder; N: Number; SD: Standart Deviation

: Chi-square test statistic

*Chi-square test

** Independent Two-Sample T-Test

Table 2. Comparison of groups according to scale scores

Scale	MDD + Suicide (mean ± SD)	MDD (mean ± SD)	t	p
BAI	21,07 ± 7,56	35,38 ± 4,99	-3,41	<0,01
BDI	42,07 ± 4,43	35,37 ± 5,00	-5,21	<0,01
Total	343,50 ± 41,54	270,54 ± 44,98	-6,20	<0,01
Emotional Deprivation	18,82 ± 5,32	16,00 ± 5,15	-1,98	≤0,05
Failure	23,25 ± 4,24	16,81 ± 5,61	-4,78	<0,01
Pessimism	19,00 ± 3,03	15,65 ± 4,30	-3,33	<0,01
Social Isolation/Mistrust	29,39 ± 5,85	22,73 ± 5,58	-4,28	<0,01
Emotional Inhibition	18,43 ± 3,60	14,81 ± 4,29	-3,37	<0,01
Approval Seeking	24,18 ± 3,67	19,27 ± 4,93	-4,17	<0,01
Enmeshment/Dependence	32,00 ± 6,54	25,08 ± 5,67	-4,14	<0,01
Entitlement/Insufficient Self-control	27,07 ± 5,37	21,08 ± 4,80	-4,31	<0,01
Self-Sacrifice	18,68 ± 2,58	16,12 ± 4,50	-2,59	≤0,05
Abandonment	17,89 ± 4,69	13,54 ± 3,23	-3,95	<0,01
Punitiveness	25,18 ± 4,17	20,73 ± 4,97	-3,57	<0,01
Defectiveness	24,04 ± 5,03	17,00 ± 4,47	-5,42	<0,01
Vulnerability to Harm	18,86 ± 3,65	14,88 ± 4,38	-3,63	<0,01
Unrelenting Standards	11,57 ± 2,63	9,23 ± 3,41	-2,84	<0,01

MDD: Major Depressive Disorder; BAI: Beck Anxiety Inventory; BDI: Beck Depression Inventory; YSS-SF3: Young Schema Scale-Short Form 3; SD: Standart Deviation; t: Test Statistic Independent Two-Sample T-Test

Table 3. Correlations of YSS-SF3 with anxiety, depression and suicidal ideation levels in MDD + suicide group

	BDI	BAI	BSIS
YSS-SF3 Total	,35	,19	,51**
Emotional Deprivation	,11	,18	,20
Failure	,13	,14	,37
Pessimism	,05	-,05	,40*
Social Isolation/Mistrust	,13	,12	,45*
Emotional Inhibition	,45*	,16	,42*
Approval Seeking	,22	-,12	,12
Enmeshment/Dependence	,40*	,19	,55**
Entitlement/Insufficient Self-control	,34	,34	,45*
Self-Sacrifice	,17	-,03	,38*
Abandonment	,05	,08	,21
Punitiveness	,20	,34	,10
Defectiveness	,17	,12	,32
Vulnerability to Harm	,28	,15	,35
Unrelenting Standards	,25	-,06	,15

MDD: Major Depressive Disorder; BAI: Beck Anxiety Inventory; BDI: Beck Depression Inventory; YSS-SF3: Young Schema Scale-Short Form 3; BSIS: Beck Suicide Ideation Scale Pearson Correlation Test *p<0,05 **p<0,01

Table 4. Correlation of YSS-SF3 with number of suicide attempts

	Number of Suicide Attempts
YSS-SF3 Total	,58**
Emotional Deprivation	,30*
Failure	,46**
Pessimism	,29*
Social Isolation/Mistrust	,45**
Emotional Inhibition	,43**
Approval Seeking	,47**
Enmeshment/Dependence	,49**
Entitlement/Insufficient Self-control	,40**
Self-Sacrifice	,30*
Abandonment	,44**
Punitiveness	,36**
Defectiveness	,54**
Vulnerability to Harm	,47**
Unrelenting Standards	,34*

YSS-SF3: Young Schema Scale-Short Form 3 Pearson Correlation Test *p<0,05 **p<0,01

When the groups were compared according to the scale scores, it was observed that the MDD+suicide group exhibited significantly higher scores than the MDD group in all total and sub-dimension scores of the BAI, BDI, YSS-SF3 (Table 2). When the correlations of the total and sub-dimensions of the YSS-SF3 with other scales were examined; in the MDD+suicide group, the sub-dimensions of "emotional inhibition" and "dependence" with the BDI, and the sub-dimensions of "pessimism", "social isolation/mistrust", "emotional inhibition", "dependence", "entitlement/insufficient self-control" and "self-sacrifice" with the BSIS showed a significant positive correlation, whereas none of the sub-dimensions showed a significant correlation with the BAI (Table 3). When the correlations between the number of suicide attempts and the total and

sub-dimensions of the YSS-SF3 were analyzed, a significant positive correlation was observed between the number of suicide attempts and the total and all sub-dimensions of the YSS-SF3 (Table 4). Participants were compared in terms of their schemas according to their sociodemographic characteristics. According to gender groups, all schemas were similar in male and female gender groups. When married and single groups were compared, it was observed that all schema dimensions were higher in the single group, and this difference was statistically significant in all schema dimensions except "emotional deprivation", "approval seeking", "entitlement/insufficient self-control" and "self-sacrifice" schemas. Individuals who were not actively working exhibited all schema dimensions with higher severity compared to individuals who were working. This difference was

Table 5. Comparison of schemas by sociodemographic groups

	Gender				Marital Status				Employment Status				Presence of Mental Disorder in the Family			
	Female (N:32) (m ± SD)	Male (N:22) (m ± SD)	t	p	Married (N:24) (m ± SD)	Single (N:30) (m ± SD)	t	p	Employed (N:33) (m ± SD)	Unemployed (N:21) (m ± SD)	t	p	Yes (N:24) (m ± SD)	No (N:30) (m ± SD)	t	p
Total	18,53 ± 5,53	15,91 ± 4,86	1,80	,08	16,08 ± 5,17	18,57 ± 5,37	-1,72	,09	16,18 ± 4,80	19,48 ± 5,73	-2,28	,03	17,58 ± 6,28	17,37 ± 4,65	,15	,89
Emotional Deprivation	20,03 ± 5,84	20,32 ± 6,07	-,18	,86	17,25 ± 5,40	22,47 ± 5,24	-3,86	<,01	18,00 ± 5,37	23,52 ± 5,09	-3,76	<,01	21,04 ± 5,92	19,43 ± 5,85	1,00	,32
Failure	18,25 ± 4,17	16,14 ± 3,54	1,94	,06	15,96 ± 4,24	18,53 ± 4,24	-2,44	,02	16,21 ± 4,05	19,24 ± 3,30	-2,87	<,01	17,83 ± 4,28	17,03 ± 3,85	,72	,47
Pessimism	26,22 ± 7,01	26,14 ± 6,09	,05	,96	24,17 ± 6,12	27,80 ± 6,60	-2,08	,04	24,21 ± 6,18	29,29 ± 6,12	-2,95	<,01	26,13 ± 7,37	26,23 ± 6,02	-,06	,95
Social Isolation/ Mistrust	16,38 ± 4,09	17,14 ± 4,68	-,63	,53	14,92 ± 4,28	18,10 ± 3,85	-2,87	<,01	15,76 ± 4,13	18,14 ± 4,29	-2,04	,05	17,46 ± 4,19	16,07 ± 4,39	1,18	,24
Emotional Inhibition	21,84 ± 5,09	21,77 ± 4,85	,05	,96	20,79 ± 5,29	22,63 ± 5,29	-1,37	,18	21,21 ± 4,77	22,76 ± 5,19	-1,13	,27	23,42 ± 4,67	20,53 ± 4,85	2,21	,03
Approval Seeking	29,09 ± 6,82	28,05 ± 7,39	,54	,59	25,21 ± 7,38	31,43 ± 5,37	-3,59	<,01	26,27 ± 6,53	32,43 ± 6,14	-3,46	<,01	29,46 ± 8,02	28,03 ± 6,16	,74	,46
Enmeshment/Dependence	23,44 ± 5,99	25,27 ± 5,69	-1,13	,26	22,67 ± 4,79	25,40 ± 6,46	-1,73	,09	22,67 ± 4,69	26,57 ± 6,85	-2,49	,02	24,25 ± 5,77	24,13 ± 6,08	,07	,94
Entitlement/Insufficient Self-control	17,59 ± 4,10	17,23 ± 3,46	,34	,73	17,13 ± 4,49	17,70 ± 3,25	-,55	,59	17,30 ± 3,92	17,67 ± 3,76	-,34	,74	17,25 ± 3,55	17,60 ± 4,08	-,33	,74
Self-Sacrifice	15,84 ± 4,86	15,73 ± 4,23	,09	,93	14,29 ± 3,72	17,00 ± 4,88	-2,24	,03	14,61 ± 3,90	17,67 ± 5,00	-2,52	,02	16,21 ± 4,72	15,47 ± 4,51	,59	,56
Abandonment	23,00 ± 5,06	23,09 ± 5,16	-,06	,95	21,42 ± 4,92	24,33 ± 4,85	-2,18	,03	21,88 ± 4,63	24,86 ± 5,27	-2,19	,03	23,96 ± 4,69	22,30 ± 5,29	1,20	,23
Punitiveness	20,94 ± 6,48	20,23 ± 5,09	,43	,67	17,96 ± 5,47	22,80 ± 5,41	-3,25	<,01	18,58 ± 5,50	23,90 ± 5,09	-3,57	<,01	20,75 ± 6,36	20,57 ± 5,63	,11	,91
Defectiveness	17,28 ± 4,37	16,45 ± 4,64	,67	,51	15,42 ± 4,43	18,17 ± 4,15	-2,35	,02	15,97 ± 4,61	18,48 ± 3,82	-2,08	,04	17,46 ± 4,83	16,53 ± 4,17	,76	,45
Vulnerability to Harm	10,13 ± 3,06	10,91 ± 3,48	-,88	,39	9,33 ± 2,79	11,33 ± 3,31	-2,36	,02	10,21 ± 2,96	10,81 ± 3,66	-,66	,51	10,42 ± 2,92	10,47 ± 3,50	-,06	,96

N: Number; SD: Standart Deviation; m: Mean
t: Test Statistic
Independent Two-Sample T-Test

significant in all schema dimensions except "approval seeking", "self-sacrifice" and "unrelenting standards". When the groups with and without a family history of mental disorder were compared, individuals with a family history of mental disorder exhibited significantly more "approval seeking" schema. The groups were similar in terms of other schema dimensions (Table 5).

Discussion

When the two groups in our study were compared sociodemographically, the MDD+suicide group statistically significantly differed from the MDD group in terms of age, employment status/income level, being single and living alone. In the literature, being single, living alone, unemployment/poor economic status and being at a young age are accepted as risk factors for suicide attempt in patients with depression (22).

In this respect, our study seems to be consistent with the literature. Low social and occupational functionality and low social support may be thought to trigger depressive symptoms and suicidal thoughts by causing hopelessness, inadequacy and worthlessness (23). However, in our study, no difference was found in terms of gender, presence of comorbidity, alcohol/smoking and family history of mental illness. It is argued that stress factors that may be caused by additional medical illness, impulsive behaviors that may be triggered by alcohol/substance abuse, genetic and environmental predispositions that may be brought about by psychiatric illnesses present in the family

may be effective in groups with suicidal behavior (24). Although our study is different in this respect, the limited sample size and the fact that the participants were recruited from a single center may have led us to reach this conclusion.

It is thought that individuals with depressive disorders have more negative schemas than healthy individuals and tend to define themselves with more negative adjectives. When the relevant literature investigating the relationship between EMS and depression was examined, Renner et al. found that schemas such as failure, emotional deprivation, abandonment were associated with depressive symptoms (25). In a study conducted by Schmidt et al. it was found that dependency/enmeshment and defectiveness schemas were associated with depression (7). In another study, it was emphasized that EMS predicted depressive symptoms in individuals (26). In a meta-analysis conducted in 2022 examining the relationship between EMS and depression severity, depression was strongly associated with social isolation and defectiveness schemas and moderately associated with emotional deprivation, abandonment, mistrust, failure, dependency, vulnerability to harm, insufficient self-control, approval seeking, emotional inhibition, pessimism and punitiveness schemas, and it was also stated that EMS might be seen as a possible risk in the etiology of chronic depression (27). In a study conducted in a young adult population, it was revealed that defectiveness, insufficient self-control, vulnerability to harm and inadequacy schemas were

associated with depressive symptom severity (10). When the studies conducted in this field in our country in recent years were examined; in one study, it was revealed that emotional deprivation, failure, pessimism, social isolation/mistrust, emotional inhibition, approval seeking, enmeshment/dependence, entitlement/insufficient self-control, self-sacrifice, abandonment, defectiveness, and vulnerability to harm schemas had a moderate and positive relationship with depression (28).

Similarly, another study showed that all maladaptive schemas had a positive and significant correlation with depression (29).

As can be understood from all these data, the relationship between depression and EMS has been examined many times in the world and in our country, and almost all studies have found that they are related to each other. Although there is a large amount of data in this field, the number of studies examining EMS in individuals diagnosed with depression with suicidal ideation is quite limited. Considering the limited data in this field, it was reported in one study that the EMS might contribute to suicidal thoughts in depressed individuals and might provide implications for the evaluation and treatment of suicidal tendency in these individuals (30). In a study, in which the cases were selected from individuals with and without a history of suicide, all EMS scores and depressive symptom severity were found significantly higher in the group with a history of suicide, and it was reported that this was predictive of depression. In addition, a significant correlation was found between schemas and depression severity in both groups. In their study, although it was stated that schemas start in childhood, like personality traits, and occur before depression symptoms, it has been suggested that there may be a bidirectional relationship between schemas and depression severity and stated that depression severity may also strengthen schemas (31). In a study conducted in Türkiye, a significant positive correlation was observed between suicidal ideation and the schema dimensions of "failure", "pessimism", "social isolation/mistrust", "abandonment", "enmeshment/dependence" and "defectiveness" in depressive patient groups with and without suicidal behavior (32). The fact that the severity of depression was higher in the group with a history of suicide in our study supports the literature. In particular, "emotional inhibition" and "dependence" schemas were significantly positively correlated with depression severity. No significant correlation was observed with other schemas. In this way, people who are unable to express their feelings, who suppress their emotions, who need someone to take responsibility even in their daily lives, who are dependent and who think that they are inadequate to live their lives on their own, may have depression with the stressor and then suicide as a behavior. In this context, our study is one of the rare studies in which all schema dimensions were examined separately in a population with MDD+suicidal ideation. This data needs to be supported by new researches.

Considering the studies examining the relationship between the number of suicide attempts and schemas, one study reported that those with chronic depressive symptoms and a high number of suicide attempts had higher schema scores than those with non-chronic depressive symptoms (33). In our study, in line with this review, the BDI scores of the MDD+suicide group were statistically higher than the other group, and there was a significant positive correlation between the increase in the number of suicide attempts and all sub-dimensions of the EMS. This finding is important in terms of the fact that all negative schemas may be associated with recurrent suicide attempts and should be addressed in therapies.

When the relationship between sociodemographic data and schemas is examined; studies have suggested that there are differences between genders in terms of cognitive data. It has been reported that depression and suicide attempts are observed at a higher rate in female adolescents compared to male adolescents, and the levels of positive thinking, adapting well to negative situations, need for approval and success and directing positive cognitions to oneself are lower in female adolescents compared to male adolescents (34,35). Cognitive schema sensitivity is one of the possible candidates to explain gender differences in adolescent depression (36). Previous studies have shown that cognitive schema sensitization is more common in women than in men (35,37). Some researchers explain this situation with the fact that women experience more stressful life events during adolescence (38). It is also possible that high levels of cognitive schema sensitivity in women may make the events they experience more stressful and subsequently lead to depressive symptoms. Although it is stated in the literature that EMS scores are predominantly higher in women, in a study conducted by Gökçe et al similar to our study, it was reported that there was no difference between genders in terms of schemas (9). It should also be noted that this result may be related to the relatively small number of our sample. It is clear that studies in this area need to be replicated in larger populations.

Conclusion

Our study has some limitations. First of all, the fact that the scales used were self-report scales may have caused a biased attitude for the sample. As the study is a cross-sectional study, it can be considered as another limitation. Since it is difficult to establish a cause-and-effect relationship in cross-sectional studies, it would be useful to conduct longitudinal studies in order to establish a cause-and-effect relationship.

It can be said that the relatively small sample size and single center can prevent the generalizability of our findings.

Determining suicide risk in clinical populations is a dilemma that clinicians constantly struggle with. Especially for this reason, the identification of schemas that can predict suicide risk may be useful in case formulation and risk assessment. It is obvious that scales

that can help clinicians in this respect will support the selection and implementation of treatment. In our study, the finding that maladaptive schemas were significantly higher in the group with suicidal ideation is instructive for clinicians. While providing treatment for individuals with depression, it will also have important implications for suicide prevention. In addition to psychopharmacological treatment in the treatment of depressive disorder, it is important to show that therapies that can focus on identifying and changing maladaptive schemas associated with depression may be important especially in individuals with suicidal ideation. Also, our study is important in terms of being one of the few studies conducted in our country on this subject.

In conclusion, our study suggests that cognitive schema may have a special importance in suicidal ideation in depressed patients. Furthermore, suicidal ideation was associated with concurrent depressive symptom severity and several maladaptive cognitive patterns. However, replication of these studies with multicenter and larger samples would be useful in clinical practice to determine whether certain schema clusters confer a higher suicide risk and the factors that determine them.

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