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Determination of Trait Anger Level and Anger Expression Style in Individuals with Mental Illness: A Descriptive Study

Ruhsal Hastalığı Olan Bireylerde Sürekli Öfke Düzeyi ve Öfke İfade Tarzının Belirlenmesi: Tanımlayıcı Çalışma

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ABSTRACT Objective: Anger levels and anger expression styles in mental illnesses have been frequently studied. When faced with such anger, individuals resort to various positive and negative styles of anger expression, such as anger-out, anger-in, and anger-control. It has been reported that individuals with mental illness suffer from an inability to control their anger and frequent temper tantrums and consequently experience problems in social life, within the family, and in medical facilities where they are treated This study purposed to explore the trait anger level and anger expression style in individuals with mental illness. **Material and Methods:** This descriptive study consist of 120 individuals diagnosed with mental illness. This study was conducted in psychiatry outpatient clinics between April and September 2024. Trait Anger Scale (TAS) and Anger Expression Style Scale were utilized to collect data. **Results:** The total mean score of the individuals diagnosed with mental illness were 19.12±2.23 on the anger-in subscale, 20.60±4.14 on the anger-out subscale, 14.20±5.29 on the anger-control subscale, and 25.36±5.28 on the TAS. **Conclusion:** The study indicates that the individuals' trait anger levels were above moderate. Mental health and psychiatric nurses should prioritize identifying factors that increase anger levels and negative anger management in individuals with mental illnesses. It is advisable to create interventions aimed at decreasing the anger level in order to enhance the ability of individuals with mental illness to anger-control.

Keywords: Anger; anger expression; mental illness

ÖZET Amaç: Ruhsal hastalıklarda öfke düzeyi ve öfke ifade tarzları sıklıkla araştırılan bir konu olmuştur. Yaşanan bu öfke durumu karşısında ise, bireyler öfke duygularını içe atma, dışa yöneltme ve kontrol etme gibi çeşitli olumlu ve olumsuz öfke ifade tarzlarına başvurmaktadırlar. Ruhsal hastalığı olan bireylerin öfkelerini kontrol edemedikleri ve sık sık öfke nöbetleri yaşadıkları, buna bağlı olarak sosyal yaşamda, aile içinde ve tedavi gördükleri sağlık kuruluşlarında sorunlar yaşadıkları belirtilmektedir. Bu araştırmanın amacı, ruhsal hastalığı olan bireylerin sürekli öfke düzeyi ve öfke ifade tarzının belirlenmesidir. **Gereç ve Yöntemler:** Bu araştırma, tanımlayıcı türde yapıldı. Araştırmaya ruhsal hastalık tanısı almış 120 birey dâhil edildi. Bu araştırma Nisan-Eylül 2024 tarihleri arasında psikiyatri polikliniklerinde yürütüldü. Verilerin toplanmasında Tanıtıcı Özellikler Formu, Sürekli Öfke ve Öfke İfade Tarzı Ölçeği kullanıldı. **Bulgular:** Ruhsal hastalığı olan bireylerin içe yönelik öfke alt boyutu 19,12±2,23, dışa yönelik öfke alt boyutu 20,60±4,14, öfke kontrol alt boyutu 14,20±5,29 ve sürekli öfke toplam puan ortalaması 25,36±5,28'dir. **Sonuç:** Araştırma, bireylerin sürekli öfke düzeyinin ortanın üzerinde olduğunu gösterir. Ruh sağlığı ve psikiyatri hemşireleri, ruhsal hastalığı olan bireylerde öfke düzeylerini artıran faktörlerin belirlenmesine ve olumsuz öfke yönetimine öncelik vermelidir. Ruhsal hastalığı olan bireylerin öfke kontrol becerilerini geliştirmek için öfke düzeyini azaltmaya yönelik müdahalelerin geliştirmesi önerilebilir.

Anahtar Kelimeler: Öfke; öfke ifade; ruhsal hastalık

Mental illnesses are conditions characterised by persistent extraordinary alterations in behaviours, thoughts, and interpersonal relationships.[1] Individuals with mental illness may frequently demonstrate anger and aggression behaviours during exacerbation periods (the period when the symptoms of the illness are intensified), as they have difficulties in coping with the symptoms of the illness. Individuals with mental ill-

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ness suffer from difficulties during these periods as they have temper tantrums and try to overcome their feelings of anger.[2]

Anger is a universal emotion that holds an important place in our daily lives. Anger, which emerges spontaneously upon frustration, is also described as a phenomenological emotion associated with certain cognitive and perceptual states; the frequency of this emotion, the incidents leading to anger, the thoughts related to anger, and the symptoms that manifest when anger is felt vary from one individual to another.[3] Individuals experience and reflect their feelings of anger as anger-in, anger-out, and anger-control. Anger-in means suppressing anger and refraining from expressing it; anger-out means expressing anger in several physical or verbal ways. Anger-control, on the other hand, means that the individual is generally patient, a cold heart, tolerant, and insightful in his/her relations with others and tends to control his/her anger and calm down most of the time.[4,5]

Anger levels and anger expression styles in mental illnesses have been frequently studied topics.[6,7] Özmen et al., reported that individuals with mental illness had high levels of trait anger and had difficulty in controlling their anger.[7] There are studies reporting that significant correlations were found between mental illnesses, anger levels, and anger expression styles.[6,8] Furthermore, it has been stated that elevated anger levels are correlated with many mental illnesses.[9,10] Besides, the emphasis on having a mental illness in most of the individuals who participated in studies on anger is striking.[7,10]

It has been reported that individuals with mental illness suffer from an inability to control their anger and frequent temper tantrums and consequently experience problems in social life, within the family, and in medical facilities where they are treated.[11] Individuals with mental illness harm themselves and their environment when they fail to control their anger.[12] Therefore, it is highly important for these individuals who have problems adapting to society to be able to control their anger.[13]

It is known that individuals with mental illness have serious difficulties coping with anger. In this sense, this study purposed to explore the anger level and anger expression styles of individuals with mental illness. Furthermore, this study is considered to serve as a basis for providing information on anger management training to be delivered by nurses to individuals with mental illness.

This study sought answers to the questions:

- What is the trait anger level of individuals with mental illness?
- Which anger expression style do individuals with mental illness use more frequently?

MATERIAL AND METHODS

TYPE, SAMPLE AND PROCEDURES OF THE STUDY

This study was descriptive type. Power analysis was not performed when calculating the sample size. The initial study population consisted of 156 individuals diagnosed with mentall illness. It was aimed to reach the whole population without using sample selection. They were diagnosed with substance use disorders, psychosis and related disorders, obsessive compulsive disorders, mood disorders, and anxiety disorders (Based on the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, DSM-V) registered in the psychiatric outpatient clinics. Twenty individuals diagnosed with mental illness who did not want to attend in the study and 16 individuals diagnosed with mental illness who did not meet the inclusion criteria were externalized from the study. The study was conducted with a sample size of 120 individuals diagnosed with mental illness. The participants included in the study were those who were at least 18 years old, capable of communication, had successfully completed their inpatient treatment (in remission), and had their drug use, illness symptoms, and drug side effects frequently monitored by psychiatrists. Individuals with mental illnesses apply to the psychiatry outpatient clinic to prescribe medication, have various tests done or meet with a psychiatrist. Individuals with mental illness who were deemed suitable as a result of the psychiatrists' assessments and observation were referred to the researchers. The second researcher went to the psychiatric outpatient clinics 2 days in a week. The data were gathered by the second researcher by face-to-face interview between April and September 2024.

The questions in the data collection forms were read by the second researcher and markings were made in line with the answers received.

MEASURES

Descriptive Features Form: The current form, which was created by the researchers in line with the literature, contains 9 questions, including the sociodemographic features of the individuals (i.e., marital status, age, education status, gender, presence of a history of mental illness in the family, working status, duration of the illness, diagnosis of illness, and whom you with live).

Trait Anger and Anger Expression Style Scale: Spielberger et al. evolved the original scale in 1983. Özer conducted a study of the scale to verify its validity and reliability within a Turkish context (Cronbach's α for trait anger 0.67-0.82, anger-in 0.60-0.73, anger-out 0.72-0.83, anger-control 0.80-0.86).[14] This 4-point Likert scale consisted of 34 items and included 3 subscales. The scoring of the scale is done apartly for trait anger level and anger expression style. The first 10 items of the scale express trait anger, and the other 24 items express subscales. These subscales included the anger-in subscale: 13, 15, 16, 20, 23, 26, 27, 31; the anger-out subscale: 12, 17, 19, 22, 24, 29, 32, 33; and the anger-control subscale: 11, 14, 18, 21, 25, 28, 30, and 34. All items of the scale are coded directly. The total score for trait anger ranges from 10-40, the total score for all subscales ranges from 8-32. The scores obtained from the subscales provided information about individuals for anger expression style. The scale's Cronbach's α coefficient was trait anger 0.67, anger-in 0.60, anger-out 0.72, anger-control 0.80 for current study.

DATA ANALYSİS

The data analyzed by SPSS 25.0 program. $p<0.05$ was took noticed significant for the study. Cronbach's α coefficient was utilized in the internal consistency analysis of the scales. Percentage distribution was utilized to define the descriptive features, and arithmetic mean was utilized to define the total mean score of the scales. Shapiro-Wilks test were utilized along with a histogram, P-P plot, Q-Q plot, and an evaluation of skewness and kurtosis to appraise the conformity with normal distribution. The results of the analysis showed that the data had a normal distribution. Independent t-test and an analysis of variance were utilized to compare descriptive features and scales. Tukey test was used for further analysis.

ETHİCAL STATEMENT

Firstly, approval from the Ethics Committee (Approv Number: 668637/05.03.2024) and official permit from the hospital where the study was carried out were got. Individuals diagnosed with mental illness were informed about the purpose of the study and that their information would be kept private and that they could draw back from the study at any time. In addition, the study was carried out with respect to the Principles of the Declaration of Helsinki and by getting written consent from the individuals with an "Informed Voluntary Consent Form".

RESULTS

It was found that 38.3% of the individuals diagnosed with mental illness were between the ages of 40 and above, 55.0% were male, 40.8% were primary school graduate, 50.8% were single, 64.2% were unemployed, 61.7% had no history of mental illness in the family, 36.7% were diagnosed with anxiety disorders and obsessive compulsive disorder, 33.3% had had the illness for 0-5 years, and 46.7% lived with their spouse and/or children (Table 1).

Comparison of the individuals' mean TAS total scores according to descriptive features showed statistically significant differences associated with gender and diagnosis of the illness ($p<0.05$). However, there were no statistically significant differences with respect to the individuals' working status, presence of a history of mental illness in the family, age groups, educational status, marital status, and duration of the illness, whom you with live in terms of the TAS ($p>0.05$). The TAS total mean scores was the highest among individuals diagnosed with substance use disorders in the Tukey analysis (Table 1).

Comparison of the individuals' mean anger-in subscale total scores according to descriptive features showed no statistically significant differences associated with age groups, gender, educational status,

TABLE 1: Comparison of Individuals' Anger Expression Style Subscales (AESS) Total Mean Scores and Trait Anger Scale (TAS) Total Mean Scores of the Individuals in Terms of Their Descriptive Features (n=120)

Descriptive Features		n	%	Anger-in X̄±SD	Anger-out X̄±SD	Anger-control X̄±SD	Trait anger total score X̄±SD
Age groups	18-28	32	26.7	18.68±2.63	20.12±4.22	14.53±5.47	24.68±5.52
	29-39	42	35.0	19.16±1.99	20.85±4.59	14.42±5.77	26.26±5.62
	40 and older	46	38.3	19.39±2.14	20.69±3.70	13.76±4.78	25.02±4.76
	Test value			F=0.945	F=0.299	F=0.256	F=0.966
	Significance			p=0.392	p=0.742	p=0.774	p=0.384
Gender	Male	66	55.0	18.84±1.71	22.62±3.49	11.63±4.31	28.06±4.58
	Female	54	45.0	19.46±2.72	18.12±3.50	17.33±4.69	22.07±4.09
	Test value			t=-1.505	t=6.989	t=-6.917	t=7.466
	Significance			p=0.135	**p=0.000**	**p=0.000**	**p=0.000**
**Education status	Illiterate	18	15.0	20.00±2.24	21.59±3.58	12.27±3.87	24.55±3.91
	Primary school	49	40.8	19.06±2.11	20.50±3.98	13.28±4.82	26.55±5.09
	High school	30	25.0	18.73±2.25	20.73±4.10	14.23±5.26	25.10±4.52
	University	23	19.2	19.08±2.41	18.39±4.34	18.95±4.50	23.82±7.01
	Test value			F=1.249	F=3.304	F=10.532	F=1.669
	Significance			p=0.295	**p=0.023**	**p=0.000**	p=0.178
Marital status	Married	59	49.2	19.30±2.17	20.32±3.95	14.72±5.13	24.66±4.95
	Single	61	50.8	18.95±2.29	20.86±4.33	13.68±5.44	26.04±5.53
	Test value			t=0.867	t=-0.721	t=1.076	t=-1.446
	Significance			p=0.388	p=0.473	p=0.284	p=0.151
Working status	Employed	43	35.8	18.86±2.38	19.62±3.97	15.83±5.32	24.67±5.79
	Unemployed	77	64.2	19.27±2.14	21.14±4.16	13.28±5.09	25.75±4.96
	Test value			t=-0.968	t=-1.941	t=2.589	t=-1.074
	Significance			p=0.335	p=0.055	**p=0.011**	p= 0.285
Presence of a history	Yes	46	38.3	19.41±2.13	21.69±3.68	12.65±4.37	26.52±4.56
mental illness in the family	No	74	61.7	18.94±2.29	19.91±4.29	15.16±5.61	24.64±5.58
	Test value			t=1.114	t=2.324	t=-2.582	t=1.910
	Significance			p=0.268	**p=0.022**	**p=0.011**	p=0.059
**Diagnosis of the illness	Psychosis and related disorders	23	19.2	19.21±1.83	22.34±2.80	10.82±3.05	27.52±3.46
	Mood disorders	32	26.7	18.90±2.00	20.84±3.35	13.46±3.85	25.21±4.46
	Anxiety disorders and obsessive compulsive disorders	44	36.7	19.38±2.72	17.25±3.00	18.72±4.20	21.95±4.78
	Substance use disorders	21	17.5	18.80±1.88	25.33±2.24	9.52±3.72	30.38±3.89
	Test value			F=0.448	F=39.665	F=37.274	F=20.452
	Significance			p=0.719	**p=0.000**	**p=0.000**	**p=0.000**
Duration of the illness (years)	0-5	40	33.3	19.07±2.62	20.20±4.47	15.17±5.69	24.72±6.10
	6-10	28	23.3	18.53±1.97	20.82±4.58	14.50±5.62	25.75±5.41
	11-15	26	21.7	19.26±2.20	19.73±3.99	14.65±5.23	24.61±4.80
	16 and above	26	21.7	19.69±1.80	21.84±3.02	11.92±3.77	26.69±4.07
	Test value			F=1.257	F=1.325	F=2.211	F=0.967
	Significance			p=0.293	p=0.270	p=0.091	p=0.411
**Whom you with live	Parents	38	31.7	18.92±2.45	19.57±4.05	14.84±5.21	24.28±4.76
	Spouse and/or children	56	46.7	19.16±2.13	20.23±3.94	14.71±5.27	24.71±5.01
	Other (alone, sibling, friend, relative, care home etc.)	26	21.6	19.34±2.18	22.88±4.01	12.15±5.15	28.34±5.64
	Test value			F=0.289	F=5.740	F=2.546	F=5.788
	Significance			p=0.750	**p=0.004**	p=0.083	p=0.400

*p<0.05; **Tukey; t: Independent sample t-test; F: Analysis of variance

marital status, working status, presence of a history of mental illness in the family, diagnosis of the illness, and duration of the illness, and whom you with live in terms of the anger-in subscale ($p>0.05$) (Table 1).

Comparison of the individuals' mean anger-out subscale total scores according to descriptive features showed statistically significant differences associated with gender, educational status, presence of a history of mental illness in the family, diagnosis of the illness, whom you with live ($p<0.05$). However, there were no statistically significant differences with respect to the individuals' working status, age groups, marital status, and duration of the illness in terms of the anger-out subscale ($p>0.05$). The anger-out subscale total mean scores was the highest among individuals diagnosed with substance use diorders and illiterate in the Tukey analysis (Table 1).

Comparison of the individuals' mean anger-control subscale total scores according to descriptive features showed statistically significant differences associated with gender, educational status, working status, presence of a history of mental illness in the family, diagnosis of the illness ($p<0.05$). However, there were no statistically significant differences with respect to the individuals' age groups, marital status, whom you with live, and duration of the illness in terms of the anger-control subscale ($p>0.05$). The anger-control subscale total mean scores was the highest among individuals diagnosed with anxiety disorders and obsessive compulsive disorder and graduated university in the Tukey analysis (Table 1).

The total mean score of the individuals diagnosed with mental illness were 19.12±2.23 on the anger-in subscale, 20.60±4.14 on the anger-out subscale, 14.20±5.29 on the anger-control subscale, and 25.36±5.28 on the TAS (Table 2).

TABLE 2: Distribution of the Individuals' AESS Total Mean Scores and TAS Total Mean Scores

Scale Minimum-Maximum	$\bar{X}$±SD
Anger-in 14-26	19.12±2.23
Anger-out 10-29	20.60±4.14
Anger-control 8-25	14.20±5.29
TAS 15-40	25.36±5.28

SD: Standard deviation

DISCUSSION

The findings obtained from this study, which was conductedin to the explore of trait anger level and anger expression style in individuals with mental illness, are discussed in the context of the current literature.

The result of the study is that, according to the total mean scores of the scale, it can be said that the trait anger of individuals with mental illness are at above moderate level (the minimum-maximum score that can be obtained from the scale are 10-40 for TAS). Furthermore, it was determined that men had a higher TAS total mean score compared to women and the trait anger level mean scores was the highest among diagnosed with substance use disorders. Many studies on anger levels in individuals with mental illness have determined that anger levels of individuals with mental illness are higher than healthy individuals.[15] In their study, Lievaart et al., found that anger levels were higher in individuals who were diagnosed with substance use disorder compared to the general population and reported that these individuals suffered from more serious problems related to anger management.[16] In their study, Wirth and Bodenhausen also reported that men diagnosed with schizophrenia had higher anger levels than their female counterparts.[17] A study that examined the role of substance use disorder in anger and violent behaviours in individuals found that there was a correlation between substance use disorder and anger.[18] Another study reported that high levels of anger were observed intensely in individuals who abused alcohol or psychoactive substances, especially cannabis use disorder negatively affected the level of anger in these individuals, and these individuals suffered from problems related to the inability to control their anger.[19]

In this study, it was determined that men had a higher anger-out subscale total mean score compared to women, those with a family history of mental illness had higher anger-out subscale total mean score compared to those without. Additionally, the anger-out subscale mean scores was the highest among individuals with illiterate, diagnosed with substance use diorders, lived with other (alone, sibling, friend, rel-

ative, care home etc.). Although men with mental illness are mostly able to express their anger, this may be experienced as suppressing their anger in women. This may result in higher levels of anger in men with mental illness compared to women.[20] Moreover, women with mental illness may reassess their emotional deficiencies and prefer to rectify the emotional deficiencies they experience. On the other hand, men with mental illness may suppress their emotional gaps. This may produce results for men in the short term, but in the long term, it may lead to intensified anger and anger outbursts in these individuals.[21] Likewise, in their study, Kleissl-Muir et al., also reported that individuals who abuse psychoactive or psychopharmacological substances for a long time experienced high levels of anger due to metabolic and psychomotor problems or substance-seeking behaviours, and consequently, they resorted to violence to express their intensified anger.[22] In their study, Martin et al., reported that men had a higher level of expressing their anger than women, and therefore symptoms such as anger and aggression were experienced more intensely in men.[23] Individuals with a family history of mental illness are known to be more likely to feel anger at a higher level.[24] In their study, Lichtenstein et al., reported that individuals with family members suffering from mental illness had higher anger-out scores compared to other individuals. These individuals were considered to have higher anger-out scores due to the presence of persistent stress in the family setting, inadequacy of coping mechanisms, and the negative effects of other environmental factors.[25] Individuals who live in an environment with family members suffering from mental illness, where coping mechanisms are scarce, cognitive abilities are limited, follow-up and treatment processes go on in an unhealthy manner, and the stress rate is higher, are expected to have higher levels of anger and to express their anger at a higher level. Considering factors such as loneliness and lack of social and emotional support, individuals with mental illness have been reported to feel anger at a higher level than individuals who do not live alone. Living alone is considered to lead to a loss of social ties and deprivation of emotional support, which may lead to increased negative emotional reactions such as anger.[26]

In this study, it was determined that women had a higher anger-control subscale total mean score compared to men, employed individuals had a higher anger-control subscale total mean score compared to unemployed ones, and those with no family history of mental illness had higher anger-control subscale total mean score compared to those with. Furthermore, the anger-control subscale mean scores was the highest among individuals with university educational level, diagnosed with anxiety disorders and obssesive compulsive disorders. In the literature, there is a study indicating that women have higher mean scores in the anger-control subscale compared to men.[27] The study on depression by Kuehner reported that women were more successful in controlling their feelings of anger compared to men.[28] It has been stated that women with mental illness have higher anger-control levels compared to men.[27] Many studies conducted in recent years have reported that employed individuals have higher anger-control than unemployed individuals.[29,30] In their study, Modini et al., indicated that employed individuals had higher anger-control levels than unemployed individuals, and holding a job may produce positive results on anger-control in individuals.[31] Consequently, it is considered that the opportunity to be employed may have positive effects on individuals' mental health and anger-control. The presence of mental illness in family members may lead to an elevated level of stress and depression in the individual and family members who live in such a family and a diminished ability to cope with the symptoms of the illness. Therefore, individuals who live in a family with any mental illness are considered to struggle more with emotional control and anger-control.[32] In their study, Zhang et al., found that individuals with obsessive-compulsive disorder who had a higher educational level had higher levels of anger-control compared to individuals with lower educational level.[33] Likewise, in their study, Niemeyer et al., reported that individuals with higher educational level in mental illnesses had a higher sense of anger-control and more access to psychosocial opportunities than individuals with lower educational level and these advantages had positive effects on these individuals for mental health and anger.[34] Moreover, another study

by Karahan et al., indicated that individuals who held a bachelor's degree in anxiety disorders had higher anger-control compared to individuals with lower educational level.[35] Education can improve the cognitive and problem-solving capacities of individuals with mental illness and reduce the stress, emotion regulation, and anger-control problems that these individuals may come across during the course of the illness. Thus, individuals with high educational levels who suffer from obsessive compulsive disorders and anxiety disorders are considered to be able to cope better with their feelings of anger and exhibit higher levels of anger-control compared to other individuals.[33-35]

LIMITATIONS

The limitations of this investigation were several. Due to the fact that the study was carried out in a central location, and as a result, it was conducted with individuals who had comparable social and cultural features. Furthermore, due to the descriptive nature of the study, it is not possible to do an investigation that covers the causality well enough.

CONCLUSION

The findings of the study showed that individuals with mental illness had above moderate levels of anger. Furthermore, it was determined that as the education level of individuals with mental illness increased, their anger-control scores also increased. Enhancing anger management and improving social adaptation for individuals with mental illnesses are among the responsibilities of psychiatric nurses. Therefore, using appropriate anger management can help reduce the negative consequences of anger in individuals with mental illnesses. Mental health and psychiatric nurses should prioritize identifying factors that increase anger levels and negative anger management in individuals with mental illnesses. Subsequently, they should implement various psychotherapeutic interventions to reduce anger levels and enhance positive anger management for individuals with mental illnesses, integrating these interventions into routine clinical care in addition to pharmacological treatment. Additionally, there are a limited number of studies on this subject in Türkiye. Future research should explore whether or not the identified anger level and the anger management used in this population. It may be recommended to investigate the subject with a larger sample group and randomized controlled studies.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Tülay Yıldırım Üşenmez;* ***Design:*** *Tülay Yıldırım Üşenmez;* ***Control/Supervision:*** *Tülay Yıldırım Üşenmez;* ***Data Collection and/or Processing:*** *Aslan Dikmen;* ***Analysis and/or Interpretation:*** *Tülay Yıldırım Üşenmez;* ***Literature Review:*** *Tülay Yıldırım Üşenmez;* ***Writing the Article:*** *Tülay Yıldırım Üşenmez, Aslan Dikmen;* ***Critical Review:*** *Tülay Yıldırım Üşenmez;* ***References and Fundings:*** *Tülay Yıldırım Üşenmez, Aslan Dikmen;* ***Materials:*** *Tülay Yıldırım Üşenmez, Aslan Dikmen;* ***Other:*** *Tülay Yıldırım Üşenmez.*

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