



Evaluation of Patients Diagnosed with Generalized Anxiety Disorder in Terms of Early Maladaptive Schemas

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Abstract

Aim: It has been reported that individuals with generalized anxiety have many interpersonal problems and these problems occur through schemas such as emotional inhibition, shyness, subjugation, self-sacrifice and intervention. In light of this information, the purpose of this study was to compare individuals with generalized anxiety disorder (GAD) and healthy controls in terms of early maladaptive schemas (EMSs).

Material and Methods: This research involved 92 participants aged 18 to 55, including 48 GAD patients and 44 healthy controls. Sociodemographic data form, Young Schema Questionnaire-Short Form-3 (YSQ-S3), Generalized Anxiety Disorder 7-item scale (GAD-7), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were administered to the participants. The study was approved by the ethics committee (KÜTF KAEK NO:2023.02.16).

Results: The patients' average age was 38.19±11.29, and 83.3% of them (n=40) were women. The average age of healthy controls was significantly lower, however, neither group differed significantly in terms of education or marital status. The mean GAD-7 score of the patients was 6.26±6.81. Emotional deprivation (p=0.024), pessimism (p<0.001), approval seeking (p=0.034), self-sacrifice (p=0.004), punitiveness (p<0.001), abandonment (p<0.001), vulnerability (p=0.042) schema scores, and BAI (p<0.001) and BDI (p<0.001) scores were significantly higher in GAD group. Moreover, there was a positive correlation (p<0.05) between GAD-7 score and early maladaptive schemas (excluding failure, insufficient self-control and defectiveness).

Conclusion: Our findings show that multiple EMSs play a role in patients with GAD. In this context, EMSs should be considered in the approach to patients with GAD, as it is one of the diseases that cause the most disability and is closely related to other psychological disorders.

Keywords: Maladaptive schema, anxiety, psychiatric disorders

INTRODUCTION

Generalized anxiety disorder (GAD) is defined as a person experiencing extreme anxiety in certain activities on most of the days for at least six months and having difficulty controlling their worry. For the diagnosis of GAD, anxiety and worry must be accompanied by at least three of the symptoms such as restlessness, nervous tension, fatigue, easy anger, muscle tension, difficulty in concentration and sleep disturbance (1). The lifetime prevalence of GAD is reported to be 4.3% (2). It has been suggested that GAD is one of the most disabling disorders because of its

chronic process, high prevalence, and association with other psychological disorders (3). It has been reported that the development of anxiety disorders is multifactorial, and genetic structure, parenting styles, temperament and environmental factors are effective (4). In addition, the importance of investigating early maladaptive schemas (EMS) and ways of coping with schemas are emphasized in the factors that sustain anxiety disorder (5).

EMSs are defined as lifelong repetitive memories, cognitions, and emotions that arise from neglected essential emotional needs in childhood and adolescence.

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Young identified 18 EMSs containing five schema domains. The schema domains are separation/exclusion domain, impaired autonomy domain, other-directedness domain, impaired boundaries domain, hypersensitivity and suppression domain. While EMSs initially help the child cope with problems, they become dysfunctional over time and disrupt harmony with the environment (6, 7). It has been shown in the literature that EMSs are associated with anxiety disorders; especially impaired autonomy, disconnection and rejection schema domains came to the fore (8, 9). Shariati and Ghasemian (2014) also found a significant association between EMSs and anxiety. They reported that defectiveness/shame schemas from EMSs were predictors of anxiety, and early self-sacrifice schema had an inverse correlation with anxiety (10).

Considering the high prevalence of GAD and its accompanying psychiatric conditions (eg depression, etc.), it becomes important to investigate the factors contributing to this disorder (11). However, the number of research investigating the relationship among GAD and EMSs is limited in the scientific literature. Considering this information, we intended to fill this gap in the literature and we planned this study in line with the hypothesis "There is a significant relationship between anxiety and early maladaptive schemas". This study aims to compare early maladaptive schemas between patients with generalized anxiety disorder and healthy controls.

MATERIAL AND METHOD

Study Design

The design of the study was cross-sectional and was carried out in Kirikkale University Faculty of Medicine Psychiatry Outpatient Clinic between March 2023 and April 2023. As the only university hospital in our province, our clinic provides diagnosis and treatment services to all psychiatric diagnosis groups. Power analysis was applied to determine the number of samples to be included in our study. At the end of the G-power analysis (Means: Difference between two independent means (two groups)) made by accepting the number of participants belonging to the groups as different revealed that the total sample size of the study should consist of at least 72 participants (Critical $t=1.989$, effect size $d=0.792$, total sample size=72, actual power= 0.952). In this context, a total of 92 individuals—48 patients between the ages of 18 and 50 and 44 healthy controls diagnosed with GAD (according to DMS-5) after applying to the outpatient clinic—were included in the study. A psychiatrist who is an expert in the field evaluated patients with a diagnosis of GAD according to the DSM-5 diagnostic criteria. Those with any psychiatric or neurological disease other than the diagnosis of GAD were not included in the study. Healthy controls were selected from volunteers who applied to our outpatient clinic for any reason (license renewal, etc.) and did not have any psychiatric diagnosis. The study was approved by Kirikkale University Faculty of Medicine Non-

Invasive Research Ethics Committee with the decision number 2023.02.16 on 22.02.2023.

Sociodemographic data form, Young Schema Questionnaire-Short Form-3 (YSQ-S3), Generalized Anxiety Disorder 7-item scale (GAD-7), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) were applied to the patients who gave consent to participate in the study.

Instruments

Young Schema Questionnaire-Short Form-3 (YSQ-S3):

It was developed by Young et al. (2003) to identify EMSs. The Turkish adaptation of the questionnaire was made by Soygüt, Karaosmanoğlu and Çakır (2009), and 5 schema domains and 14 sub-dimensions were reached in the adaptation study. Disconnection (emotional deprivation, emotional inhibition, social isolation/insecurity, defectiveness), impaired autonomy (involvement/dependence, pessimism, abandonment, failure, vulnerability to harm), impaired limits (entitlement, insufficient self-control), other-directedness (self-sacrifice, punitiveness), and excessive standards (high standards, approval seeking) are among the five domains and dimensions mentioned. The instrument contains 90 queries, and each question is scored between 1 and 6. The increase in score shows how much the functionality of the schema domain is impaired (6,12).

Generalized Anxiety Disorder 7-item scale (GAD-7):

It consists of a brief, self-reported test created by Spitzer and colleagues to evaluate generalized anxiety disorder. It's a 7-item, 4-point Likert scale that assesses how you've been feeling during the past two weeks. The GAD-7 needs approximately 1–2 minutes to administer and provides the following response options for each symptom: "not at all," "several days," "over half the days," and "nearly every day," which are scored as 0, 1, 2, or 3, respectively. In patients with a total score of 10 or higher, additional methods are required to investigate and confirm the diagnosis of GAD. When the total score threshold was set at 10, the diagnostic sensitiveness for GAD was 89% and the accuracy was 82% (13,14).

Beck Depression Inventory (BDI):

Beck et al. established this scale to measure the severity of depression. The study was adapted to Turkish and cut off value of the scale was determined as 17 points. The scale consists of 21 items, and total score that can be received from the scale vary between 0 and 63. The degree of depression is indicated by the scale's high score. Hisli made a version of the scale for use in Turkish (15,16).

Beck Anxiety Inventory (BAI):

The self-report scale was developed by Beck and colleagues. It consists of 21 items, each with four points that reflect levels of increasing severity of each of the symptoms. BAI evaluates the following symptoms: heat, tremor in the legs and hands, inability to relax, fear of the worst happening, dizziness, a faster heartbeat, emotional instability, feeling terrified or

frightened, nervousness, and weakness and vulnerability. The classification of the indicative scores for anxiety is: minimal (0-10), mild (11-19), moderate (20-30), and high (31-63). Ulusoy et al. developed the Turkish version of BAI (17,18).

Statistical Analysis

SPSS software, version 23.0 from SPSS Inc. USA, was used to analyze the data. For numerical parameters, means and standard deviations were calculated, whereas percentages were calculated for qualitative parameters. With the help of the Kolmogorov-Smirnov test, data patterns were clarified. When comparing continuous measures, independent sample t-tests were utilized, whereas Mann-Whitney U tests were utilized for discrete numerical variables. The qualitative factors within the study group were compared using chi-square analysis. The association between early maladaptive schemas and GAD-7 was examined using the Spearman correlation test.

RESULTS

Age of participants on average in our study was 38.19 ± 11.29 , and 83.3% (n=40) of them were women. The healthy controls' mean age was found to be substantially lower than that of the sick $p < 0.001$, however, no significant variances in education or marital status were noticed between the groups ($p > 0.05$) (Table 1).

Table 1. Demographic characteristics of the participants

Data	Patient (n=48)	Control (n=44)	p
Age, mean \pm SD	38.19 \pm 11.29	26.34 \pm 6.24	<0.001
Gender, n			0.019
Female/Male	40/8	27/17	
Education, n (%)			0.821
Primary	18 (37.5)	9 (20.5)	
High	14 (29.2)	30 (67.7)	
Above	16 (33.3)	5 (11.8)	
Marital status, n (%)			0.301
Single	18 (37.5)	12 (27.3)	
Married	30 (62.5)	32 (72.7)	
Working status, n (%)			0.903
Housewife	17 (31.8)	15 (24.6)	
Worker	31 (17.6)	29 (16.4)	
Family psychiatric illness n(%)			<0.001
Yes	19 (39.6)	2 (4.5)	
No	29 (60.4)	42 (95.5)	

Mean \pm SD: Standard Deviation, * $p < 0.05$, ** $p < 0.001$

The average GAD-7 score of the patients was 11.70 ± 4.01 , BAI score was 26.85 ± 10.27 , and BDI score was 13.17 ± 7.86 . Emotional deprivation ($p = 0.024$), pessimism ($p < 0.001$), approval seeking ($p = 0.034$), self-sacrifice ($p = 0.004$), punitiveness ($p < 0.001$), abandonment ($p < 0.001$), vulnerability ($p = 0.042$) schema scores, and BAI ($p < 0.001$) and BDI ($p < 0.001$) scores were significantly higher in GAD group (Table 2).

Table 2. Comparison of the participants in terms of clinical characteristics

Variables (mean \pm SD/	Patient (n=48)	Control (n=44)	X ² /Z	p
YSQ-S3				
Emotional deprivation	11.13 \pm 6.09	8.61 \pm 4.16	13.70 ^a	0.024
Failure	10.64 \pm 4.76	11.38 \pm 5.57	-5.07 ^b	0.612
Pessimism	17.69 \pm 6.84	11.70 \pm 4.65	10.13 ^a	<0.001
Social isolation	16.25 \pm 7.60	18.36 \pm 6.84	-1.60 ^b	0.19
Emotional inhibition	12.77 \pm 6.12	10.91 \pm 5.02	2.39 ^a	0.116
Approval seeking	20.67 \pm 7.22	17.64 \pm 6.26	1.01 ^a	0.034
Enmeshment	16.64 \pm 7.09	19.21 \pm 8.67	-1.28 ^b	0.19
Insufficient self control	19.34 \pm 6.71	20.95 \pm 6.47	0.21 ^a	0.311
Self-sacrifice	14 \pm 5.21	17.62 \pm 6.40	2.96 ^a	0.004
Abandonment	12.36 \pm 5.73	8.64 \pm 4.73	-3.69 ^b	<0.001
Punitiveness	16.43 \pm 5.50	21.43 \pm 7.04	5.76 ^a	<0.001
Defectiveness/shame	9.70 \pm 4.64	10.04 \pm 3.97	-0.60 ^b	0.547
Vulnerability to harm/illness	10.25 \pm 4.13	12.77 \pm 6.01	-2.03 ^b	0.042
Unrelenting standarts	8.45 \pm 3.99	8.41 \pm 3.07	0.04 ^a	0.86
GAD-7	11.70 \pm 4.05	0.36 \pm 2.41	31.9 ^a	<0.001
BAI	6.36 \pm 5.27	26.85 \pm 10.87	15.78 ^a	<0.001
BDI	4.86 \pm 4.71	13.17 \pm 7.86	-5.31 ^b	<0.001

YSQ-S3: young schema questionnaire- short form 3, GAD-7: generalized anxiety Disorder test-7, BAI: beck anxiety inventory, BDI: beck depression inventory, * $p < 0.05$, ** $p < 0.001$

Moreover, a correlation existed between GAD-7 score and emotional deprivation ($r=0.314$, $p=0.002$), pessimism ($r=0.596$, $p<0.001$), social isolation ($r=0.282$, $p=0.006$), emotional inhibition ($r=0.234$, $p=0.025$), approval seeking ($r=0.235$, $p=0.024$), intimacy/dependence ($r=0.306$, $p=0.003$), self-sacrifice ($r=0.348$, $p=0.001$), abandonment ($r=0.442$, $p<0.001$) and punitiveness ($r=0.368$, $p<0.001$) schema scores (Table 3).

Table 3. Correlation analysis of early maladaptive schemas in patients with GAD

Variables	GAD-7	Age
YSQ-S3		
Emotional deprivation	0.314**	0.262*
Failure	0.194	-0.021
Pessimism	0.596**	0.172
Social isolation	0.282**	0.030
Emotional inhibition	0.234*	-0.054
Approval seeking	0.235*	-0.146
Enmeshment	0.306**	0.163
Insufficient self control	-0.083	-0.057
Self-sacrifice	0.348**	0.204
Abandonment	0.442**	0.158
Punitiveness	0.368**	0.052
Defectiveness/shame	0.15	0.041
Vulnerability to harm/illness	0.366**	0.077
Unrelenting standards	0.033	0.011

SQ- S3: young schema questionnaire- short form 3, GAD-7: generalized anxiety Disorder test-7, R values are presented in the table, * $p<0.05$, ** $p<0.001$

DISCUSSION

In the present research, the GAD group had significantly higher scores of impaired autonomy (pessimism, abandonment, vulnerability), disconnection (emotional deprivation), other-directedness (punitiveness, self-sacrifice) and excessive standards (seeking approval) from EMS domains were significantly higher. Moreover, there was a positive correlation between GAD-7 score and all of EMSs (except for failure, insufficient self-control, and defectiveness).

GAD is a common mental disorder that causes severe disability but is not adequately recognized and treated (11). Therefore, it is essential to comprehend the underlying causes of this disorder. Today, it is seen that EMSs are considered as an important explanatory while trying to understand the psychological basis of anxiety. EMSs are defined as "schemas related to one's relationships with oneself and others that develop during childhood or adolescence, are elaborated throughout life, and are significantly dysfunctional". The mixture of a child's genetic temperament and dysfunctional experiences with parents, siblings, and peers leads to the development of these schemas, and may predispose individuals to the development and maintenance of psychological disorders (6). EMS is also common among people experiencing GAD symptoms (19,20).

Similarly, it was determined in our study that the scores of impaired autonomy (pessimism, abandonment, vulnerability), disconnection (emotional deprivation), other-directedness (punitiveness, self-sacrifice) and excessive standards (seeking approval) from EMS domains were significantly higher in GAD group. In a meta-analysis that examined the relationships between anxiety symptoms and five schema domains, it was found that EMS and anxiety symptoms in general were significantly correlated. The results from the distinct schema domains revealed associations between disconnection/rejection, impaired autonomy/performance, and other-directedness schemas that were significantly stronger (21). In this respect, our findings are compatible with Young's theory. Accordingly, significant schema areas related with anxiety symptoms include the failure to create secure and stable connections, a lack of independence, reliance, harm, and an excessive attention on the needs of others. From this point, our findings can be explained by the fact that individuals with GAD, depending on the schema content, think that catastrophic and dangerous situations are unavoidable and cannot cope with them, and secondarily, their feelings of anxiety and worry increase (22). Considering that some of the main features of GAD are excessive anxiety about various life conditions such as health, relationships, and work, it would theoretically make sense that individuals with core EMS, where autonomy and performance are impaired, may be prone to GAD symptoms (23).

Moreover, a positive correlation existed between GAD-7 score and EMS (excluding failure, insufficient self-control and defectiveness) in our study. The number of studies evaluating the association between GAD symptoms and EMS is limited in the literature. In a study that investigated the role of EMS in predicting MDD and GAD symptoms in people getting inpatient treatment for drug abuse, GAD symptoms were positively and significantly associated with all EMS domains (24). In a study evaluating the association between permanent anxiety and EMS in a non-clinical sample group, it was reported that all schema domains were predictors of permanent anxiety (25-27). In this respect, our study result was supported by the literature. Moreover, various studies have shown that EMS is associated with GADs. In the study conducted by Welburn et al in which the association between EMS and anxiety symptoms was evaluated, 13 of 15 EMSs evaluated were significantly associated with anxiety symptoms. However, results were not presented here by primary disorder (28). In the study by Delattre et al., EMSs from a group of people with different kinds of anxiety disorders were compared to non-psychiatric subjects. The anxiety group significantly outperformed controls on each of the 13 EMS assessed. The results were interpreted to suggest that YSQ measured general permanent anxiety because there were no individual EMSs that occurred specifically for anxiety disorders. However, participants with any of the three anxiety disorders (panic disorder, social phobia, or GAD) were included in the sample, and results were not broken down by illness (19). The fact that only patients

with a diagnosis of GAD were evaluated in terms of EMS in our study makes our study different in this respect. The absence of an association between GAD-7 score and failure, inadequate self-control and defectiveness schemes in our study can be explained by the fact that these schemes are associated with depression symptoms, as mentioned in the literature (29). However, longitudinal studies are needed for this.

Limitations should also be considered when interpreting our study. First, due to the cross-sectional nature of the study design, no causal inferences can be made. Longitudinal research is needed that examines the relationship identified in the current study. Second, the questionnaires/surveys were completed by the participants themselves, and SCID-5-CV (American Psychiatric Association, 2000) (Structured Clinical Interview for DSM-5—Clinical Version) was not administered to the participants. The strength of our study is that it is a pioneering study evaluating early maladaptive schemas in patients with a diagnosis of GAD.

CONCLUSION

Our findings show that multiple EMSs (emotional deprivation, pessimism, approval seeking, self-sacrifice, punitiveness, abandonment, and vulnerability) play a role in patients with GAD. Considering that individuals with generalized anxiety have many interpersonal problems and these problems occur through schemas such as emotional inhibition, shyness, subjugation, self-sacrifice, and intervention (30), the evaluation of EMS becomes important. In this respect, when our study was considered together with previous studies (21,24), GAD symptoms were found to be related to disconnection/rejection, impaired autonomy/performance, and other-directedness schema domains. However, the literature data on this subject is limited and longitudinal studies are needed.

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Conflict of Interest: The authors have no conflicts of interest to declare.

Ethical approval: The study was approved by Kırıkkale University Faculty of Medicine Non-Invasive Research Ethics Committee with the decision number 2023.02.16 on 22.02.2023.

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