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The Effectiveness of Systematic Eye Movement Desensitization and Reprocessing on Post-Traumatic Stress Disorder and Anxiety in Girls with Grief Disorder

Sama Delafrouz[1], **Mehrdad Sabet**[2]

1. M. A in General Psychology, Department of Psychology, Roudehen Branch, Islamic Azad University, Roudehen, Iran
2. Associate Professor, Department of Psychology, Rudehen Branch, Islamic Azad University, Rudehen, Iran, sabetmeh@iau.ac.ir

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ABSTRACT

Objective: This study aimed to determine the effectiveness of eye movement desensitization and reprocessing (EMDR) on post-traumatic stress disorder and anxiety among girls with grief disorder.

Methods: This quasi-experimental study employed a pretest–posttest design with experimental and control groups. The statistical population consisted of all female students studying in schools in District 5 of Tehran during the 2025–2026 academic year. Thirty students were selected through purposive sampling and randomly assigned to two equal groups (15 in the experimental group and 15 in the control group). Data were collected using the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995) and the Posttraumatic Stress Diagnostic Questionnaire (Tedeschi & Calhoun, 1996). The experimental group received EMDR therapy based on Shapiro's protocol for six sessions (one 60-minute session per week). Data were analyzed using analysis of covariance (ANCOVA).

Results: Compared with the control group, EMDR had a significant effect on improving total post-traumatic stress scores ($\eta^2 = 0.308$, $F = 11.909$, $p = 0.002$) and reducing anxiety scores ($\eta^2 = 0.263$, $F = 9.654$, $p = 0.004$) in the experimental group at the posttest stage ($p < 0.05$). The intervention reduced post-traumatic stress by 30.8% and anxiety by 26.3%.

Conclusions: The findings suggest that EMDR can be an effective intervention for reducing post-traumatic stress and anxiety in girls experiencing grief. Therapists working with individuals facing grief and related psychological vulnerabilities may use EMDR techniques to enhance emotional processing and improve the management of negative emotions and post-traumatic stress symptoms.

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Introduction

Natural disasters and traumatic events cause the death and disability of millions of people each year and impose extensive psychological and financial burdens on societies. Among the most

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vulnerable groups affected by such events are children and adolescents, many of whom lose one or both parents as a result of accidents, disasters, or illness. The loss of a parent during childhood is considered one of the most distressing life experiences, with profound and long-lasting psychological consequences (Dantan et al., 2026; Wray et al., 2026). Research indicates that parental death significantly disrupts children's emotional development, sense of security, and psychological adjustment, increasing their risk for various mental health problems (Ogle et al., 2026).

Among different traumatic experiences, the death of a parent—particularly when the child witnesses the event or is directly exposed to the circumstances surrounding it—can be one of the most crisis-inducing and psychologically damaging events. Grief reactions following the loss of a loved one are generally considered a normal and natural psychological response and often do not require clinical intervention. However, when grief becomes prolonged, intense, and maladaptive—typically persisting for more than 6 to 12 months—it can significantly impair daily functioning and evolve into complicated or prolonged grief. In such cases, individuals may experience severe psychological distress and symptoms similar to post-traumatic stress disorder (PTSD) and other mental health disorders that require professional treatment (Lu et al., 2025; Özdemir et al., 2025). Empirical evidence suggests that children and adolescents experiencing bereavement often struggle with a wide range of distressing psychological symptoms. These symptoms may include intrusive memories, persistent rumination about the loss, heightened physiological arousal, and avoidance of situations or stimuli associated with the deceased. Such experiences can contribute to the development or exacerbation of post-traumatic stress symptoms, making it more difficult for individuals to adapt and function effectively in stressful environments (Trajchevska & Jones, 2025; Ogle et al., 2026). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), post-traumatic stress disorder is characterized as a psychological response to exposure to a severe traumatic event. The diagnosis requires that symptoms persist for at least one month and include three primary clusters: re-experiencing the traumatic event, avoidance and emotional numbing, and persistent hyperarousal (Trajchevska & Jones, 2025).

PTSD can manifest in multiple forms, including anxiety, depression, interpersonal difficulties, and cognitive impairments. Although a large proportion of research on PTSD has focused on adults, studies have documented a substantial prevalence of this disorder among children and adolescents

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who have experienced traumatic events or have witnessed death and severe accidents (Mancini et al., 2025). Because psychological defense mechanisms and coping strategies are still developing during childhood and adolescence, young individuals may be particularly vulnerable to the negative psychological effects of trauma. Consequently, exposure to severe stressors during these developmental stages can lead to higher levels of PTSD symptoms as well as mood and anxiety disorders compared to adults (Mancini et al., 2025).

Although grief is recognized as a universal human experience, its psychological consequences—particularly during developmental stages—require specialized therapeutic attention. In recent decades, several psychological interventions have been developed to reduce trauma-related stress and its associated symptoms. One of the interventions that has shown promising results in trauma treatment is Eye Movement Desensitization and Reprocessing (EMDR) therapy. EMDR is a structured psychotherapy approach designed to help individuals process traumatic memories and reduce the emotional distress associated with them (Shapiro, 2001). The primary goal of EMDR is to facilitate the adaptive processing of distressing memories so that their negative psychological impact is reduced.

The core mechanism of EMDR involves directing the individual's attention toward distressing memories while simultaneously engaging in bilateral stimulation, such as guided eye movements, alternating tactile stimulation, or auditory tones. This bilateral stimulation is believed to help the brain reprocess traumatic memories more adaptively and reorganize neural networks associated with memory and emotion, thereby reducing the intensity of emotional responses and anxiety (Shapiro, 2001; Hafkemeijer et al., 2025). A growing body of research has demonstrated the effectiveness of EMDR in reducing symptoms of PTSD, anxiety, and depression across various clinical populations (Ajele et al., 2026; Chen et al., 2025; Yasar et al., 2025). Furthermore, randomized controlled trials have shown that EMDR can significantly improve trauma-related symptoms and diagnostic status in individuals with complex psychological conditions (Hafkemeijer et al., 2025). Nevertheless, some scholars emphasize the need for further research to better understand the mechanisms of action and potential adverse effects associated with EMDR therapy (van Schie & van Veen, 2025).

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Despite the growing evidence supporting EMDR, its effectiveness among specific vulnerable groups—such as bereaved girls who simultaneously experience grief and trauma—remains insufficiently investigated. Children and adolescents who lose a parent may experience overlapping psychological challenges, including complicated grief, anxiety, and PTSD symptoms. These overlapping difficulties can intensify emotional distress and interfere with healthy developmental processes.

Given the high prevalence of bereavement in society and the significant negative impact of PTSD and anxiety on the psychological well-being and development of adolescent girls, conducting research on effective therapeutic interventions for this population is essential. Bereaved girls may be particularly vulnerable to long-term psychological difficulties, highlighting the importance of specialized therapeutic approaches aimed at preventing chronic mental health problems. Investigating the effectiveness of EMDR therapy in this context may contribute to the development of evidence-based interventions that help reduce psychological suffering and improve emotional regulation through neurocognitive reprocessing mechanisms.

Therefore, the present study was conducted to determine the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR) therapy on post-traumatic stress disorder and anxiety among girls with grief disorder. Findings from such research may provide valuable empirical evidence for clinicians and mental health professionals, facilitate the refinement of therapeutic protocols, and inform mental health policies and supportive programs designed for trauma-affected communities.

Material and Methods

The present study employed a quasi-experimental design with a pretest–posttest control group structure. This design is commonly used in psychological intervention research to evaluate the effectiveness of therapeutic programs when full randomization is not feasible. The study consisted of two groups: an experimental group receiving Eye Movement Desensitization and Reprocessing (EMDR) therapy and a control group that did not receive the intervention during the study period. The statistical population of the study included all female students studying in schools located in District 5 of Tehran during the 2023–2024 academic year. From this population, adolescents who

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had received a confirmed diagnosis of grief disorder from a psychologist or counselor working at a psychotherapy center affiliated with the Ministry of Education were identified.

Using purposive sampling, 30 eligible participants were selected. Participants were then randomly assigned through simple random allocation into two equal groups: Experimental group (n = 15) and Control group (n = 15). Such sampling procedures are frequently used in intervention studies targeting specific clinical populations (Rahimi Sadegh et al., 2025).

The required sample size was calculated using the following formula based on the study by Rahimi Sadegh et al. (2025). Considering a standard deviation of 8, a mean difference of 4.82 between experimental and control groups in anxiety scores, a statistical power of 0.90, and a significance level of $\alpha = 0.05$, the required sample size was estimated at 15 participants per group. After determining the sample size, participants were randomly assigned to either the experimental or control group.

Inclusion and Exclusion Criteria

Inclusion criteria: Participants were included in the study if they met the following conditions: Providing written informed consent to participate in the research, receiving a confirmed diagnosis of grief disorder by a qualified psychologist, at least six months having passed since the diagnosis, female gender, age range between 12 and 18 years, living with at least one surviving parent or a primary caregiver if both parents were deceased , ability to complete all self-report questionnaires during assessment phases and ability to regularly attend therapy sessions and perform assigned exercises

Exclusion criteria: Participants were excluded or withdrawn from the study if any of the following conditions occurred: Absence from more than two intervention sessions, worsening psychological symptoms requiring hospitalization, presence of chronic physical or psychiatric disorders, substance abuse or dependence, diagnosis of severe psychiatric disorders such as major depressive disorder, bipolar disorder, schizophrenia, psychotic episodes, or schizotypal disorders and participation in another psychological treatment program during the intervention period.

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Instruments

Depression Anxiety Stress Scales (DASS-21): The Depression Anxiety Stress Scales (DASS-21) is a self-report instrument developed by Lovibond and Lovibond (1995) to measure three negative emotional states: depression, anxiety, and stress.

The questionnaire consists of 21 items, divided into three subscales: Depression (7 items), Anxiety (7 items) and Stress (7 items). Items are rated on a 4-point Likert scale, ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time).

Lovibond and Lovibond (1995) reported internal consistency coefficients (Cronbach's alpha) of Depression: 0.89, Anxiety: 0.84, Stress: 0.82 and Total scale: 0.83.

Previous studies conducted in Iran have confirmed the psychometric properties of this instrument. For example, Hafez et al. (2022) reported Cronbach's alpha coefficients of 0.77 for depression, 0.79 for anxiety, and 0.78 for stress. They also established criterion validity through correlations with the Beck Depression Inventory, Zung Anxiety Scale, and Perceived Stress Scale, with significant correlations ranging from 0.49 to 0.70 ($p < .001$). In the present study, the reliability coefficient of the scale was 0.77.

Posttraumatic Growth Inventory (PTGI): The Posttraumatic Growth Inventory (PTGI) was developed by Tedeschi and Calhoun (1996) to assess positive psychological changes experienced as a result of struggling with traumatic events. The scale contains 21 items rated on a 6-point Likert scale ranging from: 0 = I did not experience this change, 5 = I experienced this change to a very great degree. Tedeschi and Calhoun (1996) reported a Cronbach's alpha of 0.96, indicating excellent internal consistency. The reliability of the scale has also been confirmed in various Iranian studies. Abbaspour Gelsefidi and Khaleghipour (2025) reported a Cronbach's alpha coefficient of 0.82 for the Persian version. In the present study, Cronbach's alpha for the PTGI was 0.71.

Intervention Procedure: EMDR Therapy

The intervention consisted of Eye Movement Desensitization and Reprocessing (EMDR) therapy, conducted according to the protocol developed by Shapiro (2001). EMDR is a structured psychotherapy approach designed to facilitate the processing of traumatic memories through bilateral stimulation such as guided eye movements (Shapiro, 2001). The intervention included six weekly sessions, each lasting approximately 60 minutes.

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Previous research has shown that EMDR therapy can significantly reduce symptoms of post-traumatic stress, anxiety, and depression in trauma-exposed individuals (Ajele et al., 2026; Hafkemeijer et al., 2025; Yasar et al., 2025).

To adhere to ethical standards, the control group was assured that after the completion of the research they would receive mindfulness-based intervention sessions free of charge.

Table 1. Summary of EMDR Therapy Sessions Based on Shapiro's Protocol

Session	Session Content
Session 1	Gathering necessary information for treatment planning, obtaining client history, reviewing family and clinical background, assessing PTSD symptoms, evaluating social support, identifying treatment goals and expectations.
Session 2	Preparation phase: providing psychoeducation about EMDR, explaining treatment stages and emotional fluctuations during therapy, introducing coping metaphors, and teaching stabilization techniques such as safe-place imagery and deep breathing.
Session 3	Assessment phase: identifying negative emotions and anxiety, selecting a target memory and associated image, identifying negative cognitions related to the traumatic event, and selecting alternative positive cognitions.
Session 4	Desensitization phase: the most intensive stage of therapy. Participants focused on distressing memories, negative beliefs, and bodily sensations while following the therapist's hand movements for bilateral eye stimulation.
Session 5	Installation phase: strengthening positive cognitions through bilateral stimulation and integrating them with the target memory. Emotional distress was assessed and managed until an acceptable level of relief was achieved.
Session 6	Evaluation of treatment goals, consolidation of progress, discussion and practice of coping skills, planning home exercises, and summarizing previous sessions.

Data Analysis

Data were analyzed using SPSS version 26. The primary statistical method used for hypothesis testing was Multivariate Analysis of Covariance (MANCOVA). Prior to conducting the analysis, statistical assumptions related to covariance analysis were examined and confirmed.

Additionally, Chi-square tests were used to compare demographic characteristics between the experimental and control groups. The level of statistical significance was set at 0.05.

Demographic Characteristics

Results from demographic data indicated that in the experimental group:

- 53% (8 participants) were aged 17–18 years
- 27% (4 participants) were aged 15–16 years
- 20% (3 participants) were aged 12–14 years

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In the control group:

- 46% (7 participants) were aged 17–18 years
- 40% (6 participants) were aged 15–16 years
- 14% (2 participants) were aged 12–14 years

Descriptive statistics including means and standard deviations of the dependent variables were calculated for both groups. The results indicated a reduction in the mean scores of post-traumatic stress disorder and anxiety among participants in the experimental group following participation in EMDR therapy sessions.

Ethical Considerations

The present study adhered to established ethical principles for research involving human participants.

Informed consent was obtained from all participants and their legal guardians before the study began.

Participants were fully informed about the purpose, procedures, and voluntary nature of the research.

They were assured that they could withdraw from the study at any time without any negative consequences.

The confidentiality and anonymity of participants' personal information were strictly maintained.

Psychological well-being of participants was prioritized throughout the study, and participants requiring additional support were referred to professional services.

To ensure fairness, members of the control group were offered free psychological intervention sessions after completion of the study.

Results

Descriptive statistics for the study variables across groups and measurement stages (pretest and posttest) are presented in Table 2. The results indicate that the experimental group showed a decrease in the mean scores of post-traumatic stress and anxiety at posttest, whereas the control group exhibited minimal changes between pretest and posttest measurements.

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Table 2. Descriptive Statistics (Mean ± SD) of Research Variables by Group and Measurement Phase

Dependent Variable	Group	N	Pretest (Mean ± SD)	Posttest (Mean ± SD)
Post-traumatic Stress	Experimental	15	63.73 ± 7.67	60.62 ± 7.03
	Control	15	63.60 ± 7.76	63.13 ± 9.19
Anxiety	Experimental	15	42.20 ± 4.41	36.67 ± 4.85
	Control	15	41.73 ± 4.35	41.07 ± 4.26

Overall, the descriptive findings suggest that participation in the EMDR intervention sessions was associated with reductions in post-traumatic stress and anxiety among participants in the experimental group.

Assumption Testing

Prior to conducting the main analysis, the assumptions required for Multivariate Analysis of Covariance (MANCOVA) were examined. First, Levene's test for equality of variances indicated that the assumption of homogeneity of variances was met for both dependent variables. The results showed that Levene's test was not statistically significant for post-traumatic stress ($F = 0.048$, $p = 0.828$) or anxiety ($F = 1.387$, $p = 0.249$), indicating that the variances across groups were equal.

Because the sample size in each group was less than 40 participants, the Shapiro–Wilk test was used to examine the normality of the data distribution. The results showed that the obtained values for post-traumatic stress ($p = 0.187$, $p = 0.214$) and anxiety ($p = 0.203$) were not statistically significant. Therefore, the assumption of normal distribution of data was satisfied. Additionally, Box's M test was conducted to examine the equality of covariance matrices across groups. The results indicated that the assumption of homogeneity of covariance matrices was satisfied:

Box's M = 1.775

F = 0.546

p > 0.651

Multivariate Analysis of Covariance

To examine the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR) therapy, a Multivariate Analysis of Covariance (MANCOVA) was conducted while controlling for pretest scores.

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Table 3. Multivariate Tests for the Effect of Group Membership on Research Variables

Test	Value	F	Sig.	Effect Size	Statistical Power
Pillai's Trace	0.434	9.602	0.001	0.434	0.996
Wilks' Lambda	0.566	9.602	0.001	0.434	0.996
Hotelling's Trace	0.768	9.602	0.001	0.434	0.996
Roy's Largest Root	0.768	9.602	0.001	0.434	0.996

The results of the Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root tests indicated statistically significant differences between the experimental and control groups in the combined dependent variables ($p < 0.001$). Therefore, the two groups differed significantly in at least one of the dependent variables at the posttest stage. The effect size ($\eta^2 = 0.434$) indicates that approximately 43.4% of the variance in post-traumatic stress and anxiety scores among girls with grief disorder can be attributed to the EMDR intervention. Furthermore, the statistical power of 0.996 demonstrates that the sample size was adequate and the statistical test had high power.

Between-Subjects Effects

Following the significant multivariate results, univariate ANCOVA analyses were conducted to examine the effect of the intervention on each dependent variable separately.

Table 4. Between-Subjects Effects of MANCOVA on Posttest Scores

Source	Variable	Sum of Squares	df	Mean Square	F	p	Effect Size
Pretest	Post-traumatic Stress	6.582	1	6.582	0.095	0.760	0.004
	Anxiety	134.048	1	134.048	8.039	0.009	0.229
Group Membership	Post-traumatic Stress	830.744	1	830.744	11.990	0.002	0.308
	Anxiety	160.976	1	160.976	9.654	0.004	0.263
Error	Post-traumatic Stress	1870.751	27	69.287			
	Anxiety	450.219	27	16.675			
Corrected Total	Post-traumatic Stress	2709.467	29				
	Anxiety	729.467	29				

The results of the MANCOVA analysis presented in Table 4 indicate that, after controlling for pretest scores as a covariate, EMDR therapy had a statistically significant effect on reducing post-traumatic stress and anxiety among participants.

Specifically:

Post-traumatic stress: $F = 11.990$, $p = 0.002$, $\eta^2 = 0.308$

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Anxiety: $F = 9.654$, $p = 0.004$, $\eta^2 = 0.263$

These findings indicate that participation in EMDR therapy significantly reduced post-traumatic stress symptoms by approximately 30.8% and anxiety symptoms by approximately 26.3% among girls diagnosed with grief disorder.

Overall, the results support the effectiveness of Eye Movement Desensitization and Reprocessing therapy in reducing trauma-related stress and anxiety in bereaved adolescent girls.

Discussion

The present study aimed to examine the effectiveness of Eye Movement Desensitization and Reprocessing (EMDR) therapy on post-traumatic stress disorder (PTSD) and anxiety among adolescent girls with grief disorder. The findings of the study indicated that EMDR therapy significantly reduced post-traumatic stress symptoms in bereaved adolescent girls. A review of previous literature did not reveal findings inconsistent with the present results; rather, the outcomes are consistent with prior empirical research examining the effectiveness of EMDR in reducing trauma-related symptoms.

In particular, the results of the present study are consistent with the findings of Hafkemeijer et al. (2025), van Schie and van Veen (2025), and Daniëls et al. (2025), who reported that EMDR therapy significantly reduces PTSD symptoms and improves psychological functioning in individuals exposed to traumatic experiences. Similarly, Nina et al. (2026) demonstrated in their study on children with PTSD that participation in eight sessions of EMDR therapy resulted in a significant reduction in the severity and frequency of PTSD symptoms and anger. Likewise, the findings of Bierman et al. (2026) indicated that EMDR therapy effectively reduced emotional distress and PTSD symptoms among adults receiving trauma-focused treatment. These converging findings provide empirical support for the effectiveness of EMDR in addressing trauma-related psychological symptoms across different age groups and clinical populations.

The effectiveness of EMDR in reducing post-traumatic stress symptoms can be explained through its theoretical framework and neuropsychological mechanisms. EMDR therapy is based on the assumption that traumatic memories are stored in the brain in a dysfunctional manner and remain associated with intense emotional distress (Shapiro, 2001). When individuals—such as bereaved

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adolescent girls in the present study—are exposed to controlled recall of traumatic memories while simultaneously engaging in bilateral eye movements, memory networks associated with the traumatic experience become activated. This bilateral stimulation facilitates cognitive and emotional processing, allowing the traumatic experience to be reprocessed in a more adaptive manner.

During this process, distressing elements of traumatic memories gradually transform from raw and emotionally overwhelming experiences into integrated and less threatening autobiographical memories. As a result, physiological hyperarousal, avoidance responses, and anxiety reactions—core components of PTSD—are reduced. Previous research has also highlighted that effective trauma processing through EMDR leads to improvements in emotional regulation and decreases in intrusive recollections and avoidance behaviors (Hafkemeijer et al., 2025; Daniëls et al., 2025). For adolescents experiencing complicated grief accompanied by traumatic stress, EMDR may also facilitate meaning reconstruction of the loss experience. By reducing the emotional intensity associated with distressing mental images and modifying negative cognitions—such as guilt, helplessness, or feelings of powerlessness—the therapy helps individuals develop healthier cognitive interpretations of the traumatic loss. Consequently, emotional regulation improves and more adaptive cognitive pathways are formed. Neurobiological studies have further suggested that trauma-focused interventions such as EMDR may reduce amygdala hyperactivity while enhancing functional connectivity between the hippocampus and prefrontal cortex, which are brain regions involved in memory integration and emotional regulation (Mancini et al., 2025). These neurobiological changes correspond with reductions in intrusive symptoms, nightmares, irritability, and hyperarousal commonly associated with PTSD.

Collectively, these processes help bereaved adolescents develop greater capacity to confront traumatic memories, regulate emotional responses, and gradually regain psychological stability. This may explain the significant reduction in post-traumatic stress symptoms observed among participants in the experimental group.

Another important finding of the present study was that EMDR therapy significantly reduced anxiety among adolescent girls with grief disorder. This finding is consistent with previous research demonstrating the effectiveness of EMDR in alleviating anxiety symptoms. For example, Chen et al. (2025) reported that EMDR therapy significantly reduced anxiety and depressive

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symptoms in patients participating in a randomized controlled trial. Similarly, a meta-analysis conducted by Ajele et al. (2026) concluded that EMDR therapy is an effective intervention for reducing symptoms of anxiety and depression across various clinical populations. Additional evidence provided by Broekman-Labinac et al. (2025) showed that EMDR therapy effectively reduced anxiety symptoms among individuals experiencing epilepsy-related anxiety.

Furthermore, Blokenhoeve et al. (2026) demonstrated that participation in EMDR sessions led to a significant reduction in anxiety and avoidance behaviors among individuals undergoing trauma-focused treatment. Likewise, Yasar et al. (2025) reported that individuals who participated in an online EMDR group protocol following traffic accidents experienced significant reductions in PTSD symptoms, anxiety, depression, and stress. These findings collectively support the conclusion that EMDR therapy can effectively alleviate anxiety symptoms associated with traumatic experiences and psychological distress.

The reduction of anxiety observed in the present study can be explained through several mechanisms associated with EMDR therapy. First, at the level of trauma memory processing, EMDR allows individuals to revisit memories related to loss in a structured and controlled manner. Such memories often maintain the individual in a persistent state of perceived threat. Through bilateral eye movements, the brain establishes connections between emotional memory networks (primarily involving the amygdala) and cognitive processing systems in the prefrontal cortex and hippocampus. This integration enables traumatic memories to be re-stored in a less emotionally intense form, so that recalling the loss no longer evokes overwhelming fear or anxiety.

As traumatic memories are reprocessed, the automatic anxiety cycle triggered by trauma reminders gradually weakens. Individuals become able to respond to memories with more balanced cognitive evaluations rather than instinctive fear responses. This cognitive restructuring process contributes significantly to the reduction of anxiety symptoms.

At the level of physiological regulation, EMDR therapy may also influence the functioning of the autonomic nervous system. Bilateral stimulation during EMDR has been associated with increased activation of the parasympathetic nervous system and reduced sympathetic arousal linked to stress responses. As a result, physiological indicators of anxiety—such as heart rate, muscular tension, and irregular breathing—tend to decrease. Simultaneously, reorganization of neural networks

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within the threat detection system (amygdala–prefrontal cortex circuit) may allow the brain to evaluate environmental threats more realistically rather than remaining in a constant state of alertness (Mancini et al., 2025).

Consequently, reduced physiological arousal provides individuals with the opportunity to process grief-related emotions within a safe psychological context while strengthening their emotional self-regulation skills. This process directly contributes to the reduction of anticipatory anxiety, persistent worry, and physiological responses associated with grief and trauma.

The importance of addressing psychological consequences of parental loss and bereavement in children and adolescents has been widely emphasized in the literature. Studies have shown that parental death significantly increases the risk of mental health disorders among children and adolescents, including anxiety disorders, depression, and PTSD (Dantan et al., 2026; Ogle et al., 2026). Moreover, systematic reviews indicate that bereaved children often experience profound psychological distress and require specialized psychological support to cope with the loss and its emotional consequences (Wray et al., 2026). Therefore, implementing evidence-based interventions such as EMDR therapy may play a crucial role in reducing psychological distress and promoting recovery among bereaved adolescents.

Conclusion

The results of the present study demonstrated that Eye Movement Desensitization and Reprocessing (EMDR) therapy effectively reduced symptoms of post-traumatic stress disorder and anxiety among bereaved adolescent girls. By facilitating the adaptive reprocessing of traumatic grief-related memories and improving emotional and physiological regulation, EMDR therapy contributed to decreased psychological arousal and improved mental functioning among participants.

Overall, EMDR therapy appears to be a valuable and effective therapeutic approach for restoring emotional balance and reducing trauma-related anxiety following experiences of loss. These findings support the application of EMDR as a trauma-focused intervention for adolescents experiencing complicated grief and trauma-related psychological symptoms.

Limitations and Suggestions for Future Research

Despite the valuable findings of this study, several limitations should be considered. First, the statistical population was limited to adolescent girls with grief disorder in Tehran, and the

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relatively small sample size restricts the generalizability of the results to other populations with grief-related disorders.

Second, the study relied primarily on self-report instruments for data collection. Adolescents' responses may have been influenced by situational or environmental factors during questionnaire completion, which may have affected the accuracy of the reported data.

Another limitation relates to the use of purposive sampling, which may reduce the representativeness of the sample. Future studies are therefore recommended to employ larger and more diverse samples, including both male and female adolescents experiencing grief-related symptoms.

Additionally, future research could incorporate multiple assessment methods, such as structured clinical interviews and behavioral assessments, alongside self-report questionnaires to obtain more comprehensive data.

Finally, due to practical limitations, the researchers were unable to conduct a follow-up phase to evaluate the long-term sustainability of treatment effects. Future studies are encouraged to include longitudinal follow-up assessments in order to determine the durability of EMDR treatment outcomes over time.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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