

Original Article

Comparison of the Effectiveness of Mindfulness-Based Intervention and Pharmacotherapy on Anxiety Symptoms in Children with Cancer

Leila Mohammadesmaeili¹, Mohammad Effatpanah^{2*}, Mehrnaz Azadyekta³

¹Department of Psychology, SR.C, Islamic Azad University, Tehran, Iran.

²Department of Pediatric, School of Medicine, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran.

³Department of Psychology, Islamshahr Branch, Islamic Azad University, Islamshahr, Tehran, Iran.

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Abstract

Background and Aim: Anxiety is among the most prevalent psychological issues in children with cancer. This study aimed to compare the effectiveness of mindfulness-based intervention and pharmacotherapy in managing anxiety disorders in pediatric oncology patients.

Materials and Methods: This quasi-experimental study employed a two-group pretest-posttest design. The study population comprised all children with cancer aged 5 to 12 years admitted to Imam Khomeini Hospital in Tehran in 2023. A total of 32 children were selected through convenience sampling and randomly assigned to two groups: a pharmacotherapy group ($n = 16$) and a mindfulness-based intervention group ($n = 16$). Data were collected using a demographic questionnaire and the Spence Children's Anxiety Scale. Statistical analyses were performed using repeated measures ANOVA and multivariate analysis of covariance (MANCOVA).

Results: Findings indicated a significant reduction in anxiety scores in both the pharmacotherapy and mindfulness-based intervention groups following the respective treatments ($P < 0.001$). Comparison of intervention efficacy revealed greater reductions in separation anxiety (partial $\eta^2 = 0.21$), social anxiety (partial $\eta^2 = 0.16$), and obsessive-compulsive symptoms (partial $\eta^2 = 0.47$) in the pharmacotherapy group. In contrast, mindfulness-based intervention led to a more pronounced decrease in generalized anxiety (partial $\eta^2 = 0.19$).

Conclusion: Both pharmacotherapy and mindfulness-based intervention were effective in reducing anxiety symptoms in children with cancer. However, pharmacotherapy demonstrated superior efficacy in managing separation anxiety, social anxiety, and obsessive-compulsive symptoms, whereas mindfulness-based intervention was more effective in alleviating generalized anxiety.

Keywords: Anxiety disorders; Mindfulness-based intervention; Pharmacotherapy; Cancer; Children

***Corresponding Author:** Mohammad Effatpanah, Department of Pediatric, School of Medicine, Imam Khomeini Hospital, Tehran University of Medical Sciences, Tehran, Iran.

Email: M-effatpanah@tums.ac.ir

ORCID: 0000-0001-5344-7699

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Introduction

Childhood cancer remains a significant global health concern. According to the World Health Organization, over 200,000 children are diagnosed with cancer annually, with cancer-related mortality most prevalent among those aged 3 to 14 years (1). Advances in treatment have doubled the survival rate over the past four decades (2), leading to a growing population of childhood cancer survivors facing psychological and psychosocial challenges (3, 4). These challenges include anxiety, depression, body image concerns, pain, and low self-esteem (5–9), which compromise overall well-being and quality of life.

Anxiety disorders are pervasive in children with cancer and may manifest as separation anxiety, social phobia, obsessive-compulsive symptoms, generalized anxiety, or panic attacks (10–12). Pathological anxiety is characterized by excessive fear responses to perceived threats or misjudged risks (13). According to the DSM-5, anxiety disorders encompass several types, including separation anxiety disorder, specific phobias, social anxiety disorder, panic disorder, and generalized anxiety disorder (14). In pediatric oncology settings, sources of anxiety include invasive treatments, hospitalization, disease progression, and fear of death (15–17). Studies have documented high prevalence rates of psychiatric disorders such as specific phobia, enuresis, obsessive-compulsive disorder, and separation anxiety among children with cancer (18). A study in Iran reported significant associations between disease status, history of radiotherapy, and levels of anxiety and depression in children and adolescents with cancer (19).

Current treatments for pediatric anxiety disorders include both pharmacological and psychological interventions (20, 21). Among pharmacological options, selective serotonin reuptake inhibitors (SSRIs), such as fluvoxamine and sertraline, are recommended first-line treatments and have shown efficacy in children with anxiety or depression, particularly when combined with cognitive-behavioral therapy (CBT) (22). However, research on pharmacotherapy for anxiety disorders in children with comorbid cancer remains limited (23, 24).

Moreover, since non-pharmacological treatments such

as cognitive-behavioral interventions are effective in improving psychological problems in these children, their comparison with drug therapy deserves further attention (25, 26).

Mindfulness-based interventions have emerged as promising psychological approaches, especially in pediatric settings. These interventions involve training attention to the present moment with acceptance and non-judgment (27). Mindfulness training enhances emotional regulation, attentional control, and stress tolerance in children and adolescents (27, 28).

Research on the effectiveness of mindfulness-based interventions among cancer patients has primarily focused on adult populations. These studies indicate that mindfulness techniques significantly reduce distress, anxiety, and depression (29, 30). For example, mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) have been demonstrated to enhance quality of life and alleviate cancer-related symptoms in adult patients (30–32). Additionally, mindfulness meditation has been shown to benefit adolescent and adult survivors of childhood cancers by reducing sleep disturbances and improving mood (33). Another study showed that acceptance and commitment therapy (ACT), one of the key components of which is mindfulness, reduced death anxiety and increased life expectancy in cancer patients (34), as well as enhanced quality of life (35). The study of Malboeuf-Hurtubise *et al.* also indicated that the mindfulness-based meditation intervention impacts quality of life, sleep, and mood in adolescents with cancer (36). However, despite the growing body of literature, studies directly comparing mindfulness-based interventions with pharmacotherapy in children with cancer remain scarce. This gap highlights the need to explore which approach is more effective for reducing specific anxiety symptoms in pediatric oncology. Accordingly, this study aimed to compare the effectiveness of mindfulness-based intervention and pharmacotherapy in managing anxiety disorders in children with cancer.

Methods

This semi-experimental study employed a two-group pretest-posttest design, including one pharmacotherapy intervention group and one mindfulness-based

intervention group. The type of intervention was treated as the independent variable, and anxiety disorders were considered the dependent variable. The statistical population consisted of all children aged 5 to 12 years diagnosed with cancer and receiving treatment or hospitalized at Imam Khomeini Hospital in Tehran in 2023.

Although the typical sample size in semi-experimental studies ranges from 5 to 15 participants, 32 children with cancer were selected through convenience sampling to account for potential attrition. These participants were then randomly assigned to two experimental groups: Group 1 (mindfulness-based intervention, $n = 16$) and Group 2 (pharmacotherapy, $n = 16$).

Inclusion criteria were: (a) age between 5 and 12 years, (b) confirmed cancer diagnosis, and (c) concurrent diagnosis of an anxiety disorder.

Exclusion criteria included: (a) absence from three training sessions, (b) lack of cooperation, and (c) failure to complete assigned tasks during sessions.

Following ethical approval from the Islamic Azad University, Science and Research Branch, Tehran (Approval ID: IR.IAU.SRB.REC.1402.054), necessary administrative coordination was conducted with Imam Khomeini Hospital. Study objectives and ethical considerations were explained to hospital authorities, and formal permission was obtained to conduct the research.

Eligible children and their families were briefed on the study's purpose and ethical principles, including confidentiality, and informed consent was secured. From those who consented, 32 children who met the anxiety level criteria were selected and randomly assigned to the intervention groups.

The Spence Children's Anxiety Scale (Parent Version) was administered to parents in both groups as a pretest. Each group then underwent its respective intervention. In the posttest phase, the same scale was administered again. Data were analyzed using SPSS version 23, employing repeated measures ANOVA and MANCOVA, with pretest scores controlled.

Materials

Demographic Information Questionnaire

This researcher-developed instrument collected

demographic data, including the child's gender, age, and educational level, as well as the mother's age and educational background.

Spence Children's Anxiety Scale (SCAS)

Developed by Spence [34], this 38-item scale is scored on a 4-point Likert scale. It comprises six subscales: separation anxiety, social anxiety, generalized anxiety, panic attacks and agoraphobia, obsessive-compulsive symptoms, and fear of physical injury. The SCAS demonstrates strong psychometric properties, including a Cronbach's alpha of 0.92 and test-retest reliability of 0.88. The total score is significantly correlated with the Youth Self-Report, the Columbia Impairment Scale, and the Emotional Subscale of the Strengths and Difficulties Questionnaire ($r = 0.34$).

The Persian version of the scale, validated by Soleimani et al. (35), revealed six extracted factors through construct validity analysis, accounting for 42.14% of the variance. Internal consistency for the Persian version was acceptable (Cronbach's alpha = 0.87).

Intervention Protocols

Mindfulness-Based Training Protocol

The intervention followed the child-centered mindfulness package developed by Burdick and adapted in Iran by Manshian and Hosseini (36). The program consisted of ten 30-minute sessions delivered twice weekly, adjusted to accommodate the children's chemotherapy-related fatigue:

- Session 1: Introduction, rapport building, and basic mindfulness
- Session 2: Mindful breathing
- Session 3: Body scan
- Session 4: Present-moment awareness
- Session 5: Awareness of the five senses
- Session 6: Emotional awareness
- Session 7: Breathing exercise review
- Session 8: Muscle activity awareness
- Session 9: Body movement awareness
- Session 10: Application of mindfulness in daily life

Pharmacotherapy Protocol

Pharmacological treatment was administered according to established pediatric dosing guidelines. Group 2 participants received sertraline, beginning at 12.5 mg

and titrated weekly to a target dose of 100 mg over five weeks, as follows:

- Week 1: 12.5 mg
- Week 2: 25 mg
- Week 3: 50 mg
- Week 4: 75 mg
- Week 5: 100 mg

The treatment lasted 18 weeks, with follow-up assessments conducted at weeks 4, 6, 12, and 18.

Results

Approximately 43.7% of participants in the mindfulness group and 50% in the pharmacotherapy group were girls, with the remainder being boys.

Regarding educational status, most children in the mindfulness group were in first grade (31.3%), followed by preschool and sixth grade (18.8% each). In the pharmacotherapy group, preschoolers were the most common age group (31.3%), followed by first-graders (25%). Third, fourth, and sixth grades each comprised 12.5%, while fifth grade had the fewest participants (6.3%).

For maternal education, most mothers in the mindfulness group had completed middle school (62.5%), followed by primary education, a diploma, and a bachelor's degree (12.5% each). In the pharmacotherapy group, 56.3% had a middle school education, 25% had a bachelor's degree, 12.5% had primary education, and 6.3% had a high school diploma.

The children's age range was 5 to 12 years. Mean age was 7.62 years in the mindfulness group and 8.25 years in the pharmacotherapy group. Mothers' ages ranged from 29 to 47 years, with means of 34.44 (mindfulness) and 37.5 (pharmacotherapy) years.

According to Table 1, there are observable differences in the mean scores of the dependent variables between the mindfulness-based intervention group and the pharmacotherapy group. Furthermore, the posttest scores for all dependent variables in the mindfulness-based intervention group decreased compared to their pretest values, a trend similarly observed in the pharmacotherapy group. However, to determine whether these observed changes are statistically significant, it is necessary to refer to the inferential

statistical analyses.

Moreover, the normality of data was assessed using skewness and kurtosis indices. Skewness values in the pretest ranged from -0.80 to 1.54, and in the posttest from -0.98 to 1.89. The corresponding kurtosis values ranged from -1.85 to 2.89 (pretest) and -1.19 to 2.90 (posttest). Given that skewness values between -2 and +2 and kurtosis values between -7 and +7 indicate a normal distribution (37), the assumption of normality is satisfied, thereby justifying the use of parametric tests. This study was designed to address three primary research questions:

1. What is the effect of mindfulness-based intervention on anxiety disorders in children with cancer?
2. What is the effect of pharmacotherapy on anxiety disorders in children with cancer?
3. How do these two approaches compare in terms of their effectiveness for reducing anxiety symptoms?

To answer the first two questions, repeated measures analysis of variance (ANOVA) was applied, with the results reported in Tables 2 and 3. For the third research question, a multivariate analysis of covariance (MANCOVA) was conducted, controlling for pretest scores; the findings are summarized in Table 4.

Regarding assumptions for ANOVA, Box's M test was used to assess the homogeneity of covariance matrices, yielding a statistically significant result ($P < 0.001$, $F = 1.75$). However, this violation has minimal impact when group sizes are equal. Therefore, the analysis proceeded based on the significance of the Pillai's trace index (38). The Pillai's trace analysis revealed a significant effect ($P < 0.001$, $F = 212.21$), confirming that the within-subject factor of time (i.e., pretest to posttest) had a statistically significant effect on anxiety scores. The results of the repeated measures ANOVA are detailed in Table 2. According to Table 2, there was a statistically significant difference in anxiety disorder scores between the pretest and posttest phases ($P < 0.001$). However, these results do not clarify whether the significant reductions in anxiety scores occurred exclusively in the mindfulness-based intervention group, the pharmacotherapy group, or in both. To determine whether the anxiety scores in each group changed significantly over time, refer to Table 3.

Table 1. Means and Standard Deviations of Research Variables by Group and Test Phase

Anxiety Disorder	Group	Pretest Mean $\pm$ SD	Posttest Mean $\pm$ SD
Panic Attacks and Agoraphobia	Mindfulness	1.60 $\pm$ 0.60	1.24 $\pm$ 0.52
	Pharmacotherapy	3.24 $\pm$ 0.18	1.38 $\pm$ 0.45
Separation Anxiety	Mindfulness	2.82 $\pm$ 0.57	1.71 $\pm$ 0.58
	Pharmacotherapy	3.50 $\pm$ 0.26	1.64 $\pm$ 0.57
Fear of Physical Harm	Mindfulness	2.55 $\pm$ 0.85	1.60 $\pm$ 0.82
	Pharmacotherapy	3.61 $\pm$ 0.35	1.52 $\pm$ 0.63
Social Anxiety	Mindfulness	2.80 $\pm$ 0.48	1.93 $\pm$ 0.47
	Pharmacotherapy	3.37 $\pm$ 0.33	1.64 $\pm$ 0.41
Obsessive-Compulsive Disorder	Mindfulness	1.94 $\pm$ 0.50	1.53 $\pm$ 0.48
	Pharmacotherapy	3.09 $\pm$ 0.25	1.33 $\pm$ 0.37
Generalized Anxiety	Mindfulness	2.39 $\pm$ 0.59	1.63 $\pm$ 0.59
	Pharmacotherapy	3.26 $\pm$ 0.20	1.69 $\pm$ 0.53

Note. Data presented as mean $\pm$ standard deviation (SD). Differences in posttest means suggest improvement in all domains of anxiety across both interventions.

Table 2. Within-Group Effects of Time on Different Types of Anxiety Disorders (Repeated Measures ANOVA)

Anxiety Disorder	F	df	P-value	Partial η^2
Panic Attacks and Agoraphobia	347.18	1	0.001	0.92
Separation Anxiety	523.83	1	0.001	0.95
Fear of Physical Harm	250.56	1	0.001	0.89
Social Anxiety	339.18	1	0.001	0.92
Obsessive-Compulsive Disorder	483.58	1	0.001	0.94
Generalized Anxiety	336.30	1	0.001	0.92

Note: All reported effects are significant at $P < 0.001$. Partial η^2 indicates the proportion of variance explained by the time factor (pretest to posttest) within groups

Table 3. Changes in Mean Scores of Anxiety Disorders from Pretest to Posttest in Each Group Based on Repeated Measures ANOVA

Anxiety Disorder	Group	Mean Difference	Standard Error	P-value
1. Panic Attacks and Agoraphobia	Mindfulness	-0.36	0.08	0.001
	Pharmacotherapy	-1.86	0.08	0.001
2. Separation Anxiety	Mindfulness	-1.11	0.09	0.001
	Pharmacotherapy	-1.86	0.09	0.001
3. Fear of Physical Harm	Mindfulness	-0.95	0.13	0.001
	Pharmacotherapy	-2.09	0.14	0.001
4. Social Anxiety	Mindfulness	-0.87	0.10	0.001
	Pharmacotherapy	-1.73	0.10	0.001
5. Obsessive-Compulsive Disorder	Mindfulness	-0.41	0.07	0.001
	Pharmacotherapy	-1.76	0.07	0.001
6. Generalized Anxiety	Mindfulness	-0.76	0.09	0.001
	Pharmacotherapy	-1.57	0.09	0.001

Note. All within-group changes from pretest to posttest were statistically significant at $P < 0.001$.

Table 4. Results of Multivariate Analysis of Covariance (MANCOVA) Controlling for Pretest Scores

Anxiety Disorder	F	df	P-value	Partial Eta Squared (η^2)
Panic Attacks and Agoraphobia	3.18	1	0.087	0.12
Separation Anxiety	6.28	1	0.019	0.21
Fear of Physical Harm	1.38	1	0.252	0.05
Social Anxiety	4.72	1	0.040	0.16
Obsessive-Compulsive Disorder	21.45	1	0.001	0.47
Generalized Anxiety	5.65	1	0.026	0.19

Note: MANCOVA was conducted using posttest scores as dependent variables and pretest scores as covariates. Partial η^2 represents the effect size of each outcome. $P < 0.05$ was considered statistically significant.

The findings presented in Table 3 indicate that mean scores for all anxiety disorder subtypes significantly decreased from pretest to posttest in both the mindfulness-based intervention group and the pharmacotherapy group. In other words, the mindfulness-based intervention significantly reduced anxiety scores across all measured domains ($P < 0.001$). Similarly, pharmacotherapy also demonstrated a statistically significant effect in lowering anxiety symptoms ($P < 0.001$).

These results suggest that **both interventions independently and effectively reduce anxiety symptoms** in pediatric oncology patients, regardless of the type of intervention. However, to determine which intervention is **more effective**, further inferential statistical analysis is required.

To address this question, a multivariate analysis of covariance (MANCOVA) was performed, comparing posttest scores between the two groups while controlling for pretest scores.

Prior to conducting the MANCOVA, several key assumptions were evaluated:

- **Homogeneity of variances:** Levene's test results were non-significant for all variables ($P > 0.05$), indicating that this assumption was satisfied.
- **Homogeneity of variance-covariance matrices:** Box's M test result was also non-significant ($P > 0.125$, $F = 1.36$), supporting the use of MANCOVA.
- **Multivariate effect:** Wilks' Lambda was statistically significant ($P < 0.012$, $F = 3.80$), suggesting that the type of intervention had a meaningful impact on anxiety outcomes.
- **Adequacy of inter-correlations among dependent variables:** Bartlett's test of sphericity was significant ($P = 0.002$, $\chi^2 = 42.77$), indicating that the data met the requirement for multivariate analysis.

The detailed results of the between-group comparison—adjusted for pretest scores—are summarized in Table 4. As shown in Table 4, no statistically significant difference was found between the mindfulness-based intervention and pharmacotherapy groups for panic attacks and agoraphobia ($P = 0.087$, $\eta^2 = 0.12$), or for fear of physical harm ($P = 0.252$, $\eta^2 = 0.05$). It suggests that

both interventions yielded comparable outcomes for these specific anxiety domains.

However, significant differences between the two groups were observed in other subtypes of anxiety. Specifically, participants in the pharmacotherapy group exhibited significantly lower posttest scores for separation anxiety ($F = 6.28$, $P = 0.019$, $\eta^2 = 0.21$), social anxiety ($F = 4.72$, $P = 0.040$, $\eta^2 = 0.16$), and obsessive-compulsive disorder ($F = 21.45$, $P = 0.001$, $\eta^2 = 0.47$). These results highlight the superior effectiveness of pharmacotherapy—particularly sertraline—in managing anxiety disorders characterized by behavioral dysregulation and intrusive thoughts. In contrast, participants in the mindfulness-based intervention group showed a significantly greater reduction in generalized anxiety symptoms ($F = 5.65$, $P = 0.026$, $\eta^2 = 0.19$), underscoring the capacity of mindfulness practices to modulate diffuse and anticipatory worry through present-moment attention and emotional regulation strategies.

Importantly, the largest effect size was found in obsessive-compulsive disorder ($\eta^2 = 0.47$), indicating that the pharmacotherapy group experienced the most substantial reduction in this domain. These findings support a differential effectiveness model, where pharmacotherapy is more suitable for particular specific symptom clusters, while mindfulness-based interventions may better address generalized and cognitive forms of anxiety.

Discussion

This study aimed to compare the effectiveness of mindfulness-based intervention and pharmacotherapy in managing anxiety disorders in children with cancer. The findings indicated that both interventions significantly reduced the mean scores of various anxiety disorders in these children. In particular, pharmacotherapy with sertraline significantly improved anxiety-related symptoms, which is consistent with prior research (39, 40). Sertraline, a selective serotonin reuptake inhibitor (SSRI), reduces anxiety in children by increasing serotonin levels, a neurotransmitter involved in regulating mood and emotional states. This mechanism helps alleviate anxiety symptoms such as restlessness, irritability, and emotional reactivity. Clinical effects typically emerge within six weeks of

treatment initiation, leading to decreased severity and frequency of anxiety in daily settings (40). Furthermore, in children with anxiety disorders, including those with cancer, serotonin deficiency is commonly observed and contributes to heightened anxiety responses (39). These children may experience anxiety in relation to diverse challenges—such as bodily changes, appearance-related concerns, or social interactions—which often manifest in various types of anxiety disorders. By inhibiting the reuptake of serotonin, sertraline plays a stabilizing role in mood regulation and anxiety reduction (39).

In parallel, the results of this study demonstrated that mindfulness-based intervention significantly reduced anxiety disorders in children with cancer. These findings are in agreement with previous studies that report similar outcomes (6, 28, 32).

Mindfulness-based interventions promote emotional regulation and psychological resilience through practices such as breathing techniques and meditative attention to the present moment. Such practices cultivate non-judgmental awareness and reduce cognitive reactivity to anxious thoughts, enabling children to manage stress more effectively. For example, when children learn to engage mindfully with bodily sensations, they become less reactive to perceived physical threats, resulting in reduced panic symptoms and somatic anxiety. Structured training in mindfulness encourages acceptance of internal experiences (e.g., emotions, thoughts) rather than avoidance or resistance—responses typically associated with anxiety disorders. Consequently, mindfulness fosters greater emotional stability and attentional control, while also lowering stress levels (41, 42). Additionally, mindfulness training has been demonstrated to enhance resilience and coping skills in children, particularly in medical and therapeutic settings where stress levels are high. As such, mindfulness can serve as a complementary approach to traditional psychiatric treatments for anxiety in pediatric cancer patients (43). In line with this, Melesse *et al.* emphasized that mindfulness practices help restructure maladaptive thoughts and improve anxiety regulation in pediatric oncology patients (44). Moreover, Farahi and Khalatbari demonstrated that acceptance and commitment therapy, incorporating mindfulness, significantly improved life expectancy

and resilience in women with cancer (45). Similarly, Mehrara *et al.* found that cognitive-behavioral play therapy reduced trait and state anxiety in children with leukemia, further highlighting the effectiveness of non-pharmacological approaches in pediatric cancer care (46).

Another key finding of this study was the absence of significant differences between the two interventions in reducing panic attacks, agoraphobia, and fear of physical harm. Both mindfulness-based intervention and pharmacotherapy were comparably effective in addressing these symptoms. However, pharmacotherapy was significantly more effective in managing separation anxiety, social anxiety, and obsessive-compulsive disorder. Conversely, mindfulness-based intervention demonstrated superior efficacy in alleviating generalized anxiety.

This difference in outcome may be attributed to the nature of generalized anxiety itself. When anxiety in children with cancer is diffuse and not focused on a specific stressor, mindfulness becomes particularly useful by promoting attention to the totality of present experience and reducing future-oriented worry—one of the core features of generalized anxiety disorder.

Also, worry, as the cognitive core of generalized anxiety, is not a cognitive content but rather a cognitive process that inhibits individuals from openly experiencing their emotions (47).

In contrast, mindfulness operates in an opposite manner—as a distinct cognitive process that facilitates direct engagement with emotions and private experiences (such as thoughts and feelings) with openness and without judgment (48). This core mechanism within mindfulness, which helps reduce generalized anxiety by decreasing maladaptive worry, represents a key reason why mindfulness-based intervention may be more effective than pharmacotherapy in addressing generalized anxiety disorders (47, 48). Despite these findings, further research is needed to explore the underlying mechanisms responsible for the differences in treatment effectiveness. Future studies should focus on the neuropsychological and emotional pathways activated by each intervention and explore the long-term outcomes of integrating pharmacotherapy and mindfulness-based techniques in pediatric oncology settings.

Conclusion

This study demonstrated that both sertraline and mindfulness-based intervention were effective in reducing anxiety disorders among children with cancer aged 5 to 12 years.

While sertraline proved more effective in alleviating separation anxiety, social anxiety, and obsessive-compulsive disorder, mindfulness-based intervention yielded greater benefits in managing generalized anxiety. Both interventions showed similar efficacy in addressing panic attacks, agoraphobia, and fear of physical harm in this population.

The study's strengths include the experimental comparison of two commonly applied interventions for anxiety disorders in pediatric cancer patients, providing valuable insights into differential treatment outcomes.

However, certain limitations should be acknowledged. Notably, the study did not control for the influence of concurrent medical treatments (e.g., chemotherapy, radiotherapy) or the psychiatric history of participants—factors that may affect responsiveness to psychological or pharmacological interventions. Future research should address these limitations by incorporating medical treatment variables and psychiatric history into the analysis.

Additionally, it is recommended that mental health practitioners consider a combined approach that includes both pharmacotherapy (e.g., sertraline) and mindfulness-based interventions to enhance the management of anxiety disorders in children diagnosed with cancer.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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