



## **Effect of mindfulness based on cognitive-behavioral therapy focusing on anger management regarding anxious thoughts among male students**

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### **Abstract**

Adolescence is accompanied by specific biological, cognitive, and identity changes. A decreased level of tolerance and identity anxieties are among the signs that can emerge during this period and affect students' mental health and their quality of academic life. This study aimed to determine the effect of mindfulness based on cognitive-behavioral therapy focusing on anger management regarding anxious thoughts. This quasi-experimental study used a pretest-posttest design. The statistical population of this study included all male junior high school students studying at high schools in Chabahar. To this end, a corpus of 30 male junior high school students in Chabahar who obtained high scores on wells anxious thoughts inventory were randomly selected and then assigned to two groups of experimental and control (each constituting of 15 participants). The experimental group underwent 10 sessions of mindfulness-based cognitive behavioral anger management therapy and the control group did not receive such a therapy. To collect data for the present study, the wells anxious thoughts inventory was used. Results of the current study showed that the mean score of anxious thoughts obtained by the experimental group was significantly lower than that obtained by the control group in the posttest. The results of this study demonstrated that mindfulness-based cognitive behavioral anger management therapy can decrease anxious thoughts among.

**Keywords:** Anger, Anxiety, Cognitive-Behavioral Therapy, Students

### **Introduction**

Adolescence is one of the most stressful periods in a person's life. During this period, adolescents may face several academic problems which can affect their quality of personal and academic lives. In this period, adolescents' thoughts, emotional challenges, personality types, moods, and levels of quality of life are quite distinct [1]. Adolescence is accompanied by

specific biological, cognitive, and identity changes. A decreased level of tolerance and identity anxieties are among the signs that can emerge during this period and affect students' mental health and their quality of academic life [2]. Anxiety is one of the most prevalent mental health issues during adolescence. It is believed that implementing programs in

schools aimed at preventing anxiety during childhood and adolescence can bring about several positive mental health-related outcomes. Global programs for preventing anxiety and depression among children are limited. A number of studies are needed to be conducted on programs aimed at preventing anxiety and depression among children and adolescents to examine their long-term effects [3]. Finding a proper solution for treating anxiety has been the focus of attention since Hippocrates. Special techniques have been proposed and used in different ways to treat anxious thoughts, stress, and depression among adolescents [4]. All people experience anxious thoughts in their everyday lives. These thoughts are considered as a component of personality structure which, at a moderate level, can also be regarded as a compromised response. Although low levels of anxiety can be constructive and useful, high levels of anxiety can have a chronic and persistent effect. In that case, not only anxiety cannot be regarded as a compromised response, but also it should be considered as a source of failure, lack of compromise, and widespread frustration which can deprive a person of a large part of his/her capabilities [5]. The prevalence of anxiety in children and adolescents has almost doubled in the last 5 years. Children who live in remote areas are less likely to get access to psychological services and this, on its own, creates a concern about access to health care services [6]. During adolescence, high levels of anxiety are associated with students' emotional challenges, personality types, moods, and quality of life and even adolescents with high levels of anxious thoughts are likely to develop mental and psychological diseases [2]. Anxiety is one of the least characteristics of schizophrenia. Results of a study indicated that anxiety was mainly determined by primary environmental factors as well as socio-cognitive dimensions such as personal difficulties [7]. Anxiety disorders can lead to general anxiety disorder, obsessive-compulsive disorder, panic disorder, social anxiety disorder, and post-traumatic stress disorder [8]. The obsessive-compulsive disorder, post-traumatic stress

disorder, and anxiety disorders are among the primary clinical features of anxiety [9]. Levels of cognitive psychological health and quality of life among adolescence can affect development of anxiety among them [10]. Furthermore, social and economic backgrounds of parents are significant predictors of anxiety in adolescent children [11]. Social supports also reduce anxiety among parents and adolescents [12]. Moreover, sensory information can significantly decrease anxiety regardless of methods of dealing with such information [13]. Additionally, identity discrimination leads to anxiety in adolescents [14]. Excessive protections provided by mothers reduce levels of anxiety among children and adolescents [15]. Parents' identification of emotional distress in adolescents is an important factor in early diagnosis and treatment of mental disorders. However, almost no studies have been carried out on parents' and adolescents' agreement on emotional disturbances among adolescents. A significant percentage of adolescents, especially high school students who are exposed to anger, experience some symptoms which are considered normal by their parents. Interventions are needed to help adolescents manage and express their negative emotions. In addition, programs aimed at improving parents' awareness of emotional distress and appropriate behaviors are needed to help adolescents [16]. Hitherto, some studies have examined the role of reinforcing behaviors, parents, and parenting styles in decreasing these behaviors among adolescents; however, quantitative studies are needed to investigate the role of adolescents in this process [17]. Symptoms of depression and impulsivity may be related to cortical thinning in overlapped and distinct regions during childhood and adolescence [18]. This cognitive-behavioral therapy is a potential biological mechanism influenced by psychotherapy that can reduce the negative effects of rumination [19]. Junior high school years are one of the most critical academic periods for students since, during these years, students experience a

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series of biological and cognitive changes. Most academic failures, school dropouts, and behavioral disorders associated with cognitive and identity anxieties occur during this period. Experiencing anxiety disorders is also the main feature of this period. Additionally, different cultural-social and environmental contexts, in which various statistical populations live, affect the formation of anxiety behaviors. In this regard, the objective of the present study was investigating the effect of mindfulness-based cognitive behavioral anger management therapy on anxious thoughts in male junior high school students.

### **Method**

This quasi-experimental study was conducted using a pretest-posttest design. The statistical population of this study included all male junior high school students of Chabahr, Southeast of Iran, in the academic year of 2017-2018. According to causal – comparative and experimental research, the sample size of for each group is sufficient [20]. To this end, 30 male junior high school students in Chabahr out of 7460 students who obtained high scores on wells anxious thoughts inventory were selected and then randomly were assigned to two groups of experimental control (each including 15 students). The students had the opportunity to abandon the study whenever they wanted. In this study, the predictive variable was mindfulness-based cognitive behavioral anger management therapy and the criterion (dependent) variable was anxious thoughts. The students did not have history of aggressive behaviors, depression, anxiety, and receiving counseling services in their documents.

To collect data for the present study, the wells anxious thoughts inventory was used [22]. The experimental group underwent 10 sessions of mindfulness-based cognitive behavioral anger management therapy and the control group did not receive such a therapy. A condition for using covariance analysis is to establish the test's assumptions. To examine the normal distribution of scores of dependent variables,

the Kolmogorov-Smirnov test was used. Since the significance values of the research variables were greater than 0.05 ( $Z= 0.11$ ), the zero hypothesis was rejected and the normal distribution of the scores in the pretest and posttest stages was confirmed in the experimental and control groups. To verify the homogeneity of variances in two groups in the pretest and posttest stages, the Levene's test was applied, the results of which indicated that the value of F related to the Levene's test was not statistically significant. The assumption of homogeneity of the regression slopes was also assessed and the results showed that the interactive effects of the pretest and the groups were not significant ( $p<0.05$ ); therefore, the data supported the hypothesis of equality of the regression slopes since the significance value of the Box's test was more than 0.05. Accordingly, the assumption of homogeneity of variance-covariance matrices was also evaluated. Since all the necessary assumptions for applying the covariance analysis were observed, the data could be used to test the research hypothesis. Furthermore, to analyze the obtained data SPSS-22 was used and one-way analysis of covariance (ANCOVA) was run.

Anxious Thoughts Inventory was developed by Wells in 1994. It includes 22 items that evaluate anxious thoughts. Subscales of this inventory are as follows: social worry, health worry, and meta-worry. This inventory is scored based on a 4-point Likert- scale. The convergence validity of this inventory was assessed using a correlation method. Reliability of this inventory was evaluated by a Cronbach's alpha coefficient which was 0.91 for the whole scale [22].

The experimental group underwent ten 90-minute sessions of mindfulness-based cognitive behavioral anger management therapy in two months. In each session, the necessary training as well as homework assignments and activities were provided. Table 1 summarizes the content of these training sessions [23].

Ethical considerations, including obtaining

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the full consent of the participants, maintaining data confidentiality, and giving the participants

the opportunity to abandon the study whenever they wanted, were strictly observed.

**Table 1** *The content of mindfulness-based cognitive behavioral anger management therapy*

Training sessions	Content
The first session	Providing some backgrounds and introducing the subjects, providing counseling guidelines, having an open discussion, and assigning homework
The second session	Reviewing what was taught in the last session, checking homework assignments, and practicing the cognitive-behavioral model
The third session	Examining moods, reviewing what was taught in the last session, checking homework assignments, and practicing the body check out technique
The fourth session	Focusing on thoughts, emotions, and behaviors, practicing the sitting meditation technique, having an open discussion, and assigning homework
The fifth session	Practicing the three-minute breathing space technique, having an open discussion, assigning homework, and reviewing and summarizing what were taught
The sixth session	Reviewing homework assignments, practicing the sitting meditation, and introducing the coping strategies technique
The seventh session	Reviewing the homework assignments, practicing meditation, introducing the attitudinal factors technique, and having an open discussion
The eighth session	Introducing the problem-solving technique, having an open discussion, assigning homework, and reviewing and summarizing
The ninth session	Practicing to create a link between cognitive-behavioral and mindfulness models and having an open discussion
The tenth session	Discussing methods of reaching a goal and discussing obstacles and constraints and methods of dealing with them

**Results**

The students aged between 12 to 15 years old. Table 2 shows means and standard deviations of anxious thoughts scores obtained in the experimental and control groups during the pretest and posttest.

It can be stated that the mean scores of anxious thoughts obtained by the experimental group in the posttest, compared to the control group, was improved.

**Table 2** *The mean and standard deviation of anxious thoughts across experimental and control groups*

Group	Test	Anxious thoughts	
		Mean	SD
Experimental	Pretest	63.46	1.84
	Posttest	55.93	3.91
Control	Pretest	59.13	5.08
	Posttest	67.13	2.97

**Table 3** *Results of covariance analysis on the posttest mean scores of anxious thoughts in two groups*

Source of variation	Sum of squares	df	Mean of squares	F	Sig.	$\eta^2$
Constant	189.17	1	189.17	17.25	0.05	0.39
Pretest	42.68	1	42.68	3.89	0.05	0.12
Group	885.84	1	885.84	80.80	0.05	0.75
Error	295.98	27	10.96	-	-	-
Total	114870.00	30	-	-	-	-

There was a significant difference between the mean scores of anxious thoughts obtained after eliminating the effect of pretest on the posttest

( $F=80.80, p<0.05, \eta^2=0.75$ ). Accordingly, the mean score of anxious thoughts obtained by the experimental group in the posttest was



significantly lower than that by the control group. In other words, it can be stated that mindfulness-based cognitive behavioral anger management therapy significantly decreased anxious thoughts in the experimental group (Table 3).

### Discussion

The results of the current study indicated that the mean score of anxious thoughts obtained by the experimental group was significantly lower than that of the control group after conducting mindfulness-based cognitive behavioral anger management therapy. In other words, it can be noted that mindfulness-based cognitive behavioral anger management therapy significantly decreased anxious thoughts in the experimental group. This finding is consistent with results obtained by the previous studies. Results of a study conducted by Sanders and Akiyama indicated that non-pharmacological treatments, including counseling and psychological therapies based on cognitive-behavioral therapies and stimulation cycles could lead to a decrease in the quality of anxiety [24]. Moreover, Wheless and Fergus found out that cognitive-behavioral techniques and main components of mindfulness were effective in reducing levels of anxiety among people who suffered from anxiety [25]. Furthermore, results of a study carried out by Reid *et al.*, demonstrated that informal cognitive-behavioral techniques, such as cognitive reconstruction and relaxation techniques, could be effective in decreasing and treating social anxiety, obsessive-compulsive disorder, and panic disorder among adolescents [26]. In their study, Romero-Martínez and Moya-Albiol figured out that quality of life and the way of controlling cognitive-Behavioral Therapy could affect anxiety and depression among patients [2]. In the same line, they demonstrated that experiencing emotions rather than ignoring them and focusing on moods and emotional essence affected on identifying anxiety and anxious thoughts [2,10]. In addition, Wang *et al.*, found out that the third wave of the cognitive-behavioral therapies based on mindfulness

which includes holding several group sessions and then practicing the assignments individually could be effective in decreasing anxious thoughts [27]. The study by Banneyer *et al.* indicated that the cognitive-behavioral therapy was very useful in the treatment of childhood anxiety disorders and adaptation issues [28]. Moreover, The study by Elsner *et al.* showed that guided methods, such as establishing relationships, holding training sessions for patients, assessing needs, and performing practical screenings were able to decrease anxiety [29].

Although our study provided useful information, it also had some limitations. In this study, we used convenience sampling; hence, the results are only generalizable to the sampled population. Based on the results of this study, cognitive-behavioral therapy focused on anger management had a significant relationship with anxiety thoughts. So it is suggested that therapists and counselors who work on anger management fields, apply this program to control anxiety and other treatments. It is also suggested that a random sampling method be used to select individuals so that the results can be generalized to the community.

### Conclusion

Adolescence is one of the most stressful periods in any person's life. In this period, students have to deal with high levels of anxiety thoughts due to a number of reasons, including identity seeking, puberty, hypothesis-driven thinking, deductive and ethical reasoning, invincibility, and role-taking. Students experience their greatest academic failures and achievements in their adolescence. According to findings of the present study, training the third wave of mindfulness-based cognitive behavioral anger management therapy, which emerged after psychoanalytic therapies and cognitive-behavioral therapies, can be used to reduce mental injuries and disorders, such as anxiety thoughts, among students. This therapeutic approach can be an appropriate alternative to the treatments used for treating

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mental disorders and illnesses in the present. Further studies are suggested to evaluate the effectiveness of these treatments on different populations and variables. The findings of the current study, due to its therapeutic application, can be used in various organizations such as medical, psychiatric, counseling, and educational centers.

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### Contribution

Study Design: KHB, MS, AA

Data collection and analysis: KHB

Manuscript preparation: KHB

### Conflict of Interest

"The authors declare that they have no competing interests."

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