Current Psychology (2023) 42:11344–11354
https://doi.org/10.1007/s12144-021-02423-x

The effectiveness of a family-friendly program on parental meta-worry beliefs and health anxiety and social anxiety disorder in children

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Accepted: 19 October 2021 / Published online: 27 October 2021

Abstract
Social Anxiety disorders (SAD) of children and adolescents and parental meta-worry beliefs (PMWB), and parental health anxiety (PHA) are the cause of many functional disorders. This study aimed to investigate the effect of the family-friendly program (FFP) on reducing PMWB and PHA also SAD in children and adolescents. The present study was a semi-experimental study in which the pretest–posttest with the control group was utilized. The statistical population of this study consisted of all children and adolescents who had social anxiety themselves and their parents who were anxious and referred to the psychiatric and psychological clinic of Soroush center in Mashhad. In this study, subjects were randomly divided into two groups: test (n = 30) and control groups (n = 30). The test group, along with regular medical care, received the personal intervention program in 11 weekly sessions of 1 h. The control group received only regular medical care in this period. Subjects in both groups responded to the Anxiety Thought Questionnaire of Wells (AnTI) and the Screen for Child Anxiety Related Disorder-71 (SCARED-71) (to diagnose the social disorder in children and adolescents), before intervention (pretest) and immediately after the intervention (posttest). ANCOVA test via SPSS 23 showed that in the post-test stage, the mean scores of PMWB, PHA, and SAD in children and adolescents in the test group were significantly lower than the control group. Teaching FFP affects reducing PMWB and PHA and also SAD in children and adolescents. The implication of FFP can significantly improve the quality of life and prevent or alleviate anxiety, and stress among family members.

Keywords Meta-Worry Beliefs · Health Anxiety · Social Anxiety Disorder · Family-Friendly Program

Introduction

Anxiety disorders are one of the most common and destructive mental disorders that affect various aspects of life and their quality. A quarter of the world population suffers from a minimum of anxiety disorders (AD) and its prevalence is estimated at 8–10% in children and 9–15% in adolescents (Kjernisted & Bleau, 2004; Rapaport et al., 2021). Also, its prevalence of life expectancy is estimated at 25% (Lenze & Wetherell, 2011; Wren et al., 2003). In this regard, one of the types of anxiety disorders that are common among children and adolescents is social anxiety disorder (SAD). SAD refers to the fear or anxiety of being negatively evaluated in social interactions or social performance situations. Epidemiological studies indicate that a significant percentage of Iranians suffer from SAD. SAD ranks second in terms of disease burden in Iran (16% of the total disease burden) (Naghavi et al., 2009). The study of Mohammadi et al. (2005) showed that the lifetime prevalence of mental disorders in Iran was 10.8% and SAD with a prevalence of 4.4% was reported as the most common disease. If anxiety is persistent and excessive and fundamentally interferes with daily life, it provides the criteria for SAD. SAD disorders begin in childhood and their percentages for adolescents and parents are around 10 and 12%, respectively (Leigh & Clark, 2018). The manifestation of SAD behaviors are for children (symptoms such as mood swings, crying, clinging to parents, or silence), adolescents (rejection of peers, fear of panic, blushing during the conversation, trembling of the voice, and so on), and parents (prone to isolation and loneliness, and shyness). SAD in adolescence can interfere with learning, concentration, and recall, and if not treated in time, can lead to disruption of interpersonal relationships and SAD in adulthood. In this regard, parents who have such experiences may affect their children through parenting. A

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meta-analysis by Lijster et al. (2017) entitled "Age of onset of anxiety disorders" conducted by searching seven electronic databases until October 2014 showed that the average age of onset of all anxiety disorders is 21.3 years. SAD, social anxiety and phobia start on average before the age of 15, while isolation, obsessive–compulsive disorder, post-traumatic stress disorder, panic disorder, and generalized anxiety disorder start on average between the ages of 21.1 and 34.9. Meta-analysis showed no difference between age at onset and gender. In addition, the results of John et al. (2017) showed a significant effect of parents' cognitive impairments on children suffering from anxiety disorders. An interesting finding in this study was the greater relationship between father injuries and children's anxiety disorders than mother cognitive disorders.

SAD includes a persistent fear of being negatively evaluated by others. According to epidemiological studies, the prevalence of SAD during life is reported to be 3 to 13% and the peak of onset of this disorder is in the second decade of life (APA, 2013). Less than 15% of people with SAD seek treatment (Toit & Stein, 2002), and 81% of these patients have another disorder (Den Boer, 2000). The rate of recovery for SAD without treatment is low, and in the presence of personality disorder and pervasive SAD, the recovery rate will be lower (Coelho et al., 2007). Given that SAD is one of the most common mental disorders and has a chronic and relatively stable course and leads to a severe decline in job performance, education, and interpersonal relationships, it is necessary to design an effective and satisfactory treatment plan for this disorder. Therefore the current research purposed to bridge this gap via implementing an FFP on reducing PMWB, PHA, and SAD in children and adolescents. The participants consisted of all children and adolescents who had SAD themselves and their anxious parents. Due to parental factors, high levels of parental anxiety, over-control, and rejection are specifically recognized as being related to high levels of SAD in young people (Festa & Ginsburg, 2011). The parent–child interactions as one of the parental factors, supply the initial social learning background from infancy. A recently-developed metric of behavioral matching, Mother–Child language style matching (LSM) is associated with children's and mothers' physiological and attachment reactivity. So that the more Mother–Child LSM is associated with with greater SAD disorders such as physiological reactivity and insecure attachment in school-aged children (Boparai et al., 2018). As Platt et al. (2016) found that high levels of parental stress, anxious rearing, and dysfunctional parent–child interaction (PCI) are associated with stressful life events and child anxiety symptoms, that interventions for children experiencing such events. Therefore, it seems that SAD is affected by the family status of individuals. In this regard, Bögels and Perotti (2011) found that SAD occurs in families and is nurtured in this way. In fact, along with genetic factors, it seems that patterning and parenting patterns transmit SAD. This is because the child's mood and characteristics are affected by the quality and quantity of care he/she receives. In the same way, parenting methods affect the characteristics of the child and the development of his abnormal characteristics (Masen et al., 2007). The abnormal development of children depends on various social and environmental conditions, including the child's family and peer system, and more important social and cultural contexts (Mash & Wolff, 2018). Therefore, the principle of two-way communication in PCI is quite evident. For this reason, anxiety disorders are more common among children of parents with anxiety and depression disorders. Ollendick and Benoit (2012) found in a study that a group of variables, as risk factors (child temperament characteristics, parental anxiety, parent–child attachment processes, information processing biases, and parental actions) cause the onset and persistence of SAD. Thus, parents, their anxiety and actions may affect children's SAD. In this regard, Kerns, Pincus, McLaughlin, and Comer (2017) found that unstable moods, negative emotional regulation, disruptive communication style with the child, obsessive–compulsive disorders, and anxiety in the mother can predict the occurrence of anxiety in children and the severity of anxiety symptoms. Irregular and inflexible emotional regulation of the mother and her failed attempts to communicate with the child can also act as mechanisms for creating anxiety in the family. The results of the study of Riskind et al. (2017) also showed a significant effect of parents' cognitive impairments on children suffering from anxiety disorders.

Parental Meta-Worry Beliefs

One of the parental disorders that affect children's lives is parental meta-worry beliefs (PMWB). Meta-worry is defined as a chain of thoughts and perceptions full of negative and relatively uncontrollable emotions, which is an attempt to solve a psychological problem on a subject whose consequences are unknown yet negative (Davey & Wells, 2006; Ellis & Hudson 2010; Haegen et al., 2016). It involves the assessment of anxiety uncontrollably and dangerously and is thought to be an inefficient metacognitive assessment process (Myhr et al., 2019; Taghani, & Razavi, 2021). Positive and negative beliefs about meta-worry are positively related to decision-making in avoidance in problem-solving situations and SAD (Ellis & Hudson 2010). In this regard, research results show that positive and negative metacognitive beliefs have a positive relationship with a person's readiness to worry (Cartwright-Hatton & Wells, 1997). One of the effective factors in SAD is the cognitive structure of meta-worry. It is a cognitive process that refers to the constant and repetitive thoughts about personal worries on the

one hand and the difficulty in ending this chain of thoughts on the other (Jong-Meyer et al., 2009). Activation of meta-worry leads to constant monitoring of the threat and application of inappropriate coping strategies, which will result in the development of SAD. By activating metacognitive beliefs based on uncontrollability and risk, another type of worry called PMWB is formed in them. PMWB triggers physical reactions to worry, trigger behaviors to avoid threatening situations, and strategies for controlling thought. As a result of not being challenged by uncontrollable beliefs and danger, as well as not being confronted with moral evidence that proves controllable, harmless, and non-persistent, meta-worry persists in such individuals (Davey & Wells, 2006).

Meta-worry can be distinguished from anxiety. Anxiety refers to the brain's response to danger and includes non-cognitive events such as external situations or internal physical symptoms, while meta-worry refers to the underlying negative beliefs (attribute variables) that people have about the nature and consequences of worrying (Wells, 2005). Meta-worry, bring in beliefs about the negative and positive impacts of worry and have a determining role in the growth of SAD (Wells, 2004). It facilitates problem-focused coping in adults. Instead, when anxiety becomes excessive and relatively uncontrollable, it is accompanied by poor performance (poor problem solving, poorly understood control, avoidance strategies), and high anxiety (Benedetto et al., 2018). In contrast, meta-worry is part of the metacognitive model and active negative beliefs (meta-worry) are also a cycle of efforts to suppress dangerous thoughts and control thinking that are associated with negative emotions and anxiety (Benedetto et al., 2018). Whenever normal anxiety becomes pathological anxiety, meta-worry arises. According to this model, meta-worry leads to the intensification and persistence of anxiety and the formation of pathological anxiety. Meta-worry is a concept that is directly related to maladaptive metacognitive strategies. For this reason, meta-worry is considered a major component of the metacognitive model of a generalized anxiety disorder (Fisak et al., 2014). Few types of research have investigated the rate at which PMWB is related to SAD in children and adolescents. In this regard, Muris et al. (2003) found positive relationships between anxious rearing, overprotection, and rejection, on the one hand, and children's anxiety symptoms.

Health Anxiety

Health anxiety is another subset of family anxiety that threatens the mental health of children in the family. It is affected by the negative effects of SAD. It is a worry and anxiety about protecting against serious illnesses based on misinterpretations of the body's feelings or changes as a disease. Parental health anxiety (PHA) is defined as the fact that a person (child), without being at risk or suffering from a particular disease, experiences severe anxiety and anxiety about their body and health, and considers simple physical symptoms as a serious illness. In cognitive-behavioral patterns, PHA is defined as persistent anxiety and worry about health that is driven by misjudgment (Taylor & Amundsen, 2004). PHA involves persistent health anxiety and a person's belief that he/she is ill or may have an illness. People with PHA are overly confident in their health, overly focused on their physical feelings, and see themselves as different from others. This belief causes severe anxiety and causes the person to constantly examine herself/himself or ask others for confidence (Davoudi et al., 2012). High levels of PHA lead to reassuring behaviors to ensure health and receive help (including seeing a doctor) and repeating them to improve health or deny illness (Davoudi et al., 2012). Thus, PHA is a continuum from mild to severe, at the end of which there is a severe level of hypochondriasis disorder, and its mild level is associated with absenteeism from school, overuse of health services, and relationship breakdown (MacSwaina et al., 2009). Health anxiety includes four components: emotional, cognitive, behavioral, and perceptual. The emotional component includes health concerns. The cognitive component is limited to the strong belief that the patient is ill as opposed to medical evidence. The behavioral component includes reassuring behaviors to reduce fear of illness, and the perceptual component includes mental preoccupation with physical symptoms and feelings (Longley et al., 2005). When a patient suffers from health anxiety, this vain anxiety and thought about health can be categorized as a disorder of self-concept in DSM-IV-TR or a disorder of physical symptoms and anxiety in DSM5 (American Psychiatric Association, 2013). Health anxiety in the dimensional range is in the form of people who either experience very severe anxiety about their health or people who do not have anxiety about their health (Hedmana et al., 2015).

SAD has negative effects on the PHA and functioning of individuals and may lead to severe problems. Because the resulted problems are part of the family context problems, family-oriented therapies have become important. Recent research has demonstrated the effectiveness of parent-centered psychosocial education programs (Mihalopoulos et al., 2015). In this regard, the family-friendly program (FFP) is one of the methods used to improve parent–child relationships. FFP is based on a book from Coward to Tiger (Cartwright-Huttons et al., 2010). This treatment program is based on the principles of parenting for anxious children and in the cognitive-behavioral style, inspired by the mindfulness therapy approach along with activating the PCI, tries to reduce anxiety symptoms in parents and children (children and adolescents). In this program, the therapist and the parent manage the anxiety in the child through a step-by-step approach. The goal of this program is to create confident

parents who know how to build confidence in their child and how to calm the child in times of turmoil and fear (Boni et al., 2018). This program intervenes in two stages: treatment of anxiety symptoms and behavioral parenting education (Cartwright-Hatton et al., 2005; Creswell & Cartwright-Hatton, 2007). In 11 sessions, FFP provides game-based training in PCI therapy (PCIT) and Mindfulness-based cognitive therapy (MBCT) to parents and children. The concept of mindfulness incorporates elements of cognitive therapy that separate one's perspective from one's thoughts and thus render them non-centralized. Mindfulness training with new metacognitive learning and behavioral strategies for attention control is associated with the development of new thoughts and the reduction of unpleasant emotions. It is also associated with the improvement of the ability to regulate emotions, and the reduction of anxious responses (Crane, 2017). Through mindfulness, people learn to observe their thoughts and feelings without judgment and to simply view them as mental events that are going on. Research has also shown that MBCT can reduce SAD and also is effective in reducing depression, anxiety, dysfunctional attitudes, and self-efficacy (Kaviani et al., 2005). In this regard, PCIT is an empirically supported intervention derived from social learning and attachment theories. It was first developed for the treatment of behavioral disorders in children between the ages of 2 and 7 years, but later became the focus of parental behavioral education. Its current goal is to reduce child external behaviors by improving parenting skills and positive PCIT (strengthening parent–child relationships). It helps parents to change their behavior through coaching strategies. In turn, this change in parental behavior is expected to improve the problematic behaviors of the child and to increase positive interactions between the child and parent pairs. Various studies have been conducted on the effect of PCIT on anxiety disorders. For example, Roshan et al., (2016) declared that PCIT and coping therapy were significantly effective in reducing symptoms of behavioral disorders in children. Karami and Zabet (2015) found that PCIT can significantly reduce children's anxiety symptoms. Khanjani et al. (2014) found that there was a positive and significant relationship between over-supports and mother's comfort with SAD and school phobia. In this regard, parents learn through PCIT to develop and reinforce constructive ways to cope with negative emotions and anxiety. Research has also shown that PCIT can significantly reduce children's anxiety symptoms (Karami & Zabet, 2015).

Parent–child relationship therapy, based on the theoretical foundations of this relationship, seeks to improve the parent–child relationship and is based on the assumption that improving this relationship can improve children's emotional problems and increase adolescents and their mental health. In this program, two categories of skills are considered in two consecutive stages of treatment. In the child-centered interaction phase 1) Parents learn to use common play therapy skills to enhance the parent–child relationship. 2) In the parent-centered interaction phase, parents learn the necessary skills to increase their child's obedience and reduce their child's disruptive behaviors (Greco et al., 2001). Brinkmeyer and Eyberg (2003) also note that through child-parent interaction therapy, parents learn to develop and reinforce constructive ways to cope with emotions such as failure.

Therefore, it seems that combining the two therapies of mindfulness and PCIT is a treatment called FFP can improve the problems of parents and children in the field of anxiety. The novelty of this treatment model justifies the inadequacy of the studies performed. With this in mind, this study aimed to investigate the effect of implementing FFP with PCIT on reducing PMWB and PHA and social anxiety disorder in children and adolescents. The validation of the metacognitive model individually (Wells et al., 2010) and group (Rees & Van-Koesveld, 2008) has been proven in several studies. However, the research conducted for the therapeutic effectiveness of this model is very limited. Therefore, it seems that the present study is a way to seek effective therapies with scientific support. The high prevalence of SAD in the Iranian population (Mohammadi et al., 2005; Naghavi et al., 2005; Sharifi et al., 2015; Hajebi et al., 2018) reveals the need for effective treatments in this field among Iranian patients. The findings of such studies can provide new strategies for researchers, clinical psychologists, and others interested in this field in both prevention and treatment. In this regard, the main hypothesis of this research is: Implementing FFP is effective in reducing PMWB, PHA, and SAD in children and adolescents.

Methods and Materials

The research method was quasi-experimental (semi-experimental) with pre-test and post-test design with the control group.

Participants and Design

The statistical population of this study consisted of all children and adolescents who had social anxiety themselves and their parents who were anxious and referred to the psychiatric and psychiatric clinic of Soroush center in Mashhad. Among them, 60 individuals (based on the means of measurement; from 8 to 16 years of age) with SAD and their parents with PMWB and PHA were selected. In this study, two groups of children and adolescents were randomly divided into two groups: test (n = 30) and control groups (n = 30). Figure 1 presents a schematic diagram of the study sampling process. The input criteria of the research included 8 to

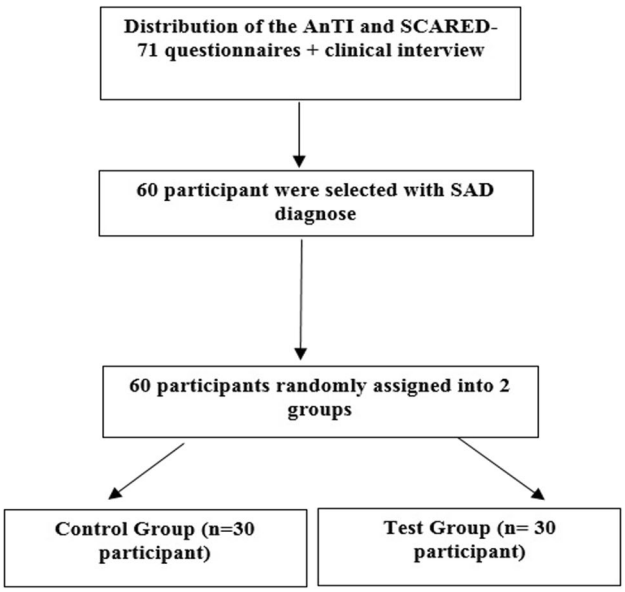

Fig. 1 Schematic diagram of the study sampling process

Table 1 Descriptive indicators related to the demographic characteristics of the studied sample

Variables/ Groups	Childs and adolescents Mean (SD)	Parents Mean (SD)
Age (year)	13.3 (4.17)	45.3(9.48)
Education(year)	4.1(2.95)	11.5(3.92)
Sexuality	42 boys (70%) and 18 girls (30%)	-

16 years old, having a diagnosis of anxiety disorders, being able to understand medical education, not being hospitalized during the last 2 months due to psychiatric issues. Exit criteria for the research included lack of homonymous personality disorder, illiteracy, and obvious psychotic symptoms, and the absence of more than two sessions of treatment.

Table 1 presents the results of the analysis of variance test on demographic statistics for test and control groups. According to the results of Table 1, the average age of the sample groups for Childs and parents were 13.3 and 45.3 years with standard deviations (SD) of 4.17 and 9.48 respectively.

Measurement

The measurements were translated into Persian and back-translated to English by bilingual researchers to check language equivalency.

a. **The Anxiety Thought Inventory of Wells (AnTI)**

The Anxiety Thought Inventory was introduced by Wells in 1994. AnTI consists of 22 items that answer each question on a four-point scale "almost never", "sometimes", "often" and "almost always". Its purpose is to assess anxiety thoughts. The components of this questionnaire are social anxiety, health anxiety, and meta-worry beliefs. In social anxiety, health anxiety, the content of cognition is measured, but meta-worry beliefs involve metacognitive assessments (Wells & King, 2006). Examples are: "Unpleasant thoughts enter my mind against my will" and "I worry about making a fool of myself" (Moreno et al., 2014). This questionnaire was reviewed by 20 clinical psychologists and psychiatrists and its content was validated. Its internal consistency was calculated by performing it on 60 students using Cronbach's alpha method, which was 0.67 for social anxiety, 0.67 for physical anxiety, and 0.68 for meta-worry anxiety (Hoseini Ghafari et al., 2013).

b. **The Screen for Child Anxiety Related Disorders (SCARED)**

The SCARED-71 Questionnaire is a self-report questionnaire for assessing SAD, pervasive anxiety, social morbid fear, sedentary anxiety, obsessive–compulsive disorder, Posttraumatic stress disorder (PTSD), and specific morbid fear (Bodden et al., 2009). Examples are: "I am nervous" and "I worry about sleeping alone". Internal consistency was 0.91- 0.91 in the normal group and 0.94–0.86 in the clinical group (Moradi Manesh et al., 2007). Reliability of test–retest, concurrent validity, and therapeutic sensitivity has also been reported to be satisfactory (Palahang et al., 2012). Its internal consistency is 0.95–0.91 in the normal group and 0.94–0.86 in the clinical group (Birmaher, et al., 1999).

Research Method

The present study was a semi-experimental study in which a pretest–posttest method with a control group was implemented. It should be noted that at first, 85 of children and adolescents of the target age group were assessed by the SCARED-71 Questionnaire version of the Scale for Emotional Anxiety Disorders (SCARED-71), and then, 60 people who had symptoms of SAD according to the questionnaire were randomly selected and assigned in two test and control groups (30 people in each group). The test group, along with regular medical care, received the personal intervention program in 11 weekly sessions of 1 h (from February 2017 up to the end of September 2019 for 20 months). The control group received only regular medical care in this period. Subjects in both groups responded to the AnTI and SCARED-71 scale (to diagnose the social

disorder in children and adolescents) for parents, before intervention (pretest), and immediately after the intervention (posttest).

FFP Intervention Plan

In this study, an FFP (based on the MBCT approach with PCIT) was implemented as an individual treatment. The FFP intervention program was performed in 11 weekly sessions of 1 h. In the field of application and evaluation of this therapeutic intervention in a single case method compared to large sample designs, we can mention the flexibility that makes it possible to form this new treatment for SAD. Topics, assignments, and exercises have been used based on the practical guide to mindfulness-based cognitive therapy (Table 1). Parent–child relationship therapy, based on the theoretical foundations of this relationship, seeks to improve the parent–child relationship and is based on the assumption that improving this relationship can improve children's emotional problems and increase adolescents and their mental health. In this program, two categories of skills are considered in two consecutive stages of treatment. In the child-centered interaction phase 1) Parents learn to use common play therapy skills to enhance the parent–child relationship. 2) In the parent-centered interaction phase, parents learn the necessary skills to increase their child's obedience and reduce their child's disruptive behaviors (Greco et al., 2001). Brinkmeyer and Eyberg (2003) also note that through child-parent interaction therapy, parents learn to develop and reinforce constructive ways to cope with emotions such as failure (Table 2).

Main Constructs

This study aimed to investigate the effect of the family-friendly program (FFP) on reducing PMWB and PHA also SAD in children and adolescents. Therefore the constructs consist of two parts: a) MBCT and b) FFP.

The method includes providing mindfulness techniques to parents to cope with their anxiety and then follow the parents' interaction with the children.

Ethical Considerations

Participants in the study received written and informed consent.

Analytic Approach

In the inferential statistics section, the ANCOVA was used to test the research hypotheses and data analysis. We performed all tests at a significant level ($P \geq 0.05$). Data were analyzed by SPSS 23 software using Levene's test and parametric one-way ANCOVA. Also, covariance analysis was used to test the differences between the test groups and the control group.

Results

In Table 3, the mean and standard deviation scores of the research variables including PMWB and PHA, and also SAD in children and adolescents in both pretest and posttest stages were presented in both test and control groups.

Table 2 The subject and the content of the FFP Intervention Plan

Session	Content
1	Familiarity with a variety of emotions including fear, anxiety, and stress. Recognize the difference between cause and effect anxiety
2	Consequences of anxiety and stress (physical-physiological, behavioral, psychological, interpersonal, and family)
3	Understanding the causes of anxiety (genetic, familial, environmental, cognitive)
4	Familiarity with the role of thoughts in the expression of emotions and feelings (identifying cognitive errors of parents and children's intellectual traps)
5	Teaching cognitive techniques to deal with negative thoughts (detective thinking for children)
6	Teaching the concept of accepting thoughts and feelings, teaching mindfulness (confronting the judgmental mind)
7	Meditation Training, Hatha Yoga, Breathing Awareness, Body Check Meditation, Motion Meditation
8	Familiarity with coping styles with anxiety and stress (effective and inefficient coping), training coping styles
9	Coping and planning to deal with anxiety (anxiety ladders for the kids)
10	Strengthen communication skills, assertiveness, and social skills
11	Behavior management training, time management, problem-solving, planning

Table 3 Descriptive indicators of research variables

Variables\ Statistical indicators	Test Group (n = 30)		Control group (n = 30)	
	Pre-test Mean (SD)	Post-test Mean (SD)	Pre-test Mean (SD)	Post-test Mean (SD)
PMWB	23.30 (2.53)	15.70 (1.17)	23.86(2.76)	21.93 (67.2)
PHA	46.20 (1.97)	14.53(1.85)	20.20 (2.29)	18.36 (2.1)
SAD in children and adolescents	66.24 (3.94)	18.66(2.72)	27.26 (3.79)	25.33 (4.33)

The results of Table 3 indicate that in the pre-test phase, there is not much difference between the mean scores in the two test and control groups. Instead in the post-test, the mean scores in the test group decreased compared to the control group. One-way analysis of covariance (ANCOVA) was used to determine the significance of the differences. Before doing ANCOVA, its assumptions were examined. The skewness and kurtosis indices were compared for normality of the data and Levene's test results for the homogeneity of variances by default. In the study of PMWB and PHA, and also SAD in children and adolescents, tilt and elongation values were in the interval of 2 and 2, which means the data of these variables are normal. The results of Levene's test also show that the equality of variances for both variables of PMWB and PHA and also SAD of children and adolescents were also observed ($P > 0.05$).

The results of the ANCOVA test for comparing the two groups in PMWB, PHA, and SAD scores in Table 4 show that by controlling for pre-test scores, the effect of group on post-test scores of these variables was significant ($p < 0.001$, $F_{PMWB} = 221.47$, $F_{HA} = 87.70$, $F_{SAD} = 46.15$). In other words, there was a significant difference between the test and control groups in the mean scores of PMWB, PHA, and SAD at the post-test. Based on the descriptive indices shown in Table 4, this difference is such that the mean anxiety scores of PMWB, PHA, and SAD in the test group were significantly lower than the control group.

Discussion

According to one of the assumptions, there was a significant difference between the pre-test and post-test scores of the two tests and control groups. The results showed that in the pre-test stage, there was no significant difference between the mean scores of the variables of the study, including PMWB, PHA, and SAD in children and adolescents in the two test and control groups. But in the post-test, the mean scores in the test group decreased compared to the control group. Results showed that the mean scores of PMWB, PHA, and SAD in children and adolescents in the test group were significantly lower than the control group. Therefore, the findings of this study show that FFP is effective in PMWB, PHA, and SAD in children and adolescents. This finding is in agreement with the findings of Mussen, (1990), Bögels and Perotti (2011), Ollendick and Benoit (2012), Riskind et al. (2017), and Mash and Wolff, (2018).

Explaining this finding, it should be noted that since the FFP is based on two MBCT therapies and PCIT, it consists of two parts: One teaches parents how to deal with children's SAD problems and one uses the MBCT technique on PMWB and PHA disorders. It educates the adults themselves. As such, the program has a series of instructions on the agenda that help reduce anxiety. For example, although MBCT treatment does not seek to relax people, exercises related to this

Table 4 Results of ANCOVA on demographic statistics for the test group in the pretest

Variable	Source	Type III Sum of Squares	df	Mean Squares	f	Sig	Partial Eta Squared η	Effect Size	Power Analysis
PMWB	Pre-test	113.81	1	113.81	48.29	0.001	0.45	0.45	1
	Group	522.01	1	522.01	221.47	0.001	0.79	0.65	1
	Error	134.34	57	2.35				0.64	1
	Total	830.98	59					0.84	1
PHA	Pre-test	75.01	1	75.01	27.87	0.001	0.32	0.72	1
	Group	236.04	1	236.04	87.70	0.001	0.60	0.69	1
	Error	153.41	57	2.69				0.54	1
	Total	448.85	59					0.59	1
SAD in children and adolescents	Pre-test	364.68	1	364.68	52.58	0.001	0.48	0.54	1
	Group	320.12	1	320.12	46.15	0.001	0.44	0.67	1
	Error	395.34	57	6.93				0.63	1
	Total	1406.85	59					0.58	1

treatment, including body examinations, sitting, and breathing exercises can cause relaxation in parents (Palahang et al., 2012). Performing various exercises such as recording pleasant and unpleasant events, three-minute breathing period and awareness of thoughts, walking with mindfulness, presence of mind in recording sounds and thoughts and doing them in the meeting and outside it, greatly increases the attention of clients and leads to a reduction in behavioral and physical symptoms of anxiety. Thus reduces the cognitive symptoms of anxiety.

This attention includes the person's attention to their experiences, feelings, thoughts, and bodily senses. Also, these exercises increase attention self-control because frequent focusing of attention on a neutral stimulus such as breathing and creates a good attention environment. Also, it prevents mental engagement with threatening thoughts and any concerns about the quality of performance during exams and assessment situations (Semple et al., 2005). These exercises help individuals with PMWB and PHA to change attentional guidance, overview, and selective attention to intrinsic and extrinsic cues associated with transnational beliefs and health anxiety. Mindfulness training teaches individuals how to disengage habitual skills and shift the focus of information processing resources by focusing on breathing. Therefore, in mindfulness training, a person learns to stop PMWB and PHA and communicate differently with their thoughts and feelings (Javadi & Ghorbani, 2019). In this way, people with PMWB and PHA, due to certain thoughts, experience anxiety, and in this regard, the mindfulness program increases their mental focus and also increases their level of mental health.

On the other hand, the FFP provides the necessary basis for improvement by teaching parents how to deal with children's SAD problems and providing guidelines for creating balance and calm in the family environment, and protecting children in the field of SAD (McDiarmid & Bagner, 2005; Boggs et al., 2004; Timmer et al., 2006; Chaffin et al., 2004; Karami & Zabet, 2015). Children in such families do not become overly and unnecessarily involved in parental anxiety thoughts such as PMWB and PHA, and a sense of security and secure attachment replaces SAD. Since this treatment targets, the underlying mechanisms for the development and persistence of pervasive anxiety disorder and takes less time to implement than other cognitive-behavioral therapies (CBT), it makes sense to assume that it can be effective more than previous treatments.

Given that the FFP uses specific treatment techniques, the results of the present study are quite probable and the main reason for its effectiveness is the use of current treatment techniques, all of which help reduce anxiety. The implication of FFP can be used in the treatment of PMWB and PHA and also SAD in children and adolescents and through it significantly improved the quality of life. Furthermore, it can prevent or alleviate anxiety, and stress among family members. In summary, this treatment improves the passive symptoms of anxious people by actively involving the subjects in the homework during and after the treatment session. Therefore, according to the mechanism of the effect of these exercises, the reason for reducing the anxiety of the subjects in the present study can be explained.

Conclusion

Findings from the present study support the implementation of FFP. This study is known for its several strengths. Designing such research and treatments allows us to treat these disorders promptly, such as PMWB and PHA and also SAD in children and adolescents, and to have a forward-looking prediction of delay in treatment. Because the stability of PMWB and PHA is strong and is associated with psychological behavioral constructs. A decrease in PMWB and PHA is associated with a decrease in the severity of anxiety symptoms. This result may indicate that intervention in PMWB and PHA may be beneficial to all people suffering from these anxiety symptoms. Also, because social anxiety is affected by attachment, teaching the FFP allows parents to develop secure attachment in their children.

According to the current guidelines for evidence-based practices in psychology that are limited to several methods, we conclude from the test evidence in this study that the FFP met the criteria and has the outcome of appropriate treatment. This study showed that FFP is effective in helping parents to reduce the child's SAD and behavioral problems. The study found that FFP is effective in helping parents reduce child behavioral problems. This is a way to meet clients' needs, and by doing so, it can reduce the child's SAD, reduce family stress, as well as improve the delinquent and anti-social paths of a large number of children and adolescents. It also can be said that people with health anxiety have more dysfunctional health beliefs, are more neurotic and introverted, and at the same time are less conscientious and less inclined to agree with others.

Limitations

One of the limitations of this research is the low sample size. Researching with a limited number of samples limits the ability to generalize the findings of this research. For this reason, caution should be exercised in generalizing research results. Since researching with wide samples and different conditions can examine the effectiveness of the findings of the present study, it is suggested that in future research, samples with a wider volume and different entry and exit conditions be performed. Another limitation is the use of

self-report questionnaires, which can more or less estimate the answers. This was evident in child social anxiety sessions. The control group was not matched for the additional time and attention of the groups. Further, since the control group was not active (or placebo), the findings should be presented with more caution, since some of the positive impacts may have resulted from the additional time and attention in the intervention arm.

Direction for Future Research

It is also recommended that the effectiveness and efficiency of the FFP treatment program for other anxiety disorders in preschool children be evaluated. Since people's beliefs and cognitions play a role in developing PHA and SAD, it is possible to reduce the incidence of PHA and SAD by raising awareness in this field and teaching people the right ways of thinking. Health authorities in this field should try to focus on MBCT as an adjunctive treatment in this area. It is recommended that the present study be conducted with the statistical population and other geographical areas, as well as with random sampling and follow-up to improve the external validity of the study.

Acknowledgements The authors hereby express their gratitude to the Soroush Center for Child and Adolescent Psychiatry and Participants for this study in Mashhad.

Funding This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data Availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration (Rickham, 1964) and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the present study.

Disclosure Statement There is no conflict of interest among authors.

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