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REEARCH ARTICLE

Effectiveness of acceptance and commitment therapy on psychological well-being and anger reduction among mothers with deaf children in Tehran

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Abstract

Background and Aim: As the acceptance and commitment therapy (ACT) helps improve psychological well-being, the effectiveness of this approach has drawn the attention of many researchers recently. This study aimed at evaluating the effectiveness of ACT on psychological well-being and anger reduction among mothers with deaf children in Tehran.

Methods: Thirty mothers of deaf children, who met the inclusion criteria, were randomly divided into control and experimental groups (15 women per group). For the experimental group, ten sessions of ACT on anger reduction were held, whereas the control group received no education in this respect. Their psychological well-being level and anger reduction level were evaluated before and after the intervention using Ryff scales of psychological well-being and the multidimensional anger inventory (MAI), respectively.

Results: The ACT affected the psychological well-being and anger reduction among mothers with deaf children and persisted at follow-up ($p<0.001$).

Conclusion: This study indicates the importance of using these interventions in the case of mothers with deaf children and providing new horizons in the interventions. In other words, ACT has a performance compatible with many variables.

Keywords: Psychological well-being; anger reduction; acceptance and commitment therapy

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Introduction

In most families, the highest level of agreement is based on the movement of married couples without children into families with children. Typically, parents regard the period before having children as the happiest period of their marital life [1]. By giving birth to children, families enter a new stage that is still enjoyable to them, although this process accompanies with a lot of difficulties. Their hope to have healthy children creates a sense of confidence in parents, but upon their awareness of their children's disabilities (deafness), all their hope changes into despair; this is the point where their problem starts. The existence of special (deaf) child can be associated with adverse and irreparable effects on the mental health status of the family [2]. Recent studies have shown that one child in every 650 children is born with hearing loss, and 90% of these children have parents without

any hearing disability and no history of hearing loss, and thus, with no experience of such a situation [1,3]. There are much evidence showing that mothers of special children experience lower mental health and well-being than mothers of normal children, and they are more likely to face social, financial, and emotional problems, which are often limiting, destructive, and pervasive by nature [4].

The World Health Organization (WHO) incorporates mental health within the general concept of health and defines it as a multidimensional concept (with physical, mental, and social dimensions) that also includes the sense of psychological well-being. According to Ryff (1989), psychological well-being includes feeling good about oneself and one's life [5].

Different approaches have been used so far for research, education, and treatment of the psychological well-being and anger of mothers with special (deaf) children, and the effectiveness of the acceptance and commitment therapy (ACT) has been approved by numerous studies in the recent years. By comparing the cognitive behavioral therapy and ACT with respect to symptoms and psychological flexibility, quality of life, and depression in patients with obsessive-compulsive beliefs, Izadi et al. supported the effectiveness of two approaches in the treatment of patients, but a mean comparison of the two approaches favored the ACT [6]. Considering that the main objective of this approach is for the person to have a meaningful and fruitful life through effective control of the pain and suffering, the use of this method can be very effective [7].

Previous studies have shown that ACT improves the quality of life and subscales of mental and physical health among women with chronic low back pain [8] and infertile women [9]. It also decreases symptoms of mental disorders and promotes health [10], leading to higher level of well-being in betrayed women [7] and those with infertility stress [11]. It creates positive meaningful emotions and high social competence and psychological well-being in women [12]. In addition, ACT teaches people to reduce anger and aggression by accepting the reality and acting responsibly in life by following personal values [13].

As ACT helps increase the compliance and flexibility in people, attempts were made in this study to investigate the above variables to reduce fusion in these families. Therefore, this study aimed at determining whether ACT affects the psychological well-being and reduces the anger of mothers with deaf children in Tehran.

Methods

This research was conducted using a quasi-experimental research method and pretest/post-test design with a control group. The study population consisted of mothers with 5-11 years old deaf children studying in elementary schools for deaf students in Tehran. The sample size was selected from Baghcheban School for Deaf Children No. 1, District 6, Tehran, using convenience sampling method. Mothers, in coordination with the school principals, responded to the Ryff Scales of Psychological Well-being and the Multidimensional Anger Inventory (MAI). Of them, 30 mothers who had achieved lower scores for Ryff Scales and higher scores for MAI, and also met the inclusion criteria, were selected and randomly divided into control and experimental groups. The experimental group received education on anger reduction based on ACT while the control group received no therapy. Ten 2-hour sessions were held twice a week. The two groups were tested by the questionnaires upon completion of the educational sessions and also after a three months.

Tools

Multidimensional Anger Inventory (MAI)

This questionnaire was designed by Siegel (1986) to measure anger, which consists of 30 items. Subjects have to show their level of agreement with each item by selecting an option from the 5-point scale ranging between "strongly disagree" (score 1) and "completely agree" (score 5). This questionnaire measure five dimensions of anger arousal, ranges of situation, hostile outlook, anger-in, and anger-out. Anger arousal is measured by eight questions of 1, 6,

9, 10, 14, 17, 22, and 26. Range of situation is measured by seven questions of 30 a, 30 b, 30 c, 30 d, 30 e, 30 f, and 30 g. Hostile outlook is measured by four questions of 13, 21, 30 h, and 30 i. Anger-out is measured by two questions of 7 and 29, and anger-in by five questions of 3, 4, 12 19, and 20. The psychometric features of MAI have been confirmed, and the [14] validity and reliability of the Persian version of the scale have been confirmed by previous studies [15].

Ryff Scales of Psychological Well-being

Ryff Scales of Psychological Well-being was designed in 1989 by Ryff at the University of Wisconsin. The test contains 84 questions and six dimensions of self-acceptance, positive relation with others, autonomy, environmental mastery, purpose in life, and personal growth. Subjects respond to the questions by selecting one option out of the 6-point scale (strongly disagree to strongly agree). 47 questions are scored directly and 37 questions in reverse order (score 6 for "completely disagree" and score 1 for "strongly agree"). This scale has construct validity. The internal consistency coefficient for its various dimensions has been reported to be between 0.65 and 0.70, and the Cronbach α values for its dimensions have been reported to be between 0.86 and 0.93, indicating good reliability of the scale. Accordingly, this tool is considered a useful instrument for research and clinical purposes [16].

Acceptance and commitment therapy (ACT)

The ACT for anger reduction is one of the training programs of the third wave designed by Eifert, Mckay, and Forsyth in 2006. The program includes 10 sessions; each one included the subject, the objective, some points in order for members to reflect on, questions for the members to think about, practices about the subject, and the message of the session [11]. This is a form of education based on the field of functional integration and is rooted in a new theory about language and cognition called the "frame of mind" theory. This approach consists of six processes. These processes focus on acceptance, diffusion, the present moment, self as a context, values, and committed action, which help improve and support the cognitive flexibility; they do not focus on attachment to a conceptualized self, experiential avoidance, the past and fusion, which lead to cognitive inflexibility [6].

Statistical analysis

We used descriptive statistics (mean and standard deviation) to analyze the data. Data normality was determined with the Kolmogorov-Smirnov test. We also used multivariate analysis of covariance to evaluate the effectiveness of ACT on the psychological well-being and anger reduction among mothers with deaf children in the city of Tehran.

Results

The means and standard deviations of anger and psychological well-being in the pretest, post-test, and follow-up test of the control and experimental groups are presented in Tables 1 and 2.

The mean scores of anger arousal, range of situation, hostile outlook, anger-in and anger-out, and the total score of the control and experimental groups were not significantly different in the pretest. However, the post-test and follow-up test, scores of the experimental group were lower while those of the control group showed no significant difference from the pretest scores (Table 1).

In the pretest, the mean scores of self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, personal growth, and the total score of psychological well-being showed no significant difference between the experimental and control groups. However, the post-test and follow-up test scores of the experimental group increased while there was no significant difference in the control group among the pretest, post-test, and follow-up test scores (Table 2).

In the analysis of covariance of psychological well-being and anger, the multivariate statistic of Wilks' *Lambda* was significant for both variables at 99% confidence level (Wilks Lambda=0.34, F=4.45, p<0.001 for psychological well-being; Wilks' Lambda=0.11, F=32.39, p<0.001 for anger). It was found that

Table 1. The mean (standard deviation) of the anger in the pretest, post-test, and follow-up test for the experimental and control groups

	Mean (SD) score							
	Experimental group			Control group				
Items	Pretest	Post-test	Follow-up	Pretest	Post-test	Follow-up	F	p
Anger arousal	26.46 (6.33)	19.73 (3.47)	18.60 (2.22)	26.53 (6.31)	27.01 (6.12)	26.20 (6.04)	67.48	0.0001
Range of situations	15.93 (6.22)	12.93 (4.55)	11.73 (3.69)	15.92 (5.09)	16.20 (5.15)	15.73 (5.24)	24.95	0.0001
Hostile outlook	6.80 (2.65)	6.01 (2.59)	5.26 (2.05)	7.01 (1.81)	7.13 (1.84)	7.40 (3.18)	7.65	0.01
Anger-in	7.86 (0.83)	6.06 (0.88)	5.26 (1.09)	7.93 (0.88)	7.93 (0.70)	7.13 (1.50)	66.32	0.0001
Anger-out	19.33 (3.86)	15.73 (3.36)	14.93 (3.34)	18.60 (2.99)	18.80 (3.16)	18.13 (3.09)	81.69	0.0001
Total score	76.40 (14.86)	60.46 (9.57)	55.80 (6.77)	76.01 (11.25)	77.06 (10.28)	74.60 (11.81)	122.03	0.0001

the linear combination of the post-tests of psychological well-being and anger and their components were affected by the independent variable (acceptance and commitment) after modification of the differences of the covariate variable.

Discussion

This study aimed to evaluate the effectiveness of ACT on psychological well-being and anger reduction among mothers with deaf children in Tehran. The ACT affects psychological well-being and anger, and their subcomponents. It increases psychological well-being and reduces anger among mothers of deaf children. The results are also invariant in the follow-up period. The results obtained from this study are consistent with the results of previous studies [6-10].

Parents of deaf children are not satisfied with their lives as regards their children's conditions, restrictions, and the financial, emotional, medical, educational, social, and psychological pressures that their deaf children's birth imposes on them. As a result, they do not experience an appropriate emotion and exhibit violent behaviors most often associated with incorrect thoughts and perceptions, physical arousal and a growing desire for doing culturally unacceptable verbal or physical behaviors. Obviously, this type of behavior will result in considerable damage to the various functions of family members and eventually to the community. Therefore, it can be stated that parents of deaf children need more intervention for anger reduction and psychological well-being promotion due to the conditions and limitations of their deaf children, and one of these interventions is ACT. Instead of focusing on resolving and eliminating the problematic factors, the acceptance and commitment approach helps clients to accept their emotions and controlled cognitions and avoid controlling the verbal rules that have caused the problem. They are also allowed to stop conflicts and disputes with them. This approach can provide mothers with peace of mind since its objective is not to enhance realistic, effective and reasonable thinking or encourage emotions and feelings but to avoid past experiences and raise awareness, especially by focusing on the present moment.

The ACT makes mothers of deaf children, who are suffering from mental and physical problems, accept their own feelings and physical and mental symptoms. Accepting these feelings reduced their attention and hypersensitivity to the report of these symptoms and consequently, their improved psychological well-being [11]. It is also believed in the acceptance and

Table 2. The mean (standard deviation) of the psychological well-being in pretest, post-test, and follow-up test for the experimental and control groups

	Mean (SD) score							
	Experimental group			Control group				
Dimensions	Pretest	Post-test	Follow-up	Pretest	Post-test	Follow-up	F	p
Self-acceptance	47.80 (16.05)	57.46 (15.21)	58.20 (14.10)	49.01 (15.25)	49.13 (15.39)	49.06 (14.33)	24.69	0.0001
Positive relations with others	55.86 (9.22)	63.53 (8.77)	63.60 (8.32)	55.73 (9.71)	55.73 (9.12)	55.46 (8.33)	18.88	0.0001
Autonomy	48.13 (5.74)	56.46 (6.80)	56.60 (5.22)	47.40 (7.54)	47.20 (7.59)	48.20 (7.05)	27.52	0.0001
Environmental mastery	49.26 (9.84)	56.20 (11.44)	57.73 (10.16)	50.06 (8.16)	49.73 (8.25)	49.33 (7.55)	30.86	0.0001
Purpose in life	52.46 (5.69)	60.33 (6.53)	62.01 (4.55)	54.20 (4.17)	53.93 (5.03)	53.66 (5.43)	27.27	0.0001
Personal growth	60.86 (5.16)	66.93 (6.41)	67.06 (4.75)	57.86 (5.85)	57.93 (5.99)	58.03 (5.87)	19.61	0.0001
Total score	314.40 (44.18)	361.53 (47.12)	364.60 (38.51)	314.26 (43.93)	313.66 (44.85)	313.06 (40.91)	36.18	0.0001

commitment-based approach that thoughts are the outcome of natural mind. What changes thoughts into belief is the person's fusion with the content of their thoughts. When a person acts according to the content of a thought, this means that they are mixed or fused with that thought and cognitive fusion has occurred. The educational techniques of the acceptance and commitment approach focus on reducing cognitive fusion. When cognitive fusion is reduced, it means that cognitive diffusion has occurred; in other words, the person has separated from the content of their thoughts so that they can see a thought only as one thought [6], which can increase the well-being of mothers with deaf children. On the other hand, Shoukouhi Yekta et al. [17] believed that a special child can have irreparable effects on the mental health of a family. Therefore, it can be said that special children's mothers, including mothers of deaf children, have to endure more psychological and emotional pressures than mothers of healthy children because of their particular role in the birth, care and upbringing of their children. These dual pressures not only threaten these mothers' physical and mental health but can also disturb the health and peace of mind of their husbands, other healthy children and their disabled children, as well [17]. Acceptance is one of the processes of the ACT approach that can be helpful in this regard.

Acceptance involves being aware of a thought but without judging and welcoming the experience of thoughts, emotions, and physical feelings as they occur. In fact, it means observation and admission of an event or situation. Having a focus on acceptance, the person will find the differences between acceptance and endurance by means of small and various steps, metaphors and practices, and will learn that one can feel intense emotions or notice the intense physical emotions without harassment [7]. Considering that Khodabakhshi Koolaee [18] has asserted that mothers of special children will have experiences such as confusion, denial, anxiety, aggression, fear, embarrassment, shame, guilt, anger, and finally acceptance [18]. So this approach can be used to educate mothers of deaf children to accept their emotions by using mindfulness techniques and other methods of the acceptance and commitment approach as an attempt to help them get rid of their struggle and efforts to control and eliminate negative emotions. This

will also encourage the mothers to follow the values and commit to action on the basis of the values [10].

Conclusion

The results of this study indicate that the behavioral commitment practices, together with the techniques of this approach and detailed discussions about the values and goals of the individuals, have increased psychological well-being and reduced anger in mothers of deaf children. Our findings also showed that the increase in psychological well-being and reduction of the level of anger is invariant among these mothers at the follow-up stage. Therefore, considering that the acceptance and commitment therapy (ACT) plays an important role in psychological well-being and anger reduction in mothers of deaf children, particular attention should be paid to it.

Conflict of interest

The authors declared no conflicts of interest.

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