



The Effect of Cognitive-Behavioral Stress Management Training on Psychological Health and Stress among Parents of Mentally Disabled Children

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Quantitative Study

Abstract

Background: This study aimed to investigate the effect of cognitive-behavioral stress management training on the rate of psychological health and stress. It explored the effect of different methods of coping with stress. It also examined the effect of the stress management training program on stress reduction in parents with mentally disabled children.

Methods: The parents of mentally disabled children in Rafsanjan city, Iran, (2 health centers) filled out Harry's stress inventory (HSI) and the General Health Questionnaire (GHQ). Sixty couples with the highest score were selected and randomly divided into 2 groups. The experimental group passed the stress management course in 6 sessions for 3 weeks in the rehabilitation center. The control group received no treatment. After the last session and 1 month after the last session, the two groups completed the two questionnaires again. Data were analyzed using analysis of covariance (ANCOVA) in SPSS software.

Results: There was a significant difference between the pretest and posttest mean scores of stress in the experimental group ($P < 0.001$); however, this difference was not significant in the follow-up test ($P > 0.659$). The mean score of psychological health differed significantly between the pretest and posttest in the experimental group ($P < 0.001$); however, this difference was not significant in the follow-up test ($P > 0.646$).

Conclusion: Training helps the mothers of mentally disabled children better understand themselves, identify their strengths and weaknesses, find themselves, and commit themselves to improving their weaknesses and developing their strengths. Consequently, they can better accept realities and reduce their psychological stress.

Keywords: Mental retardation, Stress, Psychological Health, Training, Cognitive-behavioral therapy

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Introduction

The birth and presence of a mentally disabled

child in a family is an undesirable and challenging event resulting in depression. The parents of mentally disabled children may face economic and social problems, the majority of which are destructive (Smith & Yang, 2017). This condition is harmful to

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families owing to a decrease in psychological health and an increase in challenges and problems. The results of the study by Verdugo, Navas, Gomez, and Schalock (2012) indicated that the parents of these children use inappropriate methods that are harmful to mental health. Studies have reported a higher prevalence of depression and anxiety among parents of mentally disabled children compared to mothers of healthy children (Bourke-Taylor, Pallant, Law, & Howie, 2012; Moyson & Roeyers, 2012). The harmful effect of the presence of a mentally disabled child on a family and a mother depends on different factors including the type and intensity of retardation and disability, gender, the rate of support present in the family, and the engaged individuals' traits (Townsend-White, Pham, & Vassos, 2012). In this regard, some findings revealed that the fathers of mentally disabled children feel less proud since they think that it is the result of their sin, and thus, they do not participate in bringing up their children. Children with severe disabilities need more attention and service; therefore, some studies have gone beyond psychological problems (Brown, Hatton, & Emerson, 2013).

Moreover, parents have other responsibilities respecting their other children and should answer their family's needs. All the stated problems can lead to stress in families and mothers, and weaken the relationship between a mother and her child (Dahan-Oliel, Shikako-Thomas, & Majnemer, 2012). These families should be familiar with behavior-action management and be able to solve the abnormal and behavioral problems of their children since the challenging behaviors of children with particular needs are more intense than that of healthy children (Hu, Wang, & Fei, 2012). These parents experience depression, grief, and psychological bafflement. Gender studies emphasize training and informing as the first step to helping these parents. Cognitive-behavioral training methods and the development of a support system for families

with such children can prevent part of parents' grief (Havercamp & Scott, 2015) and increase the indices of psychological health promotion, family health distance, family stress promotion, social acceptance, and the adaptation of mothers' community.

Training the use of modern methods instead of previous inefficient methods can ensure the psychological health of these parents (Jones et al., 2012). The cognitive-behavioral approach challenges inappropriate attitudes and perspectives. Thus, strategies can be defined to change the parents' attitudes and beliefs towards their endangered children through training them inner dialogue and problem-solving methods in order to improve their social behaviors and increase their positive correlations. It is supposed that this issue informs people about their inner behaviors so that they can substitute them with healthier ones. The behavioral stages have been designed to help parents and children improve their improper behaviors and preclude any sense of rejection or harm in the children. Thus, this strategy is employed to change the parents' nursing method, manage the child's behavior, and provide suitable answers to the child's questions (Vohra, Madhavan, Sambamoorthi, & St Peter, 2014).

A study conducted on the effect of anger management on the relationship between mothers and their mentally disabled children shows that utilizing anger management techniques leads to the controlling of anger by mothers and improves their relationship with their children (Anclair & Hiltunen, 2014). The results of some studies have revealed that general health therapy in mothers with mentally disabled children and mothers of children with non-genetic psychological problems increases the general health of mothers in both groups (Izadi-Mazidi, Riahi, & Khajeddin, 2015; Goodman & Garber, 2017). It decreases physical symptoms and depression and improves sleep and social feedback (Azad, Blacher, & Marcoulides, 2013). Thus, the present study

was conducted with the aim to identify the effect of stress management training with a cognitive-behavioral approach on the scope of stress and psychological health of parents with mentally disabled children.

Methods

This study was a quasi-experimental research with a control group, pretest-posttest design, and follow-up. The statistical population included all parents with mentally disabled children in exceptional elementary schools in Rafsanjan city, Iran; it consisted of 500 individuals with $\alpha = 0.05$ and a test power of $b = 0.88$. A model size of 25 pairs was determined for each group, and 30 couples were considered for each group; 60 couples were selected and randomly divided into 2 groups (experimental and control). At the onset, these parents filled out the General Health Questionnaire (GHQ) and Harry's Stress Inventory (HSI). Those with severe disorders were not selected to enter the group, among others, with the highest scores. The stress management training with cognitive-behavioral approach was applied in 7 sessions, each lasting 45 minutes. The meetings were held twice a week for 3 weeks. A text was presented to all participants in the group during 6 sessions in the rehabilitation center consisting of training pathology, symptomatology, psychological health of parents, 4 face-to-face strategies of coping and alleviating, separation, self-control, and social support, problem-solving, and personal practical skills. The next possible step was using the skills in reality, presenting a report, and memorizing skill problems.

The individuals were interviewed regarding demographic characteristics such as the age and gender of their children, parents' age, their career, residence condition, and income to acquire statistical information.

Harry's Stress Inventory: Chandran Harry presented this questionnaire in 2005 for the evaluation of tension in different circumstances. This scale includes 66 items scored based on a Likert scale (Noel, 2018). It

has been argued that this questionnaire is justifiable in 0.74–0.79.

General Health Questionnaire: Goldberg presented the GHQ in 1991. Its original format comprised 60 questions; however, it was later changed to 28 questions with the aim of deviation. This scale is the most popular scale for evaluating psychological health (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). The GHQ includes 4 subscales physical, grief, and depression symptoms, and social performance. The subscale of physical symptoms consists of 7 statements and evaluates the feeling of faint, need to take a drug for assurance, and feeling of warmth or coldness in the body. The grief symptom subscale includes 7 statements, which evaluate insomnia disorders, stress, anger, and anxiety. The depression symptom subscale also includes 7 statements evaluating feelings of worthlessness, hopelessness, an inclination to die, and inability to perform jobs. The social performance subscale consists of the ability to do daily activities, good feelings toward performing beneficial duties, the ability to learn, and enjoyment in performing daily responsibilities. Mir Kheshti (Holstead, & Dalton, 2013) obtained $\alpha = 0.93$ for the long GHQ. Both long and integrity indices were less than 0.84 for the entire questionnaire.

To analyze the data, descriptive statistics were employed; that is; the central tendency and dispersion indicators were used to describe the distribution of the variables and multivariate analysis of covariance (MANCOVA) was used to test the statistical hypotheses. Furthermore, to analyze the data, SPSS software (version 22, IBM Corporation, Armonk, NY, USA) was used.

Results

Owing to the research type, the couples were investigated separately in this study. The numbers of the model size and mean scores of every couple were determined as indicators, and the total score of the test was recorded in the statistical analysis.

Table 1. Summary of the Stress Management Training Sessions

Sessions	The Topic of the Session (Purposes)
The first session (introduction and familiarization with the lesson)	Executing the pretest: Group members become familiar with each other, make appropriate relationships based on cooperation, and are familiarized with the working manner Task: Noting a stressful situation with signs and symptoms
The second session (stress control and lifestyle approach)	Strengthening the relationship based on cooperation, training the interactive nature of stress, examining the role of thoughts in stress emergence, practicing the technique of intellectual imagining, presenting tasks in appendix forms Task: Practicing relaxation
The third session (principles versus techniques)	Discussing and investigating the problems and consequences related to stress, training and collaborative practicing of recession, tasks presentation Task: Noting the thoughts and emotions of a stressful condition
The fourth session (awareness of responsive systems to stress and the importance of physical activity)	Evaluating the efficacy of the recession technique, explaining the role of thoughts and recognitions in stress emergence, introductory training of Back's approach, presenting the task Task: Completing the negative spontaneous thoughts
The fifth session (the presentation of solutions)	Identifying problems, presenting solutions for the issues Task: Encouraging statements and positive self-talk
The sixth session (self-reinforcement in a stressful environment)	Reviewing tasks, training the problem, problem-solving method Task: Employing problem-solving and distraction techniques
The seventh session (review and conclusion)	Training thought-stopping technique, concluding the previously trained techniques, executing the pretest

The mean score of stress differed significantly between the pretest and the posttest ($P = 0.001$); however, it was not significantly different between the posttest and the follow-up test ($P = 0.67$) (Table 1). There was a significant difference in the mean psychological health score between the pretest and posttest in the experimental group ($P = 0.001$); however, there was no significant difference in this score between the posttest and follow-up test ($P = 0.65$). The mean scores of the physical and depression symptoms subscales of the GHQ differed significantly between the pretest and posttest ($P = 0.036$ out of $P < 0.001$), but did not significantly differ between the posttest and follow-up test ($P = 16$ out of $P < 0.419$). Moreover, the mean score of the grief symptoms subscale did not significantly

differ among the pretest, posttest, and follow-up test ($P = 0.57$ out of $P < 0.13$). The difference in the mean score of the social performance subscale between the pretest and posttest was not significant ($P = 0.07$); however, this difference was significant between the posttest and follow-up test ($P = 0.029$) (Table 2).

Before analyzing the data, the required assumptions were first examined using analysis of covariance (ANCOVA). The investigation of the statistical assumptions revealed that both assumptions of the equality of variances (Levene's test) and normality (Shapiro-Wilk test) were established. The results of Box's M test confirmed the homogeneity assumption of the variance-covariance matrix ($P = 0.18$, $F = 1.23$).

Table 2. The mean (standard deviation) of the scores of the research variables in the experimental and control groups in pretest and posttest stages

Group		Pretest	Posttest	Follow-up	P
		Mean (SD)	Mean (SD)	Mean (SD)	
Stress	Experimental	185.56 (28.12)	162.80 (16.07)	162.73 (16.91)	0.001
	Control	183.86 (22.23)	183.53 (18.54)	183.66 (18.47)	0.61
General Health	Experimental	41.76 (9.19)	31.8 (13.74)	32.1 (13.45)	0.001
	Control	42.53 (4.70)	42.61 (4.79)	42.8 (4.78)	0.62

Table 3. The analysis of covariance of stress management training on stress and general health

Research Variable	Indicator Variable	Df	Mean Squares	F Coefficient	P-Value	Effect Size	Statistical Power
Stress	Pretest	1	67.46	40.19	0.03	0.26	0.30
	Group Membership	1	84.19	21.39	0.002	0.63	0.65
General Health	Pretest	1	98.20	33.54	0.03	0.50	0.25
	Group Membership	1	130.49	19.37	0.001	0.59	0.62

Furthermore, the investigation of the homogeneity of the regression slope supported the insignificance of the conditions and pretest ($P = 0.13$, $F = 1.76$). Hence, the use of MANCOVA was permissible.

The results of ANCOVA indicated that the observed difference in the mean scores of stress and general health was significant in the posttest ($P < 0.05$) according to group membership (experimental and control groups). Hence, it enhanced stress and general health up to 0.63% and 0.59%, respectively, in the participants of the experimental group. Thus, the stress management training intervention significantly affected the scores of the research variables in the posttest in the experimental group ($P < 0.05$). It can be concluded that the stress management training intervention affected general health and reduced stress in the couples (Table 3).

Discussion

In this study, the stress level and psychological health of parents with mentally disabled and healthy children was studied. The results showed a significant difference between the pretest and posttest in the score of stress; however, no significant difference was observed in this score between the posttest and follow-up test. The above results revealed that training parents with mentally disabled children affected their stress rate. The comparison of the posttest and follow-up test showed that the training had preserved its effect after one month. This finding was regarded as excellent support for the study (Carbone, Plegue, Barnes, & Shellhaas, 2014). Another study reported a difference in the stress score between mothers with mentally disabled children and mothers with healthy

children (Orly, Rivka, Rivka, & Dorit, 2012). As can be observed in table 2, the mean score of the general health test, its subscales, and subscales of psychological health, with an exception of grief symptoms and social performance, decreased in the posttest compared to the pretest. These findings implied the significant effect of cognitive-behavioral training on the parents' health. The results of the study on parents were comparable with previous studies. For example, the training reduced parents' grief, increased family health levels, and improved general health, family stress, and social acceptance. In addition, it affected the psychological health of parents in terms of anger management, decreased mothers' anger, and improved their relationships with their children (Villani, Grassi, Cognetta, Toniolo, Cipresso, & Riva, 2013).

These results were in line with the findings of Rose et al. (2013), Stagl et al. (2015a), Garland, Gaylord, and Fredrickson (2011), Urizar and Munoz (2011), and Stagl et al. (2015b). To explain the results, it can be stated that the therapeutic approaches for stress (medical and psychoanalysis therapies) were extensively comprehensive. If the physiological and cognitive-behavioral dimensions of stress could affect its two other aspects, the beginner dimension and the way it continued to reach its highest intensity would always be disputed. Some believe that the improvement of cognitive-behavioral skills can prevent cognitive deviances that emerge as a result of physiologic symptoms, and consequently, a futile cycle and stress.

In managing stress via cognitive-behavioral methods, the different recession methods play a paramount role in stress reduction. Furthermore, the decline in

physical symptoms, which themselves cause stress, was not fruitless in this improvement. Overall, the recession practice results in physiological changes that are part of the integral hypothalamic performance properties. These physiological changes decrease the sympathetic nervous system's activity, which, in turn, reduces the generation of epinephrine hormones of stress and its physical symptoms. Moreover, helping individuals identify the weaknesses of the social network and eliminate them, being aware of the relationships among feelings and thoughts, and recognizing automatic thoughts are of the other effective factors in reducing stress.

The therapeutic method of stress management via the cognitive-behavioral approach and synthesizing the techniques of stress reduction, cognitive restructuring, training effective coping strategies, expressiveness, and anger management can affect stress and depression in physical, chronic, and severe patients. The specific and useful property of the therapeutic stress management method is its two-way approach in stress management and recession training that highly benefits the participants. It helps them reduce the effect of stress and promote their quality of life (QOL) by learning stress management skills and increasing their stress awareness and their capability to cope with it (Abdesslem, Hamrouni, Shephard, & Chelly, 2019). There is the belief in the cognitive-behavioral method that if the therapist cannot change the life condition of patients, s/he can at least reinforce their self-efficacy by changing their attitudes towards life events and their resultant stress, creating a pain controlling ability attitude, and stress management skills training, effective pain-coping skills, and efficient strategies for facing problematic situations. These measures decrease their sense of inability and improve their negative attitude (Antoni et al., 2012; Hofmann, Wu, & Boettcher, 2014). The anger management training as a technique related to stress

management results in awareness about the anger creating a situation, how the person experiences anger, the desirable method of anger emergence, and the application of corrective actions by the person. Consequently, the person can become more adaptable in social interactions and perceive his/her interpersonal relationships more optimistically. This factor can enhance his/her QOL.

The results of this study illustrated that the rate of stress and psychological health of parents with mentally disabled children can be altered via a short period of training. Therefore, if more prolonged and more precise programs could be designed, better results would be achieved. Of the intentional or unintentional limitations of the study, the lack of control over the intellectual rehabilitation level, lack of control over parents' training, and inability to control the children can be stated. These limitations should be managed in later studies.

Conclusion

Training helps the mothers of mentally disabled children better understand themselves, identify their strengths and weaknesses, find themselves, and commit themselves to improving their weaknesses and developing their strengths. Consequently, they can better accept realities and reduce their psychological stress.

Conflict of Interests

Authors have no conflict of interests.

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None.

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Proof View