

Effectiveness of group stress management training on affective control and distress tolerance of mothers of children with sensory-motor disabilities

Original Article

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Abstract:

Background: The aim of present study was to determine the influence of stress management on affective control and distress tolerance in mothers of children with sensory-motor disabilities.

Methods: This current study was a study with pretest-posttest and treatment group. The thirty mothers of children with sensory-motor disabilities were selected from sensory-motor disabilities center in Qum by 2015. The participants were randomly divided into control (n=15) and experimental (n=15) groups. Stress management training was conducted on experimental group during 8 sessions (90 minutes, twice per week). The research instrument was Affective Control Scale (ACS, 1997) and Distress Tolerance Scale (DTS, 2005). Participants were taken pre-test measures one week prior to the start of this training. Then the questionnaire was administered at post-test. Statistical analysis was performed using analysis of variance.

Results: The results indicated that there was a significant difference between the pretest and post-test scores in distress tolerance (\pm SD: 30.2 ± 8.1 , 33 ± 9.3 ; $F=7.58$) anxiety (\pm SD: 40.5 ± 9.2 , 44 ± 8 ; $F=1.79$), anger (\pm SD: 25.4 ± 4.1 , 39.4 ± 5.6 ; $F=1.03$), and depressed mood (\pm SD: 27.7 ± 5.3 , 38.6 ± 7.4 ; $F=1.70$) in the experimental group ($p < 0.05$). Additionally, the significant difference was not observed between score of pretest and posttest in positive emotion (\pm SD: 41.7 ± 9.9 , 39 ± 7.48 ; $F=1.08$) in the experimental group ($p < 0.05$).

Conclusions: The finding emphasized that the stress management reduced the level of distress tolerance, stress, anxiety, and anger in mothers with sensory-motor disability children. Hence, it can be considered enhancing the affective control in mothers of sensory-motor disability children in therapeutic intervention.

Keywords: Stress/psychological, Affective Symptoms, Adaptation/ psychological, Mothers, Disabled Persons

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Introduction:

The birth of every child with special needs or behavioral disorders results in several problems for parents. Every child with special needs is born with a unique disability ^[1]. Increasing attention and concentration on disabilities in children lead to personality disorders in parents and children ^[2]. Also, parents have difficulty with accepting the children's disability. Families with disabled children are exposed to greater stresses than other families ^[3]. One of the variables that have strong relation with parent's stress is the severity of disability. Children who are born with severe disabilities cause enormous stress on family ^[4] because family has a primary responsibility for them. There is a distinctive gender role in families with disabled children ^[5].

The presence of mentally retarded child is a source of stress for mothers who involve in caring their children rather than other family member, so it influences their mental health and adaptabilities [6]. In other words, mother will be exposed to a danger due to suffering from stress in caring children, relation with others and finally, negative psychological and social effects [2]. The disabled child plays a crucial role in the loss of opportunities for social activities and hence it increases the level of stress among these mothers [7]. It was distinguished that feeling of tension was related to the decrease of maternal affectionate and responsible behavior; also, the anxiety of mother is associated with disorder in parenting behavior [8].

In this regard, Kohsali et al.'s found that there was a significant difference between social adjustments of mothers of mentally retarded daughter and social adjustments of mothers of normal daughters [9]. That is why the mean of mental disorder in mothers of exceptional disorder, especially mothers of mentally retarded is higher than normal children's mothers [10].

Additionally, families with disabled child have a less health, educational benefits than the others members of society, and this causes that the parents of disabled children report some feelings such as helplessness, low self-esteem and anger [11]. It can be mentioned depression and anxiety as the mental illness and psychological symptoms related to the stress on the mother in this situation. Previous studies indicated that there was a close relation between stress, anxiety and depression [12].

Moreover, anger is a negative predictor of depression in women [13]. In addition, the concept of anxiety is designed by psychologists to explain the responses to failure and dealing with other forms of stress [14]. Therefore, affective control refers to controlling emotions such as stress, anxiety, depression and anger in diverse situations and to ability of accurate expression, so it influence on various aspects of life like interpersonal interactions [15]. Affective control plays an important role in parent-child interaction regarding the negative effect of parent-child interaction in child development [10]. Therefore, stress management can assist disabled child's mother to control stress. Stress management program consists of increasing knowledge in stress, relaxation training, and identification of dysfunctional thoughts, cognitive restructuring, and problem solving and assertiveness skills training [16].

This skill can be reduced the mental pressure, anxiety and daily problems. Emotional expression and

thought process facilitate the emotional adaptability and it leads to changing the attitude toward life, goals and priorities [17]. Several researches revealed the efficacy of stress management on reducing stress, anger and anxiety on mental health of the mothers of children with attention deficit hyperactivity disorder [18], head-families women [19], depressed women [20], families with children suffering from hearing-impairment [21] and breast cancer women [22].

Family training programs provide a context for interaction among parents with common problems. Parents exchange their experiences to help each other so that they can understand children's issues better and attempt to solve them [23]. Stress management acquainted individual with stress and coping with it. It can frustrate the effects of stress and stress response, and finally it helps individual to have a better physiological and psychological function. This intervention can be effective through increasing the sense of control, self-efficacy, self-esteem, adaptive coping and social support [24]. Farahani et al. showed the efficacy of stress management group training on aggressiveness [25]. Shokohi and Zamani indicated that anger management training led to increasing the positive relation of mothers with mentally retarded children and slow learners [26].

However, the influence of stress management training on tolerance and affective symptom on mothers with sensory-motor disability children were not studied in previous researches such as Farahani et al.'s [25] and Shokohi et al.'s [26].

Therefore, this study was conducted for the following reasons; firstly, since any disability in affective control and management affects directly on the mental and physical health of mothers. In addition, the efficacy of stress management on reducing of psychological problems has shown in other samples. Finally, women have considerable influence on family and especially on disabled child. Thus, this research intended to respond to this question: what is the influence of stress management training on affective control and distress tolerance of mothers of children with sensory-motor disabilities?

Methods:

This study was conducted in 2015 in Qum. The present research is a study with pre-posttest and treatment group. The sample group was 30 mothers of disabled children, who interested to the training program. Mothers were selected through convenience

sampling method according to inclusion criteria from sensory-motor disabilities center in Qum by 2015. These samples were randomly divided into treatment and control groups. Stress management (table 1) was implanted in 8 seasons (90 minutes for each season, twice a week) for the treatment group based on the theory of cognitive - behavioral stress management provided by Anthony et al.'s [24], but the control group did not receive any intervention.

The researcher followed the standardized procedures and techniques of the training program accurately. To minimize the environmental difference between research and control groups, the same-trained psychologist instructed the groups and the sessions were held in the same place. Part of each session was devoted to review the content, topics and assignments, from previous session. At the end of each session, the assignment was given for next therapy session.

After the intervention sessions, the post-test was taken for experimental and control groups. The inclusion criteria were as follow: mothers had to have a child with sensory-motor disabilities, high school diploma, mothers did not have any severe mental and physical illnesses. Exclusion criteria were absence more than one session and participation in other psychological interventions.

To respect the rights of participants, some information was provided about the performance of program and the researcher emphasized on respect the principal of the confidentiality of personally information and written forms.

Informed consent was obtained from parental or guardian before the actual training started. Williams et al.'s developed the Affective Control Scale (ACS) [27] to assess fear of losing control over one's emotions or of one's behavioral reactions to emotion.

The 42-items are rated on 7-point Likert-type scales from 1 (very strongly disagree) to 7 (very strongly agree) and compose four subscales: fear of anger, depression, anxiety, and positive emotion. The total score is the average of all items. This scale was applied for 105 introductory psychology students from American University.

Internal consistency was satisfactory for the total score (Cronbach's $\alpha=0.94$) as well as for the subscale scores (0.72 anger, 0.91 depression, 0.89 anxiety, 0.84 positive affect). Test-retest reliability for the total score was acceptable ($r=0.78$). Tahmasebian et al.'s. [15] normalized this scale. They carried out the test on all students, teachers, nurses ($n=1500$) in Kermanshah. In Persian study, the alpha cronbach

reliability in students, teachers, and nurses was 0.78, 0.88, and 0.90 respectively.

Distress tolerance scale was designed by Simons and Gaher [28] to assess the extent to which individuals experience negative emotions without acting to avoid, alleviate, or become absorbed in them. This inventory is 15-item-self-report measures that reflect perceived ability to tolerate emotional distress, subjective appraisal of distress, attention being absorbed by negative, and regulation efforts to alleviate distress. Items were rated on a 5-point scale from [5] strongly disagree to [1] strongly agree. High scores represent high distress tolerance.

It was conducted on 642 students recruited from two state universities. Internal consistency was satisfactory for the total score (Cronbach's $\alpha=0.81$) as well as for the subscale scores (0.71 tolerance, 0.69 absorption, 0.77 appraisal, 0.73 regulation).

Test-retest reliability over a 6-month interval was good ($r=0.61$). Moreover, in Persian study, it was performed among mothers of premature infants in Mashhad in 2008 and the Cronbach's α of total score was 0.82 and the subscale scores were 0.72, 0.82, 0.78, 0.70 tolerance, absorption, appraisal and regulation, respectively [8].

The collected data were analyzed using SPSS-16. Finally, data were compared between these two groups using ANCOVA.

Table1. Structure of stress management skills

| Sessions | Sessions Objectives |
|----------------|--|
| First | Initial introduction, declare short |
| Second | Relaxation training |
| Third | Automatics thoughts and Cognitive distortions |
| Forth | Self-Talk and thought control strategies |
| Fifth | Concentration and thoughts, Distraction |
| Sixth | Problem solving training |
| Seventh | Anger management training |
| Eighth | Increasing self-esteem to adapt with their current situation and training self-assertiveness |

Results:

Table 2 indicated the results of socio-demographic of all mothers participated in this study. Totally, ten (66.68%) and eight (53.33%) mothers had diploma in experimental and control groups, respectively. The most numbers of mothers in experimental (33.3%) and control (46.66%) groups were the same age (36-40 years). Mean scores of pre-test and post-test in two

groups are shown in table 3. In addition, it was utilized the Leven test to verify equal variances (homogeneity of variance) and normally distributed.

Table 4 shows the results of variance analysis to compare the meaning of these two groups by eliminating the effectiveness of pre-test.

According to these findings, there was a significant difference between the scores of pre-test and post-test

Table 2. General characteristic of mothers' disabled children

| Variable | Group | |
|----------------------|--------------|-----------|
| | Experimental | Control |
| Age (y) | N (%) | N (%) |
| 25-30 | 1 (6.66) | 2 (13.33) |
| 31-35 | 4 (26.6) | 3 (20) |
| 36-40 | 5 (33.3) | 7 (46.66) |
| 41-45 | 5 (33.3) | 3 (20) |
| Education | | |
| High School | 2 (13.33) | 3 (20) |
| Diploma | 10 (66.68) | 8 (53.33) |
| Baccalaureate Degree | 2 (13.33) | 1 (6.66) |
| Master's | 1 (6.66) | 3 (20) |

in distress tolerance ($F=7.58$, $p=0.014$, $\eta^2=0.433$), anxiety ($F=1.79$, $p=0.001$, $\eta^2=0.90$), anger ($F=1.03$, $p=0.002$, $\eta^2=0.92$), and depressed mood ($F=1.70$, $p=0.011$, $\eta^2=0.91$). Moreover, the significant difference was not observed between the scores of pre-test and post-test in positive emotion ($F=1.08$, $p=0.17$, $\eta^2=0.91$).

Table 3. Mean scores of pre-test and post-test in two groups of participants

| Variable | Groups | Pre-test M (SD) | Post-test M (SD) |
|--------------------|---------|--------------------|---------------------|
| Distress tolerance | Experi | 33.60 (8.5) | 30.2 (8.1) |
| | Control | 35 (11.43) | 33 (9.3) |
| Anxiety | Experi | 44.20 (3.4) | 40.5 (9.2) |
| | Control | 46.1 (7.64) | 44 (8) |
| Anger | Experi | 26.10 (3.3) | 25.4 (4.1) |
| | Control | 27.2 (5.2) | 39.4 (5.6) |
| Depressed mood | Experi | 37.5 (3.4) | 27.7 (5.3) |
| | Control | 39.4 (4.33) | 38.6 (7.4) |
| Positive emotion | Experi | 37.6 (8.41) | 41.7 (9.9) |
| | Control | 39.3 (7.18) | 39 (7.48) |

N= 30 (Experimental group=15, Control Group= 15)

Table 4. The comparison of the total dimension of quality of life in patients' age, education and disease stage

| variable | Group | ^b SS | ^b Df | ^b MS | F | P | ^b η^2 |
|--------------------|-----------|-----------------|-----------------|-----------------|------|-------|-----------------------|
| Distress tolerance | Covariate | 137.33 | 1 | 137.33 | | | |
| | Between | 559.63 | 1 | 559.64 | 7.58 | 0.014 | 0.70 |
| | Residual | 1180.42 | 13 | 73.77 | | | |
| Anxiety | Covariate | 755.72 | 1 | 755.72 | | | |
| | Between | 107.74 | 1 | 107.74 | 1.79 | 0.001 | 0.90 |
| | Residual | 962.71 | 13 | 60.17 | | | |
| Anger | Covariate | 15.97 | 1 | 15.97 | | | |
| | Between | 111.68 | 1 | 111.68 | 1.03 | 0.002 | 0.92 |
| | Residual | 26.71 | 13 | 15.42 | | | |
| Depressed mood | Covariate | 47.84 | 1 | 47.84 | | | |
| | Between | 58.47 | 1 | 58.47 | 1.70 | 0.011 | 0.91 |
| | Residual | 549.84 | 13 | 34.36 | | | |
| Positive emotion | Covariate | 898.4 | 1 | 898.4 | | | |
| | Between | 2.34 | 1 | 2.34 | 1.08 | 0.17 | 0.91 |
| | Residual | 458.29 | 13 | 28.46 | | | |

^bAbbreviations: SD, Standard Deviation; df, degree of freedom; SS, Sum of Square; MS, Means of Square; η^2 , Eta Square

* $P<0.05$

Discussion:

The current study was conducted to investigate the influence of stress management training on the distress tolerance and emotional control among mothers of sensory-motor disabled children. Based on this finding, stress management skills elevate the distress tolerance among mothers of sensory-motor disabled children. This result is consistent with some prior researchs [29, 30, 31]

Harris et al.'s was investigated the influence of stress management (yoga-based) on sixty-four educators in two middle schools. Intervention participants had significantly improved scores on distress tolerance [29]. Gawrysiak et al.'s showed that Mindfulness-Based Stress Reduction decline in perceived stress through influence on distress tolerance. Additionally, individuals with lower baseline distress tolerance evidenced a greater decline in perceived stress [30].

In addition, Alavi et al.'s showed that group dialectical behavior therapy (based on core mindfulness and emotion regulation components) reduced the distress tolerance among university students [31]. Distress tolerance is conceptualized as a meta-regulation process of how individuals react to uncomfortable emotions. Therefore, stress management help individual to recognize the situation which causes the anxiety and stress, then they learn coping strategies to coping with stress. This process leads to reduce distress tolerance of mothers of sensory-motor disabilities children who encounter obstacle during early child development in diverse aspects.

Additionally, the findings of current study revealed that stress management increased the level of affective control. Therefore, it reduced the level of anxiety, anger and depressed mood in mothers of sensory-motor disabilities children. These results were consistent with prior study in this field [32]. For example, Akhteh et al.'s showed that stress management reduced the level of anxiety in women with recurrent miscarriage [33]. Marsland et al.'s. revealed that stress management influenced on acceptability and feasibility of mothers of children newly diagnosed with cancer. It could reduce the level of distress in this group [34]. Findings of Parand and Mollavi showed a significant reduction of psychological problems (stress, anxiety, and anger) in mothers after participating in the stress management program [21]. Dehghan et al.'s investigated the influence of stress management in reducing of aggressiveness among students. They found that there were significant

differences in per- and post- test scores for all aggression components in experimental group [35].

The result of current study suggested that there was no relationship between positive affect and stress management training. The positive affect is referred to feeling happy, proud, and the level of tendency for life [36]. The previous study revealed that this item was provided by social support of family and friends among adult with disabilities [37] or by increasing the level of meaning of life through hope therapy among mothers of sensory-motor disabled children [38]. Consequently, it can be concluded that stress management does not play role in increasing the level of the positive affect.

It should be considered that one of the factors which influence on elevating the level of stress and anxiety is negative thoughts. Heevady et al.'s. found that irrational believe of blame proneness, frustration reactive, anxious over concern, problem avoiding, dependency and perfectionism among mothers of sever or profound mentally handicap child were more than among mothers with normal child [39]. The relation with irrational belief and anger, anxiety and stress was approved in previous studies [40]. Thus, stress management program relieves anger, depressed mood and anxiety through the reduction of negative thoughts and self-talk. In other words, since the parents of children with sensory-motor disabilities are increasingly at risk of stress and other problems related to mental health, the growth of self-awareness (through the reduction of negative thoughts) and coping strategies should be considered important to increase the distress tolerance and affective control on parents.

Like our study, Khodabakhshi Koolae et al.'s. also indicated there was statistically significant difference between mother with or without children with speech disorder [41] and with mental retardation [42] in caregiver burden.

Limitation of this study was the use of self-report measure which increased the possibility of biased reports. In addition, the generalizability of this finding should be done cautiously due to the limited sample (mothers with disability children) in Qum. Further studies should include more than one family member.

Recommendation:

Therefore, the results of current and previous research emphasize that the intervention program aimed to reduce the stress of parents who have children with mental disabilities is necessary.

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