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Research Paper

The Effectiveness of Acceptance and Commitment Based Therapy on Psychological Capital of Mothers of Children with Autism Spectrum Disorder



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ABSTRACT

Objective: The birth of a child with special needs causes problems for the family. The aim of this study was to determine the effectiveness of acceptance and commitment based therapy on the psychological capital of mothers of children with autism spectrum disorder.

Methods: The research was quasi-experimental with pretest and posttest. The statistical population included all mothers of boys aged 8 to 12 years with autism spectrum disorder in medical and rehabilitation centers in Yazd in 1398. Thirty mothers were selected by available sampling method from Survival Rehabilitation Center as a research sample and randomly placed in two experimental (n = 15) and control (n = 15) groups. Subjects were assessed by the Psychological Capital Questionnaire. Intervention program of acceptance and commitment-based treatment was performed in 10 sessions of 90 minutes only on the experimental group and the control group did not receive any intervention. Data were analyzed using multivariate analysis of covariance through SPSS24 software.

Results: The results showed that acceptance and commitment-based therapy improved the psychological capital of mothers of children with autism spectrum disorder ($p < 0.01$). It can be concluded that acceptance and commitment-based therapy helps mothers of children with autism spectrum disorder to consciously accept their suffering and understand that it is part of the life process and to make more conscious choices in situations of suffering and be more effective.

Conclusion: Therefore, according to this finding, therapists can use acceptance and commitment-based therapy as an intervention method in this area.

1. Introduction

Autism spectrum disorder is a heterogeneous neuro-developmental disease that is defined by damages in communication and social relations, limited and repetitive interests and activities. This disorder evolves from a complex interaction between genes and the environment and has a significant impact on affected individuals. 65% of people diagnosed with autism spectrum disorder have profound or severe

limitations in daily functioning. They need help or supervision in relationships, and self-care (Whittingham, McGlade, Kulasinghe, Mitchell, Heussler, & Boyd, 2020).

Today, with the prevalence and expansion of autism, there are many discussions about the conceptualization of autism as a disability or a set of unique skills that can be considered as strengths.

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Although both of these definitions are true, many researches confirm that the life process of many people with autism spectrum disorder, from infancy to adulthood, has problems for them and their families. Because people with autism spectrum disorder may share little or no emotions and social communication with others and need high level support and care. Also, destructive and problematic behaviors of this disorder are more than other neuro-developmental disorders. Such behaviors can include disruptive and unpredictable behaviors such as continuous periods of screaming, aggressive and violent behaviors, suicidal behaviors, and collapse.

A significant proportion of parents believe that the child's behavioral problems, specially communication problems are the biggest problem in their parenting experience and their child needs high level of practical support (Schnabel et al., 2020). Mothers who spend more time with their children and are their main caregivers, often have conflicts. High stress puts parents of children with autism spectrum disorder at more risk of mental disorders.

The increase of psychopathology in the parents of these children is associated with poor parental performance, more involvement with children, greater severity of child's behavioral problems, and extreme control (Baron Cohen, 2008). In fact, the hardships and difficulties that parents of children with autism spectrum disorder face, along with low psychological capital, increase emotional fatigue and decrease psychological well-being (Manzano-Garcia, & Ayala, 2017).

Psychological capital is a realistic, flexible and positive approach to life, which causes a person to have a more accurate understanding of himself, his destination, and persistence to achieve his goal. Psychological capital consists of four structures included components of hope, optimism, resilience and self-efficacy. Each of these four components has a direct relationship with the individual's performance. Researchers report that the psychological capital scores of parents of children with autism spectrum are low. Among them, we can refer to the research of Bairami, Movahedi and Khodayari (2013). In this research, he reported that the psychological capital and quality of life of parents of children with special needs are lower than parents of normal children. Also, Heydari & Heydari stated in 2015 that psychological capital, self-efficacy and resilience of mothers of children with autism spectrum disorder had a higher score than mothers of hyperactive children, but these two groups in the components of hope and optimism had no significant difference. Also, the results of Hossein Khanzadeh et al.'s research in 2018 showed that mothers of children with autism spectrum disorder scored lower in psychosocial capital tests (Hossein Khanzadeh, Yazdani, & Faezeh, 2018).

According to what was mentioned, mothers with children with autism spectrum disorder are in

unfavorable conditions in terms of psychological capital. Therefore, these mothers need psychological interventions to improve their conditions. One of the treatments, developed from the expansion of cognitive-behavioral treatments, is the treatment based on acceptance and commitment. In this treatment, acceptance and mindfulness interventions are used along with strategies of adherence and behavioral changes. In fact, the goal of this approach is to increase psychological and behavioral flexibility and strengthen individual acceptance (Samadi and Dostkam, 2016). This approach has been noticed due to its emphasis on the thoughts and feelings of the individual and helps the individual to choose new ways (Gholamipour, Amini, Shafiabadi, & Key Khosravi, 2019). Various researches have reported the effect of this method on various variables. Treatment based on acceptance and commitment improves the psychological capitals of self-efficacy, hope, resilience, optimism and neuroticism in mothers of children with Down syndrome (Mushtagi, et al., 2019). Also, Walei and Amani (2019) reported the effectiveness of this therapeutic approach on parenting stress, strictness and parent-child relationship of mothers with children with attention deficit/hyperactivity disorder. Shiralinia, Abdulahi Mousavi, and KhojasteMehr (2016) considered this approach to be effective in reducing parenting stress and increasing the psychological flexibility of mothers of children with autism spectrum (Shiralinia et al., 2016).

With all the above interpretations and considering the prevalence of autism spectrum disorder in the world and the destructive effects on the families of these children and, especially psychological capital of their mothers, the necessity to examine and present approaches that help a person in psychological well-being, is emphasized more than ever. Now, although the effectiveness of approach based on acceptance and commitment has proven in many different variables in different groups, but few researches have investigated this method in the variable of psychological capital in the group of mothers with autism spectrum disorder in Yazd. Considering that Yazd has recently reached the world register and despite the strong and authentic traditions, the city is moving towards modernization, it is necessary to pay more attention to the etymological capitals of the mothers of this city. Also, by helping the mothers of children with autism spectrum disorder and teaching them techniques such as willingness and acceptance, they learn to recognize some of the obstacles in their lives and deal with them (Heidarian Samani, Shejadian, Heydari, & Shadahi, 2016). It is based on acceptance and commitment, including psychological interventions, which does not mean satisfaction with life, getting what we have, but rather, it means satisfaction with experiences, accepting them and facing negative emotional situations (Ashja, Farah-Bakhsh, Sederposhan, and Setoudeh, 2013).

So, by raising the question whether this treatment method is effective in increasing the psychological capital of mothers, while filling the research gap, the researcher tries to help the therapists to adopt a more effective and efficient method to increase the quality of life of parents of children with spectrum disorder. Therefore, the research question is as follow:
 Is the therapeutic approach based on acceptance and commitment effective on the psychological capital of mothers of children with autism spectrum disorder?

2. Materials and Methods

The research method is experimental with pre-post tests and a control group. The research is practical in terms of purpose.

Statistical population, sample and sampling methods: The statistical population of this research includes all mothers with 8 to 12-year-old boys with autism spectrum disorder in the treatment and rehabilitation centers of Yazd city in 2018. Among these mothers, according to the type of research method, 30 mothers in the form of contact and from the “Bagha” center were selected and then randomly placed into two control and experimental groups. The criteria for entering this study were having at least one child with autism spectrum disorder in the age range of 8 to 12 years, the severity of autism level one and two, at least elementary education and age between 35 to 50, and the exclusion criteria included receiving services similar to this treatment, missing more than 2 sessions of treatment sessions based on acceptance and commitment, and having visual-hearing disabilities that limit communication.

Measuring tool:

Psychological Capital Questionnaire: This scale was created by Luthans, Olive and Youssef (2007) and has 24 items that measure 4 dimensions of psychological capital. These 4 dimensions are self-efficacy, optimism, hope and resilience. Each of these dimensions includes 6 items. many studies indicate the validity and reliability of this scale at the cross-cultural and occupational level, and the validity and reliability of these subscales have also been proven. Also, the reliability of this questionnaire has been reported as 0.85 (Luthans, Youssef, Dayuntnaseb, Javidi, & Baghaulti, 2004). In Iran, the Cronbach's alpha of the questionnaire was 0.71 and the validity was 0.66 (Dayantnaseb, 2013).

Acceptance and Commitment Therapy: Acceptance and commitment therapy is one of the new behavioral therapies. This treatment was first designed by Steven Hayes in 1982. The treatment intervention program based on acceptance and commitment in this research was in the form of 10 sessions of 90 minutes and 2 times a week, which was implemented by the researcher on the experimental group. While the control group does not receive such an intervention. The intervention sessions included a group therapy protocol based on acceptance and commitment, which was taken from the research of Misbah, Hojjatkah and Gol Mohammadian (2017). The outline of the program is described in Table No. 1. The data was analyzed using the multivariate analysis of covariance test through SPSS24 software after completing of interventions.

Table 1. Group therapy guidelines based on acceptance and commitment

| Treatment sessions | Content and purpose of each meeting |
|----------------------|---|
| SESSION ONE | Implementation of the schema questionnaire, conscious mind focus, exploration of how schemas affect the emotions and recognition of clients |
| SESSION TWO | Examining schema motivators, coping behaviors, implementing exercises in the direction of constructive frustration |
| SESSION THREE | Examining the costs of schema-induced coping behaviors, discussing constructive frustration, helping members stop trying to control. |
| SESSION FOUR | Providing a psycho-educational material in line with understanding values, the user of valuable goals, obstacle evaluation worksheet |
| SESSION FIVE | Practicing the five senses, reviewing homework, presenting a psycho-educational article about breaking, teaching special breaking techniques, practicing breaking techniques by members, setting homework |
| SESSION SIX | Providing psycho-educational material about breaking and focusing on assessments versus descriptions, cultivating your practice as context |
| SESSION SEVEN | Discussing the inevitability of suffering and the fragility of relationships, presenting a psycho-educational article on anger, examining the costs of hatred |
| SESSION EIGHT | Demonstrating fault, examining the costs of avoiding painful emotions, exploring freedom from old control strategies, offering mental imagery to cultivate a perspective of the observer's self |
| SESSION NINE | Responding to schema-triggering events that have just occurred, presenting an imagery that brings mindfulness and kindness to schema-related suffering |
| SESSION TEN | Providing a meditation to increase kindness to self and others, discussing strategies to improve practice, commitment of members to accomplish a new goal, post-treatment evaluations |

3. Results

The data analysis of this research was done at two levels (descriptive and inferential statistics), which

would be discussed in the following.

Table 2. Statistical description of psychological capital scores in two stages of measurement according to experimental and control groups

| group | Variable | Pre-test | | Post-test | |
|--------------|-----------------------|----------|--------------------|-----------|--------------------|
| | | Mean | Standard Deviation | Mean | Standard Deviation |
| control | Efficacy | 14/47 | 2/900 | 14/93 | 2/527 |
| | Hope | 11/97 | 2/615 | 12/43 | 2/160 |
| | Resilience | 16/23 | 3/461 | 16/73 | 2/881 |
| | optimism | 15/60 | 6/631 | 16/20 | 6/109 |
| | Psychological capital | 58/27 | 8/983 | 60/30 | 7/769 |
| experimental | Efficacy | 15/01 | 3/243 | 17/85 | 3/752 |
| | Hope | 12/37 | 2/549 | 14/40 | 3/127 |
| | Resilience | 15/77 | 4/417 | 8/06 | 4/129 |
| | optimism | 17/80 | 4/902 | 19/33 | 4/390 |
| | Psychological capital | 60/95 | 7/414 | 69/64 | 8/543 |

In Table 2, the descriptive statistics related to the mean and standard deviation of psychological capital scores are shown separately for the experimental and control groups in two measurement stages (pre-test and post-test). As it can be seen, in the control group, the average scores in the pre-test and post-test phases do not show much change, but in the experimental group, we see a greater increase in the scores in the post-test than in the pre-test.

In order to investigate the effectiveness of treatment based on acceptance and commitment on psychological capital of mothers of children with

autism spectrum disorder, multivariate covariance analysis test was used. At first, the assumptions of multivariate covariance analysis, i.e. the normality of the distribution of scores, were examined. For this purpose, the Kalmogorov-Smirnov, Mbox, Levine's tests were used due to confirming the assumptions of normality of the scores distribution, hypothesis of the covariance matrix, homogeneity of variances, respectively. In the following, the multivariate analysis of covariance test was used to check the hypothesis of the research, and the results of this test are summarized in Table 3.

Table 2. The results of multivariate covariance analysis for the comparison of psychological capital in the experimental and control groups

| effect | tests | values | F | degree of freedom | degree of freedom of error | significance level | effect size |
|--------|-----------------|--------|-------|-------------------|----------------------------|--------------------|-------------|
| group | Pillai effect | 0.489 | 5.023 | 4 | 21 | 0.005 | 0.489 |
| | Wilks Lambda | 0.511 | 5.023 | 4 | 21 | 0.005 | 0.489 |
| | Hotelling's EF. | 0.957 | 5.023 | 4 | 21 | 0.005 | 0.489 |
| | Largest root | 0.957 | 5.023 | 4 | 21 | 0.005 | 0.489 |

As it can be seen, the significance level of all four relevant multivariate statistics, namely Pillai's effect, Wilks's lambda, Hotelling's effect and the largest root mean square, were less than 0.01 ($p < 0.01$). In this way, the statistical null hypothesis was rejected and it was determined that there was a significant difference between the psychological capital of the two experimental and control groups in the post-test.

Based on this, it can be concluded that the treatment based on acceptance and commitment has been effective in increasing psychological capital.

In order to investigate the difference between the two experimental and control groups in each of the components of psychological capital, the inner-subject effects test were used, the results of which are presented below.

Table 4. Test of inner-subject effects to compare psychological capital components of experimental and reference groups in the post-test

| variable | source | sum of the squares | degrees of freedom | mean of squares | F | significance level | effect size |
|------------|------------|--------------------|--------------------|-----------------|--------|--------------------|-------------|
| Efficacy | Intergroup | 41.963 | 1 | 41.963 | 15.358 | 0.001 | 0.390 |
| | error | 65.574 | 24 | 2.732 | | | |
| Hope | Intergroup | 18.914 | 1 | 18.914 | 7.804 | 0.010 | 0.245 |
| | error | 58.165 | 24 | 2.424 | | | |
| Resilience | Intergroup | 16.665 | 1 | 16.665 | 10.010 | 0.004 | 0.294 |
| | error | 39.957 | 24 | 1.665 | | | |
| optimism | Intergroup | 8.779 | 1 | 8.779 | 9.070 | 0.006 | 0.274 |
| | error | 23.232 | 24 | 0.968 | | | |

Table 4 shows the results of the inner-subjects effects test to compare the components of psychological capital in the test and control groups at the post-test stage. According to the results presented in Table 4,

the F value obtained for all components was significant at the alpha level of 0.01 ($p < 0.01$). Therefore, the null hypothesis was rejected and the research hypothesis was confirmed. Considering the

higher average scores of the experimental group in the post-test phase compared to the control group, it is concluded that the treatment based on acceptance and commitment is effective and has increased the psychological capital of mothers of children with autism spectrum disorder.

4. Discussion and Conclusion

The present study was conducted with the aim of investigating the effectiveness of treatment based on acceptance and commitment on the psychological capital of mothers of children with autism spectrum disorder. According to the obtained results, the hypothesis of this research was confirmed. Thus, the treatment based on acceptance and commitment is effective on the psychological capital of mothers of children with autism spectrum disorder.

The findings of this research are in line with those of Mushtaghi, Asghari, Ibrahimabad, Agha Mohammadian, & Shaerfaf (2018), Pashang and Khoshlahjesedegh (2018), Yadullahpour, Fadeli Kabiri, & Amini (2018), Baghstan, Arab Shibani, & Javadani (2016) in terms of dealing with acceptance and commitment to psychological capital. Also, it is in line with the researches of ZareBidaki and Jahangiri (2017), Sheralinia et al. (2016) that they emphasize the effectiveness of treatment based on acceptance and commitment on the psychological state of autistic mothers. Some researchers also investigated the effectiveness of this treatment on the components of psychological capital. The findings of this research showed the effectiveness of the intervention on all components of psychological capital. This finding is in line with the research findings of Joa, et al. (2020), Ryan, Pakenham, & Burton (2020), Ernst and Melon (2016).

In explaining the obtained results, it can be said that, on the one hand, autism spectrum disorder is a neurodevelopmental disorder that affects all aspects of a person's life (Whittingham et al., 2020). These children are not able to understand and express their feelings and have little ability to communicate with others. In addition to these characteristics, more children have behavioral problems such as continuous periods of screaming, aggressive and violent behaviors, suicidal behaviors and collapse. Acknowledging this point, Schnabel et al. published a study in 2020 in which parents of children with autism spectrum disorders called behavioral problems, the most problematic feature of their children. The existence of these problems in the life of these families increases the stress and tension, as Hayers and Watson (2013) report the high stress of the parents of these children in their research. Therefore, these mothers have negative feelings and emotions towards themselves and doubt their own ability to manage and understand their child, the existence of these feelings in a person causes a decrease in hope and a sense of self-efficacy (Mushtaghi et al., 2019). On the other

hand, therapy based on acceptance and commitment emphasizes choosing and building a valuable life. This treatment frees a person from ruminating negative thoughts by emphasizing on increasing self-efficacy. It also helps a person to communicate with himself and his thoughts in acceptable and efficient ways.

In the diffusion technique, the distinction between thoughts and thinkers and feelers is emphasized. Disruption reduces the effect of thoughts, evaluations and feelings of the functions of internal events as a psychological barrier (Yazdi and Abedi, 2014), after that self-efficacy increases in the person. Acceptance technique is used to face the person with their real fears and feelings. In this method, the patient learns to stop trying to change reality and accept the events as they are. This technique helps the mother do not blame herself and to accept situations consciously and without judgment (Mirshahi, Sadaghatpour, Derazeshki, 2015). It can also be said that treatment based on acceptance and commitment helps mothers of children with autism spectrum disorder to accept their pain and suffering consciously and understand that this suffering is part of the life process. This treatment helps the person, after accepting his pain and suffering, be more aware to make choices that will be more effective in frustrating situations. Now, considering all the mentioned interpretations and considering that the psychological capital of mothers of children with autism spectrum disorder is very important and also considering the results obtained from this research, which say that the treatment based on acceptance and commitment is effective on psychological capital Mothers of children with autism spectrum disorder, therapists and specialists should prioritize the treatment intervention based on acceptance and commitment in the treatment of mothers of these children.

It is suggested that the number of meetings be increased and the duration of the meeting be reduced and that a place be considered for taking care of children. And treatment based on acceptance and commitment should also be implemented on fathers of children with autism spectrum disorder. Considering the effectiveness of group therapy based on acceptance and commitment on the psychological capital of parents of children with autism spectrum. It is suggested that the therapists of special needs groups, especially the group of autistic children, learn this method in a specialized way and use it in the treatment of parents of children with autism spectrum disorder.

5. Ethical Considerations

Compliance with ethical guidelines

In designing and compiling this research, ethical principles have been considered. The purpose of the research was explained to the participants and the information was received confidentially and used only for research purposes.

Authors' contributions

All authors of this article participated in all stages of writing and conducting research.

Conflicts of interest

The authors of the article had no conflict of interest.

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