Investigating the Effectiveness of Acceptance and Commitment Therapy in Resiliency and Functioning of Family with Children suffering from Mental Retardation

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ABSTRACT— The purpose of the present study was to investigate the effect of Acceptance and Commitment Therapy (ACT) on resiliency and function of families with children suffering from mental retardation. The method of this study was quasi-experimental with a pre-test post-test design with a control group. The sample of the study included all the mothers with children suffering from mental retardation in Isfahan. Convenience sampling was used and 40 individuals were selected and assigned to the experimental and control groups randomly. The participants of the experimental group were exposed to Acceptance and Commitment Therapy sessions for 8 sessions of 90 minutes. The control group received no intervention. The instrument of this study included Connor-Davidson Resilience Scale (CD-RISC) and Bloom's Family Functioning Scale. Multivariate analysis of covariance was used to analyze the data. The findings of the study showed that Acceptance and Commitment Therapy was effective in the resiliency and function of families (P<0.0001). Consequently, acceptance and Commitment Therapy can increase resiliency and improve function of families.

KEYWORDS: Acceptance and Commitment Therapy, Resiliency, Functioning of Family, Mental Retardation

Introduction

Diseases and disabilities such as mental retardation are among the acute problems of human society in the present era. Many families carry heavy emotional burdens due to having such children. Parents face high medical and educational costs, the exacerbation of marital disputes, fear of having children again, feeling of guilt and isolationism. Members of these families need help and consultation to solve their problems and reduce emotional stress. Children with physical and mental disorders affect the mental health of parents (Baker, 2007, as cited in Khakpoor & Mehr Afarid, 2012). Children suffering from mental retardation and their parents not only affect each other, but also affect other members of the family. Children suffering from mental retardation sometimes disrupt the mental health of families and can severely damage their family functioning (Hewison, 1997, as cited in Khakpoor & Mehr Afarid, 2012) and especially their resiliency. Resiliency is a kind of developable state in an individual based on which the individual can continue his increasing efforts with more progress and responsibility, and continue to achieve greater success in confrontation with failures, tragedies, conflicts of life and even positive events (Khalatbari & Bahari, 2010). Resnick (2010) believes that resiliency is the capacity to return from social, financial or emotional challenges to balance and is indicative of the ability of a person in adaptation against grief, trauma, poor conditions and tensions of life. Children suffering from mental retardation in families is considered as a kind of failure and stress. Evidence shows that there is a relationship between the intensity and frequency of behavioral problems in children suffering from mental retardation and mental problems and stress in parents such as stress and anxiety (Duvdevany & Abboud, 2003). Resiliency is very important in such families. Resiliency is a factor that improves the mental functions of family members in the form of thinking, mood and behavior against this pressure and increases the ability to confront with emotional and psychological problems caused by the presence of children suffering from mental retardation (Mikaeili, Ganji & Joibari, 2012). One other factor that is affected by the presence of children suffering from mental retardation in families is family functioning. Family functioning is a set of tasks, roles and expectations that the family members have in confrontation with each other (Najarian, 1995). Thus, families play significant roles in defining the roles and responsibilities of members, understanding the assigned roles, assigning fair and reasonable tasks and roles, planning for conducting the tasks, defining roles and boundaries for members, legislating to establish order in the family, supporting each other in times of crisis, having proper relationship, mutual trust and accountability. Families with children suffering from mental retardation are also responsible for educating and taking care of these children in addition to their responsibilities about other children, the family and the afore-mentioned roles (Jahangir, 2012). Since resiliency and family functioning in families with children suffering from mental retardation are affected by these children, it is very important to increase these two variables. In Acceptance and Commitment Therapy, it is assumed that humans find their feelings, emotions, or internal thoughts irritating and continually try to change these internal experiences or get rid of them. These efforts are ineffective.
in controlling and, in contrast, led to the exacerbation of feelings, emotions and thoughts the individual initially tried to avoid (Hayes, Strosahl & Wilson, 2004). Acceptance and Commitment Therapy (ACT) includes six central processes that lead to psychological flexibility. These six processes include: Acceptance versus avoidance, defusion versus cognitive defusion, self as a concept versus conceptualized self, contact with present moment versus overcome past and conceptualized future, stipulation of values versus lack of stipulation of values, and their relationship with commitment versus passivity (Hayes, 2004). What was said about resiliency and function of families with children suffering from mental retardation is indicative of the importance of increasing and improving these two variables in these families and ACT is a proper treatment in this regard. Therefore, the present study focused on investigating the effect of ACT on the resiliency and function of families of mothers with children suffering from mental retardation.

The hypotheses
- ACT is effective in increasing the resiliency of families of mothers with children suffering from mental retardation.
- ACT is effective in increasing the function of families of mothers with children suffering from mental retardation.

Material and Methods
The population of this study included all the mothers of children suffering from mental retardation in 2013-2014. The sample of this study included 40 mothers with children suffering from mental retardation who were selected through convenience sampling. They were assigned to the experimental and control groups randomly. First, announcements of the summary of the topic of this research were exhibited in Soroush School for the children suffering from mental retardation located in District 4, Isfahan. Forty mothers volunteered among whom 20 were assigned to the experimental group and 20 were assigned to the control group.

**Instrumets:** The method of this study was with a pre-test and post-test and a control group. The experimental group participated in 8 sessions of 90 minutes and the control group received no intervention. Multivariate analysis of covariance was used to analyze the data. A summary of group consultation sessions is presented below:

<table>
<thead>
<tr>
<th>Session</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Establishing communication and introducing members/brief explanation of therapeutic orientation and therapy</td>
</tr>
<tr>
<td>2</td>
<td>The description strategies used by the visitors and their ineffectiveness, decreasing the dependence of visitors on used strategies/developing a tendency to get rid of ineffective strategies</td>
</tr>
<tr>
<td>3</td>
<td>Introducing control as a problem, common ways to control thoughts and feelings, and expressing the adverse effects of applying them</td>
</tr>
<tr>
<td>4</td>
<td>Instructing the limitations of language in understanding direct experiences, educating self-awareness, weakening the amalgamation of the self and language</td>
</tr>
<tr>
<td>5</td>
<td>Weakening the dependence to the conceptualized self, developing awareness of the watching self, distinction between the conceptualized self and the watching self</td>
</tr>
<tr>
<td>6</td>
<td>Awareness and acceptance, instructing mindfulness</td>
</tr>
<tr>
<td>7</td>
<td>Understanding the importance of value-based life, understanding the performance of goals in developing a healthy life, developing a framework of values in the main life domains</td>
</tr>
<tr>
<td>8</td>
<td>Presenting a summary of the issues discussed in the previous sessions and removing the ambiguities of families, applying skills/summarizing and concluding</td>
</tr>
</tbody>
</table>

**Connor-Davidson Resilience Scale (CD-RISC)**
This questionnaire was developed by Connor and Davidson (2003) by reviewing research studies between 1991-1979 in the field of resiliency. This scale has 25 items on a Likert Scale scored between zero (never), one (rarely), two (sometimes), three (often), and four (always). The scores on this questionnaire ranges from 0 to 100. The score "100" on this questionnaire indicates high resiliency and "0" indicates weak resiliency. The point for normal people is 80.4. The convergent validity of this questionnaire was obtained by Connor and Davidson (2003) with Hardiness Scale (Kobasa, 1979), Perceived Stress Scale (Cohen et al., 1983), Stress Vulnerability Scale (Sheihan et al., 1990), Disability Scale (Sheihan et al., 1983) and Social support Scale (Sheihan, 1990). The correlation of this questionnaire was positive (p<0.001) (r=0.83) with Hardiness Scale, negative (p<0.001) (r=0.76) with Perceived Stress Scale, negative with Stress Vulnerability Scale (p<0.001) (r=0.32), negative with Disability Scale (r=0.62) (p<0.001), and positive with Social Support Scale(r=0.36) (0.001). In order to determine the validity of this scale, Mohammadi (2005) calculated the correlation between each item and the total score and then used factor analysis. The correlation of each score with the total score was between 0.41 and 0.64 except for item 3. Then, factor analysis was conducted to the items of the scale through Principal Component Analysis. Before the extraction of factors based on the correlation matrix of the items, two scales, i.e., KMO and Bartlett’s Test of Sphericity were calculated. The value of KMO was 0.87 and the chi-square in the Bartlett’s Test was 5566.28. Both scales were adequate for the factor analysis. The reliability of this questionnaire was estimated by Connor and Davidson using test re-test method. The correlation coefficient of these two administrations was 0.87. The Alpha
Coefficient of this questionnaire was also calculated by Samani, Joukar, and Sahragard (2007) as 0.87. Momeni, Aknari and Shorideh (2009) estimated the reliability index of this questionnaire through Cronbach's Formula as 0.89. Shaker Nia and Mohammad Poor (2010) also estimated the reliability of this questionnaire as 0.96.

**Family Functioning Scale**

This scale was developed by Bernard Bloom for assessing the family functioning internal system. This test has 75 questions and descriptive phrases about family characteristics. Bloom categorized them in 15 significantly independent areas in addition to factor analysis. These dimensions include: Correlation (cohesion) is the instrument and self-expression in the family system, conflict, intellectual-cultural tendencies, active recreational tendencies, religious debonding, organization and personal family discipline, family socialization, external locus of control, family ideal, disconnection, liberalism family style, unrestrained family style, authoritarian family style, stress and lack of independence of members. This test is a self-descriptive instrument. The subject should select from among four choices, i.e., always, usually, sometimes, or never, and receive 4, 3, 2, or 1 respectively. Thus, the subjects will obtain a total score from 75 to 300; each of the 15 dimensions also receive a score with a range from 5 to 20. In this test, 34 items are scored reversely and the remaining are scored normally. The items related to each sub-scale are after each other, i.e., the first 5 items are related to correlation, the next 5 items are related to self-expression, etc. In general, a high score on each of the 15 dimensions of this test indicates improper function of families in that dimension.

**Results**

In the present study, the collected data were analyzed using proper statistical methods. Descriptive findings of this study included mean and standard deviation. In addition, multivariate regression analysis with pre-test control was used to test the hypotheses. Kolmogorov-Smirnov Test was used to test the normal distribution of data, Leven Test was used to investigate the homogeneity of variances, and box'M Test was used to investigate the homogeneity of correlations between the variables. Wilks' Lambda Test was used to compare the difference between the dependent variables. The hypotheses of this study and the results of each are presented below.

First, the result of multivariate analysis of covariance related to the difference between the dependent variables is presented below.

### Table 2. The result of multivariate analysis of covariance related to the difference between the dependent variables

<table>
<thead>
<tr>
<th>Index</th>
<th>Value</th>
<th>F</th>
<th>DF of the hypothesis</th>
<th>DF Error</th>
<th>Sig.</th>
<th>Chi Eta</th>
<th>Statistical power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks' Lambda Test</td>
<td>0.58</td>
<td>12.29</td>
<td>35</td>
<td>2</td>
<td>0.000</td>
<td>0.43</td>
<td>0.99</td>
</tr>
</tbody>
</table>

As you can see in the above table, the multivariate analysis of variance test related to the difference between the dependent variables was statistically significant. Thus, the experimental and control groups are at least significantly different in one of the two variables compared to each other. In other words, ACT has been effective in the mean of the experimental group compared to the control group in the post-test at least in terms of one of the dependent variables (P<0.001). This effect or difference was 43 percent. It means that there is 43 percent individual differences in the scores of dependent variables related to the effect of group membership. The statistical power equals 0.99 which indicates the sufficiency of the sample size.

The results of homogeneity of variances between the dependent variables (resiliency and family functioning) are investigated in the following table.

### Table 3. The results of homogeneity of variances between the dependent variables (resiliency and family functioning)

<table>
<thead>
<tr>
<th>box'M</th>
<th>F</th>
<th>Degree of freedom 1</th>
<th>Degree of freedom 2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.76</td>
<td>0.24</td>
<td>3</td>
<td>259920</td>
<td>0.8</td>
</tr>
</tbody>
</table>

As you can see in the above table, P is greater than 0.05, thus, the hypothesis of the homogeneity of variances between the dependent variables is established.

**Testing the Hypothesis**

**The Second Hypothesis ACT has an effect on the resiliency of mothers with children suffering from mental retardation.**

The descriptive findings related to this hypothesis are presented in the following table.

### Table 4. The mean and standard deviation of the scores on the pre-test and post-test of resiliency

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Quantity</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean and Standard deviation</td>
<td>Mean and Standard deviation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resiliency</td>
<td>Experimental</td>
<td>20</td>
<td>58.70 (15)</td>
<td>67.60 (15.20)</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>20</td>
<td>60.60 (16.82)</td>
<td>62.40 (18.14)</td>
</tr>
</tbody>
</table>
As you can see from the above table, the mean of resiliency scores on the post-test of the experimental group has changed in comparison to the pre-test, but, the resiliency scores on the post-test of the control group has not significantly increased. In order to use the multivariate analysis of covariance, two assumptions should hold, i.e., normal distribution of scores and the homogeneity of variances.

### Table 5. Kolmogorov–Smirnov Test for resiliency scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>k-s-z</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resiliency</td>
<td>65</td>
<td>16.73</td>
<td>0.52</td>
<td>0.94</td>
</tr>
</tbody>
</table>

As you can see, P in the Kolmogorov–Smirnov Table is greater than 0.05, thus, the data is distributed normally.

### Table 6. Leven test investigating the homogeneity of variances in experimental and control groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Degree of freedom 1</th>
<th>Degree of freedom 2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resiliency</td>
<td>0.82</td>
<td>1</td>
<td>38</td>
<td>0.4</td>
</tr>
</tbody>
</table>

As you can see, P in the Leven Table is greater than 0.05, thus, the variances are homogeneous. For the inferential investigation of the first hypothesis, multivariate analysis of covariance was used. The obtained results are presented in the following table.

### Table 7. The results of multivariate analysis of covariance related to resiliency in experimental and control groups on the post-test

As you can see, after removing the effect of pre-test on the dependent variable and regarding the calculated F Coefficient, it can be seen that there is a difference between the adjusted mean scores of resiliency of subjects depending on their groups (experimental and control) on the post-test phase (P<0.001, F=18.84). Thus, the first hypothesis was confirmed. Thus, ACT has been effective in increasing the resiliency of the experimental group on the post-test. This effect in the post-test phase was 0.34.

**The Second Hypothesis 2. ACT is effective in improving the function of families of mothers with children suffering from mental retardation.**

The descriptive findings related to this hypothesis are presented in the following table.

### Table 8. The mean and standard deviation of the scores on the pre-test and post-test of family functioning

As you can see from the above table, the mean of family functioning scores on the post-test of the experimental group has increased in comparison to the pre-test, but, the family functioning scores on the post-test of the control group has not significantly increased. In order to use the multivariate analysis of covariance, two assumptions should hold, i.e., normal distribution of scores and the homogeneity of variances.

### Table 9. Kolmogorov–Smirnov Test for family Functioning scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>k-s-z</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Functioning</td>
<td>115.82</td>
<td>34.54</td>
<td>1.11</td>
<td>0.1</td>
</tr>
</tbody>
</table>

As you can see, P in the Kolmogorov–Smirnov Table is greater than 0.05, thus, the data is distributed normally.

### Table 10. Leven test investigating the homogeneity of variances in experimental and control groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Degree of freedom 1</th>
<th>Degree of freedom 2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Functioning</td>
<td>1.44</td>
<td>1</td>
<td>38</td>
<td>0.23</td>
</tr>
</tbody>
</table>

As you can see, P in the Leven Table is greater than 0.05, thus, the variances are homogeneous. For the inferential investigation of the first hypothesis, multivariate analysis of covariance was used. The obtained results are presented in the following table.
Table 11. The results of multivariate analysis of covariance related to family functioning in experimental and control groups on the post-test

<table>
<thead>
<tr>
<th>The variable of study</th>
<th>Phase</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
<th>Chi Eta</th>
<th>Statistical power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Functioning</td>
<td>Post-test</td>
<td>42.72</td>
<td>1</td>
<td>42.72</td>
<td>14.14</td>
<td>0.001</td>
<td>0.28</td>
<td>0.95</td>
</tr>
</tbody>
</table>

As you can see in the above table, after removing the effect of pre-test on the dependent variable and regarding the calculated F Coefficient, it can be seen that there is a difference between the adjusted mean scores of family functioning of subjects depending on their groups (experimental and control) on the post-test phase (P<0.001, F=14.14). Thus, the second hypothesis was confirmed. Thus, ACT has been effective in increasing the family functioning of the experimental group on the post-test. This effect in the post-test phase was 0.28.

Discussion

Regarding the results of statistical analyses, the main hypothesis of the study was confirmed according to which ACT increased resiliency (P<0.0001, F=18.84). The results of this study were in line with the findings of Khodabakhsh et al. (2011); Hor (2013); and Gharaei et al. (2011). The purpose of ACT is to teach people not to judge their internal events and accept them especially those that are unwanted. The final purpose of this approach is increasing the quality of life, welfare and happiness of man. Resiliency is an element derived from optimistic psychology. Optimistic psychology, in general, and resiliency, in particular, includes happiness and welfare of man. It is obvious that ACT, with its welfare approach, can be effective in the element whose presence improves welfare of human life. In ACT, the visitors learn that accept internal events such as emotions and thoughts instead of avoiding them. Families with children with specific needs are in critical conditions. Such families are involved in problems that consequently create negative thoughts and emotions and can affect their resiliency. ACT helps these families to accept common thoughts and emotions such as despair, hopelessness and fatigue; and increase their resiliency against difficult conditions; and help them to accept the thoughts derived from these difficult conditions. ACT teaches the visitors to distinguish between their choices and judgments and choose the values. It teaches them to check what they want from life and consider it in various areas of life such as career, intimate relationships, friendship, personal growth, health and spirituality. Stipulation of values helps families with children suffering from mental retardation to move in the direction of their values despite their problems. Moving in the direction of values increases resiliency because resilient people can adapt to conditions. Moving in the direction of values helps such families to adapt to the existing conditions and perform activities that are in the direction of their values. In ACT, people are instructed to adapt to the existing conditions rather than tolerating them. Tolerating is different from adaptation. Tolerating means passive endurance of the internal negative events. In tolerating, the individual endure the negative events hoping the day he will get rid of them. Acceptance means not avoiding and tending to experience internal negative events without waiting for the day to get rid of them. This difference is like the difference between resiliency and tolerating. Resilient people do not tolerate the conditions, they adapt to the conditions and are active, not passive, in establishing the surrounding environment. Thus, it is obvious that ACT can increase resiliency with its acceptance approach. ACT intends to replace the hexagonal of psychological inflexibility with psychological flexibility in the framework of its sessions. Flexible people can accept their thoughts and emotions and behave with regard to the effect of each thought or feeling on the situation. Resiliency is also defined as successful adaptation to the situation. This means checking the situation and adapting to it, not performing based on thoughts and emotions. Thus, therapy can be an effective therapy on resiliency.

Regarding the results of statistical analyses in chapter 4, the second hypothesis of the study was confirmed (P<0.0001, F=14.14). The results of this study were in line with the findings of Gharaei Ardakani et al. (2010). There is no doubt that moving in the framework of values is an essential issue. Indeed, family functioning is desirable when it is in the framework of values. Family functioning can be judged with the success of families in achieving or not achieving, and moving or not moving in the direction of values. Families with children suffering from mental retardation are not exceptions to this rule. Functioning of such families are sometimes faced with shortcomings due to their problems. This takes their ability to move in the direction of values. ACT helps to improve the functioning of these families by focusing on clarification and stipulation of values, identification of the barriers and developing a sense of commitment. ACT helps these families to distinguish between realities and internal events, and base operation and performance on realities more. The focus of this approach on rupture and no amalgamation can improve the efficiency and functioning of individuals. Regarding families with children suffering from mental retardation, this therapy helps them to distinguish between reality and internal events and act based on realities. In addition to individuals, this rupture can improve the functioning of families. The effective factor in family condition is the functioning of families. Functioning is the behaviors of family members. Improving the behavior of family members can improve the functioning of families. In the conducted therapy, mothers found out that they should accept their feelings, thoughts, memories, desires and physical pains and behave commensurate with situations to his benefit and in the direction of his values. The behavior of families improves simultaneously with the change in the attitude of families. As said before, family functioning depends on the behavior of family members. Many families with children with specific needs are involved with problems that sometimes intensify due to lack of awareness of how to deal with them. For example, such families are unaware of how to behave with their children or the parents.
sometimes have some disputes. These issues decrease the family functioning. In ACT, families are helped to identify the barriers and instructed to solve these problems by methods like problem-solving approach and parenting. This can improve the family functioning. Attending therapy sessions provide the opportunity to get familiar with people with similar problems and use their experiences, changes and methods to solve problems. In these sessions, members observed the change and success of other members and tried to solve their problems and improve their functioning regarding the experience of other members.

References:


