The Effect of Cognitive Interventions with Drug Control on Emotional-Behavioral Problems in Adolescents

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Abstract

The purpose of this study was to investigate the effect of cognitive intervention with drug control on emotional-behavioral problems in Adolescents. Being a quasi-experimental study, the research employed a pretest, posttest and follow-up (one month) design. The statistical population included bereaved Adolescents in yazd city in 2016. Of them, 30 students were selected via access sampling method, and were then randomly assigned into experimental and control groups. The measurement instrument was Goodman Strengths and Difficulties Questionnaire (Goodman, 1997). Experimental group received 8 sessions of cognitive intervention (each a 90-minute session). The results of analysis of covariance (with SPSS21) showed that cognitive intervention had significantly reduced emotional-behavioral problems in both in posttest and follow-up (P ≤ 0.05). Results also showed a significant difference between groups in all subscales including emotional problems, conduct problems, hyperactivity and peer problem in posttest and follow-up (P ≤ 0.05).

Keywords: Cognitive interventions, Drug control, Emotional-behavioral problems, Adolescents.

Introduction

Bereavement is an inevitable part of the life cycle. The bereavement means that a person due to lose someone who loved is in the grief or mourning [1].

The grief is a mental feeling which emerged with the death of loved ones. The term of grief uses as synonyms to the mourning, despite of this the mourning refers to the process of dissolution of the grief and actually is the social utility behavior actions after bereavement [2].

Bowlby believes that in addition to the death, countless loss of other things can be cause of grief. Children experience various lack of things in their life, they may lose their father, mother, sister or brother by death or it is possible to lose their daily contact with one or more person who loved by divorce or adaption. In addition children experience losing when one of their friend becomes ill or dies or when themselves or someone who cares for them moved away.

All of these may be start the grief in children but among all of these parent's death seem to be the most crisis and the most painful [3].

Parent’s death has short term and long term impact on children’s psychological adaptation, although most children and adolescents who experienced the death of parents adapted in the first year [4] but many of them experience the symptoms of depression, social abdication and educational problems after the death [5].

Losing the parents is the biggest blow which occur to the children or adolescents, because the real lack of parents leads to many changes which affected aspects of children’s life. Many researchers have expressed that the death of parent as a set of stressors is related with economic resource reduction, change the address, reducing the relation with friends and neighbors, increasing the responsibility and reducing the time that
child or adolescent spends with the parent [6]. As a result, the grief and bereavement may cause psychological and behavioral problems such as depression, conduct disorder and so on in children and adolescents [7].

There is a disagreement depending on which parents have more important role in the child social growth, but most of researchers agree that both parents and their proper role is necessary for children's social growth and their desirable personality. Father has a special role in preventing social-behavioral problems and psychological trauma.

Children are stimulating and modeling from their parents, in the meantime the father's authority has an effective role in ordering the family situation. The father's authority may be damaged because of some reason in the family. In the family which the father is absent, children have no accurate imagination about father's role to stimulate [8]. The presence of healthy and authoritative father beside children is helpful to increase the consistency and reduce the aggression and also has an important role on boys and girls sexual orientation [9].

Most of researchers and psychologists have consensus related to the father's role in the family and its positive impact and academic achievement, cognitive development, moral development or formation of conscience and appropriate sex-role development and the negative impact of father absence in the family on the mentioned variables [10].

When the father died, the family deprived of his management, psychological changes occur in the children that the tolerance is difficult for many of them and cause their mental imbalance. The father death maybe creates stress, anxiety and insecurity in the children and directs them toward mental disorders and discrete their relation with the environment [11].

Researches in Iran and other countries show that fatherless adolescents are more susceptible than who has father to variety of emotional-behavioral problems such as anxiety, depression, physical problems and oppositional defiant disorder and poor academic performance [12]. Several studies have shown that children in the families headed by mothers are weaker in terms of psychological adjustment and sex-role development and self-esteem and academic achievement than children in a normal family and concluded that the absence of the father in the family is a negative factor in the children's life [13,14].

Nowadays researchers in the prestigious universities in the world have considered the issue of grief and bereavement. The reason is that the grief is often underlying cause of psychiatric disorders. In confirmation of this phenomenon Bowlby says: according to the clinical experience and study the evidence about this important belief leaves no doubt that many of psychiatric diseases are the manifestation of abnormal mourning [15].

A wide range of therapeutic approaches have formed to improve the symptoms of bereaved children's and adolescent's emotional and behavioral problems which generally can point to the behavioral, cognitive, developmental and biological approach. In the case of preschool and first-grade bereaved children the behavioral approach is the most effective ones.

As kids get older, the behavioral model is not efficient alone, but it should be used with cognitive model. According to the cognitive approach it is very useful to pay attention to the adolescent's beliefs, attitudes and opinions. Experts in this field believe that no matter what happened, it is important what is happened how interpreted. It should be noted to the cognition distortion in adolescents. For example, some of them tent to catastrophize, means they exaggerate the events. It should be close to their core beliefs and make an intimate relationship with them and teach them to record their thought and feelings [16,17] and after that show them the relation with the present concerns for them and then help them to gradually replace inefficient beliefs with the efficient ones.

Using cognitive techniques was very successful in the treatment of behavioral problems, in this regard the studies of Curry, Wells & March Wells & Albano are the examples of being effectiveness the cognitive methods on emotional disorders in adolescent. Stic, Rohde, Seeley & Gue and Rossell, Bernal & Medina also studied some researches related to the effectiveness of cognitive interventions to reduce adolescent’s depression and emotional problems. Qutaibah has expressed the importance of cognitive interventions in
reducing the adolescent’s conduct problems, hyperactivity and aggression in detail [18].

Berner, Feev & Terner in a research using cognitive interventions with multi component social skills training for adolescent girls showed that the experimental group spent less time in solitude than the control group and they started the dialogue most of the time and interacted with others. Therefore the aim of this study is to investigate the effectiveness of cognitive intervention on emotional behavioral problems of bereaved adolescent girls. For this purpose the following hypotheses have been developed:

- Cognitive interventions decrease the total score of emotional behavioral problems in bereaved adolescent girls in the posttest and follow-up stage compared with the control group.
- Cognitive interventions decrease the emotional problems of bereaved adolescent girls in the posttest and follow-up stage compared with the control group.
- Cognitive interventions decrease the conduct problems of bereaved adolescent girls in the posttest and follow-up stage compared with the control group.
- Cognitive interventions decrease the hyperactivity of bereaved adolescent girls in the posttest and follow-up stage compared with the control group.
- Cognitive interventions decrease the problems of bereaved adolescent girls with their peers in the posttest and follow-up stage compared with control group [19, 20].

**Methods, Statistical Population and Sample**

The method of study was a quasi-experimental with pretest, posttest and one month follow-up design with a control group in which cognitive interventions were considered as an independent variable and emotional behavioral problems (emotional problems, conduct problems, hyperactivity and peers problems) as dependent variables. The statistical population of the study included 188 bereaved high school adolescent girls in Yazd city in 2015.

The sampling method was via access sampling. According to the report of the Department of Education among all high school girls in Yazd city, two schools which had more bereaved girls were selected. Then,

through individual interviews and investigate the inclusion and exclusion criteria of the study, 30 persons who gained the inclusion criteria were chosen as the sample of the study and were assigned to the two groups of experimental and control group randomly.

The inclusion criteria in this study were: 1. Female, 2. The age range of 15 to 18 years old, 3. At least 2 years past from death of father, and exclusion criteria were: 1. Mental retardation, 2. Precedent of psychiatric hospitalization and consumption of psychiatric drugs. The mean age and the standard deviation of age of subjects for experimental group was 17.4 (1.38) and for control group was 17.2 (1.02).

**Measuring Tool**

**Strength and Difficulties Questionnaire**

Strength and Difficulties Questionnaire designed by Goodman (1997) is a screening tool with 25 items and range age of 3 to 16 years old. This three degrees questionnaire includes the options of (it is not true), (it is a bit true) and (it is certainly true) which scored respectively by zero, one and two. But some items are scored in reversed order. This questionnaire contains the following four subscales: emotional symptoms scale, conduct problems scale, hyperactivity scale and peer problems. 5 items have been intended for each sub scales which scores of these 20 items indicate total score of the children problems. This questionnaire has one another subscale named prosocial scale which measured the positive social behavior of children; this subscale also has 5 items. Strength and Difficulties Questionnaire has 3 forms for parents, teachers and self-reported.

Subjects’ scores are calculated separately in each scales, in addition for each person a total score calculated that indicate her condition abnormal in comparison with normal border person. Goodman has reported the mean of Cronbach’s alpha 0.73 and the reliability coefficient by the retest method 0.62 (Tehranidoust et al. 1387 quoted by Majdi, 1389).

In this study Cronbach’s alpha coefficient by implementation of this questionnaire on 30 bereaved adolescent girls for the total scale and subscales of emotional problems, conduct problems, hyperactivity and peers problem
obtained respectively 0.72, 0.75, 0.73, 0.76 and 0.74. Two examples of the questions in this questionnaire are as follow: I try to be good with others. I understand other's feeling.

**Execution Method and Analysis**

In the first stage of research, the members of experimental and control group before starting the sessions (cognitive interventions) responded to the questions of Strengths and Difficulties Questionnaire of Goodman. Then members of the experimental group participated in 8 sessions of 90 minutes (one session per week). One week after the last treatment session and one month after that, posttest and follow-up were done from 2 groups.

According to the results of Cerel, Fristad, Verducci & Weller, Brewer & Sparks, Thompson, Kaslow, Kingree, King, Bryant & Ray studies, the grief and bereavement may cause psychological, emotional and behavioral problems such as depression in children and adolescents and cognitive approach is the most effective approach for bereaved adolescents [21, 22, 23] so, in this study, the expanded version of cognitive treatment which compiled by Moore and Garlund for depression and mood disorders was used. The summary of group cognitive interventions sessions are as follow:

The first session, greeting members and introducing the group leader to members and members to each other, evaluating the objects, reviewing the session's structures and the main rules, providing the logic of therapy with concrete examples and explaining that with appropriate graphs, determining the relation between cognition, emotion and behavior according to A-B-C model and expressing the goal of cognitive therapy is cognitive change in the members. Cognitive change leads to sustained change in their emotion and behavior.

The second session, reviewing previous session assignments and discussions with the cooperation of members and providing feedback and then adjusting the problems of members in cognitive model and drawing defective cycle model for special and major problems of group members, introducing and identifying dysfunction thought, their nature and role in defective cycle of behavior and physiological symptoms and expressing how to identify negative automatic thoughts and offering the dysfunction thought record. In this situation, each members of the group discussed about their negative thoughts and effect of that on their mood and behavior.

The third session, reviewing the previous session assignments and discussions with the cooperation of members and providing feedback. In this session members tried to challenge the negative automatic thoughts and the leader taught members how to identify and evaluate negative thoughts and respond them.

Leader examined their validity by using Socratic Questioning method and gradually through the study of supporting evidence and rejected thoughts. Also in this session fundamental beliefs were introduced and expressed that fundamental beliefs were divided into two groups, mediator beliefs such as rules, attitudes and assumptions and basic beliefs such as absolute ideas which are so general and pervasive about themselves or others.

Although the fundamental beliefs are not the target directly but generally the relation of negative automatic thoughts and fundamental beliefs was demonstrated by using graphs and cognitive distortion such as excessive generalization, polarized thought, selective abstraction, arbitrary deduction which strengthened the negative automatic thoughts were introduced and discussed. In this situation, each members were talking about their fundamental beliefs and subjective rules.

The fourth session, after reviewing the previous session assignments and discussions with the cooperation of members and providing feedback, the leader introduced identification techniques of fundamental beliefs such as arrow down method. The purpose of introducing this method was recognition the beliefs, begin to doubt about them, make them flexible and realize that these beliefs just exist in perception and personal ideas and are not the basic facts in life.

The fifth session, after reviewing the previous session assignments and discussions and providing feedback, the fundamental beliefs were identified and evaluated again to members in order to be more awareness, and by using the graphs showed the members how fundamental beliefs and act according to
them help member to strength them. Also in this session increasing social skills such as assertiveness and training the methods of problem solving were taught.

The sixth session, in this session was attempted the members identified the fundamental beliefs more and corrected them by using Socratic Questioning method. In the session introduced the fundamental beliefs more and divided them into two categories, conditional beliefs and unconditional beliefs. Conditional beliefs rooted in unconditional beliefs (core beliefs) and manifested in behavioral strategies especially avoidance and the leader with the cooperation of members discussed the advantages and disadvantages of their beliefs.

The seventh session, after reviewing the previous session assignments and discussions with the cooperation of members and providing feedback, unconditional and core beliefs were introduced more and tried to weak these belief using the methods such as testing the evidence against unconditional beliefs, calling them in with the method of Socratic Questioning and grading the negative beliefs on a scale of 0-100. Also members discussed about the ways to increase the social skills and assertiveness and problem solving methods.

The eight session, after reviewing previous sessions discussions and checking the homework and providing feedback, producing and developing reasonable alternative beliefs were continued and members were encouraged to attention to the new behaviors which caused by new beliefs. Members of the group again reviewed the social, communication skills and problem solving and members’ consent of the session were evaluated.

The purpose of this session help members to use the learned methods in the future life and create compatibility to collate with possible turning. At the end the obtained data analyzed through covariance analysis and by using Statistical Package of Social Science-version 15 (SPSS). In covariance analysis, cognitive interventions were the independent variables and emotional behavioral problems and subscales such as emotional problems, conduct problems, hyperactivity and peers problems were the dependent variables and age, the grade of education, gender were the control variables and pretest scored of groups were covariate variables.

**Results**

Descriptive analysis was performed by using the mean and standard deviation tables and covariance analysis was used to inferential analysis which the results are shown in tables 1, 2 and 3. According to table 1, the mean of total score of emotional behavioral and subscales, emotional problems, conduct problems, hyperactivity and peers problems are significantly reduced after posttest and follow-up stage in experimental group while there are no significant reduction in the control group.

**Table 1: Descriptive data of experimental and control group score in pretest, posttest and follow-up**

<table>
<thead>
<tr>
<th>Statistical indicator</th>
<th>Pretest</th>
<th>Posttest</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard deviation</td>
<td>Mean</td>
</tr>
<tr>
<td><strong>Subscale Group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>6.23</td>
<td>2.19</td>
<td>4.87</td>
</tr>
<tr>
<td>Control</td>
<td>5.47</td>
<td>1.68</td>
<td>6.169</td>
</tr>
<tr>
<td>Conduct problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>5.32</td>
<td>2.82</td>
<td>6.39</td>
</tr>
<tr>
<td>Control</td>
<td>4.27</td>
<td>3.12</td>
<td>4.93</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>6.4</td>
<td>2.29</td>
<td>2.41</td>
</tr>
<tr>
<td>Control</td>
<td>5.93</td>
<td>2.01</td>
<td>6.2</td>
</tr>
<tr>
<td>Peers problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>5.40</td>
<td>2.64</td>
<td>2.93</td>
</tr>
<tr>
<td>Control</td>
<td>5.48</td>
<td>2.61</td>
<td>5.93</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>22.06</td>
<td>9.96</td>
<td>15.87</td>
</tr>
<tr>
<td>Control</td>
<td>20.40</td>
<td>7.97</td>
<td>23.47</td>
</tr>
</tbody>
</table>

**Table 2: The results of multivariate covariance analysis (MANCOVA) the total score of emotional behavioral problems in experimental and control groups in the posttest, and follow-up**

<table>
<thead>
<tr>
<th>Source Change</th>
<th>Indicator Variable</th>
<th>Lambda Wilks</th>
<th>F</th>
<th>Significance level</th>
<th>Eta2</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Memberships</td>
<td>posttest</td>
<td>0.571</td>
<td>3.937</td>
<td>0.015</td>
<td>0.429</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td>0.587</td>
<td>3.292</td>
<td>0.018</td>
<td>0.419</td>
<td>0.807</td>
</tr>
</tbody>
</table>
Table 3: The results of multivariate covariance analysis (MANCOVA) the subscales of emotional behavioral problems in experimental and control groups in the posttest, and follow-up

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source change</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean of squares</th>
<th>F</th>
<th>Significance level</th>
<th>Eta2</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional problems</td>
<td>Posttest 14.023</td>
<td>1</td>
<td>14.023</td>
<td>7.367</td>
<td>0.0012</td>
<td>0.235</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up 13.167</td>
<td>1</td>
<td>13.167</td>
<td>6.559</td>
<td>0.0017</td>
<td>0.215</td>
<td>0.691</td>
<td></td>
</tr>
<tr>
<td>Conduct problems</td>
<td>Posttest 37.290</td>
<td>1</td>
<td>37.290</td>
<td>16.368</td>
<td>0.6001</td>
<td>0.405</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up 22.791</td>
<td>1</td>
<td>22.791</td>
<td>13.623</td>
<td>0.6001</td>
<td>0.362</td>
<td>0.943</td>
<td></td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>Posttest 22.494</td>
<td>1</td>
<td>22.494</td>
<td>9.885</td>
<td>0.6004</td>
<td>0.202</td>
<td>0.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up 16.638</td>
<td>1</td>
<td>16.638</td>
<td>6.753</td>
<td>0.0016</td>
<td>0.22</td>
<td>0.703</td>
<td></td>
</tr>
<tr>
<td>Peers problems</td>
<td>Posttest 53.846</td>
<td>1</td>
<td>53.846</td>
<td>13.803</td>
<td>0.001</td>
<td>0.365</td>
<td>0.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up 70.595</td>
<td>1</td>
<td>70.595</td>
<td>13.358</td>
<td>0.001</td>
<td>0.358</td>
<td>0.939</td>
<td></td>
</tr>
</tbody>
</table>

The results in table 2 show that by taking the pretest scores as a covariate variable, cognitive intervention could significantly reduce emotional behavioral problems of bereaved adolescent girls in posttest and follow-up stage (p<0.05) and the effect amount was 42% in the posttest stage. It means that 42% of the variance posttest score of emotional behavioral problems had been related to cognitive interventions. Also the statistical power was 82%. The effectiveness in the follow-up stage have been obtained 41% and the statistical power 80%. So the first hypothesis is confirmed.

The results in table 3 show the significant difference between the experimental and control groups in the posttest stage. As a results, cognitive group therapy was effective on reducing the emotional problems, conduct problems, hyperactivity and peers problem (P<0.05). The results in table 3 show that the effect of this therapy has stability in the follow-up stage, so the second, third, fourth and fifth hypothesis are confirmed (P<0.05).

Conclusion

This study was performed with the aim of investigating the effect of cognitive interventions on emotional behavioral problems of bereaved adolescent girls. The results showed that cognitive interventions are effective in reducing the emotional behavioral problems of bereaved adolescent girls in the posttest and follow-up stage.

The results also showed the significant difference between the mean scores of subscale emotional problems in the posttest and follow-up stage in both group. It means that cognitive therapy could reduce the emotional problems of subjects in posttest and follow-up stage, the results obtained in this study are the alignment with Curry, Wells & Marchal and Wells & Albono Stic, Rohde, Seeley & Gou and Rossell, Bernal & Medina studies' results which evaluated the cognitive therapy in the treatment of adolescent depression [24,25].

In explaining the effect of cognitive therapy on emotional problems of bereaved adolescent girls, it can be said that by teaching cognitive strategies and challenging negative thoughts and teaching problem solving, people do not assume their beliefs as perfect and bug free principles and their point of view about being their right or wrong beliefs become more flexible. It means they accept the new beliefs and ideas because people doubt to their defective cognitions and try to change them.

In this case people learn do not conceive the stressful events of life as the catastrophe which threaten them. It means instead of focusing on disabilities, hopelessness about the future, gain more positive attitude and continue trying to improve the mood. Also the difference between the mean score of conduct problems and hyperactivity in both group was significant in posttest and follow-up stage which means cognitive interventions could reduce the conduct problems and hyperactivity of subjects in posttest and follow-up stage. The results of this study are coordinate with the results of Quitaiba’s study which has reported reducing hyperactivity, conduct problems and aggression as a result of cognitive interventions in adolescents [26].

The difference between the mean score of peers problem in both groups was significant in the posttest and follow-up stage and cognitive interventions reduced the peers.
problem of experimental group subjects in the posttest and follow-up stage [27].

In explaining the effect of cognitive training approach on peers problem of adolescent girls can be said that concern about others misconceptions prevent a person of many positive experiences. Isolation and inactivity also affect the person’s perception and all these factors cause the adolescent feels inefficiency and inability in all her experience and loses many opportunities of effective performance.

According to those who identify and correct dysfunction thoughts related to negative emotions, more focus were on their interpersonal relations, the participants were asked to note their dysfunction thoughts when experience the negative emotions, isolation feeling and loneliness. Gradually and by the help of therapist these thoughts were replaced with logical thoughts. Modifying these dysfunction thoughts also affect the social skill and cause to increase the activity, social interactions and improve the relations with peers. The study observed the moral consideration and done with the authorization of Isfahan department of Education and the satisfaction of mothers and students. There were some constraints in this study like the other research in the field of behavioral science and psychology.

It can point to low volume and single gender sample and access sampling method and not to review some intervening variables so should be cautions in generalizing the results. Regarding to the effectiveness of cognitive interventions on improving the emotional behavioral problems of bereaved adolescents recommended that this services used in some organizations such as Imam Khomeini Relief Foundation, state Welfare organization, charities related to orphans such as aid society of Imam Zaman and Department of Education to prevent the problem exacerbation.

References

16.


