The Outcome of Cognitive Behavioral Therapy Intervention on Depression in Adolescents

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Abstract: The main purpose of this study is to examine the effectiveness of cognitive behavioral therapy on reducing depression of adolescents in the city of Kerman, Iran. The instrument for data collection was CDI.Total number of samples were 76 adolecents and the age of the respondents was 13-17 years.There was significant difference in pre-test and post-test of CBT ($t=13.65$, $p<.05$) showing the effectiveness of CBT therapy, that leads to a reduction of the depression score of participants in 8 weeks time. The findings from the present study reveal that CBT enables change in cognitive behavior and helps to avoid the problems of depression in girls adolescents.
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1. Introduction

Depression is among the most common mental disorders and often referred to as the common "cold" of mental illness. It is estimated that between 5% and 25% of the population experience depression at some point in their lives and 15% of severely depressed people will commit suicide in the world (Gotlib and Hammen, 2002). During puberty, about 2% of 13-year-olds suffer from depression and on average, 17% at age 18 years in the world are similarly afflicted (Angold, 2002).

Depression in childhood and adolescence is among the most common and disabling disorders. It is reported that childhood depression ranges from 2% -6% among the school-age population and this may end up seriously affecting such children in their adult lives (World Health Report, 2001). Using the program for emotional disorders and schizophrenia (SADS) the current prevalence of depressive disorders is 2 % (1.8% major depressive disorders, and 0.2% minor aged), living in cities and not housewives (Mohammadi, et al., 2006). Using the Disorder Statistical Manual-IV (DSM-IV) criteria and clinical interviews, the findings indicate that the prevalence of depression disorders is 9.2 % (4.4% major depressive disorder, 3.9% minor depressive, and 0.8% dysthymia) (Noorbala, 2008).

Numerous studies have been conducted to estimate the rate of mental health disorders among Iranian. A study in the Northwest of Iran using face-to-face interviews conducted by psychiatrists revealed that, based on the DSM-IV, 9.7% of the 17 to 24-year-olds were diagnosed as having a mental disorder/ The number of cases is expected to increase with growing age, and women are twice likely to be diagnosed with a mental disorder than men (Fakhari et al, 2007).

Clinical depression has an indoubtly difficult impact on the development trajectories of youth and adolescents. Despite this well-established reality and the current increase in depression treatment investigations, the evidence for particular treatment approach connecting antidepressant medicine or cognitive behavioral therapy recommend only modest optimistic effects achieved with a substantial

investment of resources. The exact advantages over placebo for either treatment alone have been modest in many studies and nonexistent in several studies. (Tads, 2004).

A literature review of epidemiological studies of adolescent psychological health provides a lot of support that depression, substance abuse, and suicide are among the three most prevalent causes of death in adolescents (Brookman, 2006).

Cognitive behavioral therapy for depression is a current focused, time-limited, collaborative approach. It emphasizes the significance of a careful considerate or functional psychoanalysis of cognitive and behavioral factors associated with primary symptoms. The CBT psychotherapist commonly aims to accomplish one or more of the followings: decrease depressingly distorted cognition, develop problem solving and coping skills and enhance the youth's participation in healthy, enjoyable actions. CBT treatments frequently consist of necessary skill- building sessions and optional modular sessions for particular problems. Studies have integrated variants of CBT, with some placing a larger emphasis on cognitive reorganization and others taking a more behavioral and modular skills education approach, such as the adolescent coping with depression classes (Clarke, 2005).

2. Previous research

Rohde (2006) found that CBT intervention was more effective for depressed Caucasian youth than a life skill control condition, whereas non-white adolescents had similar recovery rates across conditions. In addition, there is an evidence from another prevention of depression study to show that youth participating in CBT have been found to have significant reductions in their depressive symptoms when they entered the trial with a greater number of past psychiatric diagnoses, lower levels of depression, and suicidal ideation (Barbe, 2004).

Meta analysis has been shown to support the effectiveness of cognitive behavioral therapy (CBT) in treating childhood depression, with moderate to strong effect sizes compared with wait list control conditions and other treatments. In the CBT model, depression results from faulty interpretations of the environment and negative interactions with it. Treatment involves challenging negative cognitions and increasing adaptive behaviors. Cognitive behavioral skills include practicing positive attributions, accurate identification of feelings, monitoring and increasing self reward, problem solving, social skills, and relaxation procedures (Asarnow, 2001).

3. Objective

The main objective of the present study is effectiveness of CBT in reducing depression among adolescents in Kerman, South East of Iran.

4. Method

4.1. Location and Respondents of the study

In this study, the sampling focused on depressed adolescents aged between 13 to 17years. These adolescentswere referred to psychotherapy clinics at different zones of Kerman province. Kerman is the most extended province of Iran and is geographically divided into different zones by the organization of urban planning and management. A method of multistage random samplingis used at the present study. Adolescents, whom were referred to health centers and conformed to selection criteria of this study were selected. Inclusion criteria for participants are as follow: (a) aged 15-17, (b) BDI score of 16 and more, (c) Diagnostic and Statistical Manual of Mental Disorders (DSM–IV; American Psychiatric Association, 1994).Criteria for major depression based on structural interview by two clinical psychologists, (d) completion of a pretreatment assessment.An exclusion criterion is including current psychiatric treatment (psychotropic medications, supportive group, and psychotherapy, currently practicing relaxation techniques). 25 samples from the reserved/waiting list of each clinic of the same zone choice at random. Therefore, the 125 cases selected from five clinics, one from each of the five. Each of the two groups (CBT and control) includes 62 samples.

4.2. Data collection

Thedata in thisstudycollected byBeck Depression Inventory (BDI). BDIwill take beforestartoftreatmentatthefirststagetodeterminethelevelof depressionscoreinadolescence(pre-test).Attheseconstage,theBDIusedafterperiodof12 sessionsinCBTtreatmentstodeterminedepressionscoreofpa rticipants andtoassesstheeffectivenessofmethodonreductiondepressi onin adolescents (Post-test).TheBDIperformedbeforestartoftherapyinthepre-teststage.TheperiodofCBT therapyconductedinparalleloveraperiodof12 sessions.The Cognitive BehaviorTherapyprogramsarrangedintwo sessionsperweek (oneandahalfhours).Theplanning wastotaleighteenshoursintwelve sessionsoversixweeksofthetreatmentperiod. Afterthe12sessionperiodoftreatment,BDI (post-test)conductedtoestimatethe effectivenessofthetherapyontheparticipants.

4.3. Measures

The CDI (Kovacs, 1983) is a self-rating scale modeled on the BDI (Beck Depression Inventory) and adapted for young people 7-17 years of age. The depressive symptoms assessed include cognitive, affective, somatic and behavioral aspects and the 27 items are scored from 0 to 2, where 0 means the symptom is not present, 1, the symptom is present and mild, and 2, the symptom is present and marked. The clinical / categorical approach is evidenced in that it covers most of the symptoms of major and minor depression according to the DSM IV (American Psychiatric Association, 1994). The CDI takes about 10-20 minutes to fill in and contains five subscales: Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia and Negative Self-esteem.

4.4. Data analyses

Data were coded and entered into the Statistical Package for Social Science (SPSS version 16). This program was used for

analyzing data for specific aims of the study. The analysis began with a report of the characteristics of the participants in detail. Descriptive statistics such as frequency, percentage, means and standard deviations were used to characterize the demographic variables, the rate of depression, subscales in groups and variables. Comparison Analyses: The paired test (Pre and post) were used for testing the difference between dependent groups in experimental groups.

4.4. Adolescent'sbackground

The total number of respondents in the present study is 76adolescent samples.The age range of the adolescents was from 13 to 17 years, which was divided into three categories; 22.7% (13-14), 33.9% (15-16), and 45.4% (17). The mean age of the whole sample was 15.3, and the standard deviation of 1.43 indicated a moderate variation in age among the children.

4.5. The levels of depression in respondents

Depression was measured using CDI, comprising 27 items with three choices scored (0-2). Based on this data collection, respondents' levels of depression were those of mild depression. The normal score in depression was (Normal≤20) (Kovacs, 1983). It indicated more than half (57.86%) gaineda normal score at the post test.

4.7. Analysis on the differences between pretest and posttest in CBT

The result of the paired sample t-test (Table1) illustrated the pre-test score for CBT group (27.49, SD=4.87) while post-test score had mean value of (17.48, SD=3.59).Based on the above data, the mean score for the post-test of CBT group was 17.48 lower mean value in pre-test indicated that the depressed score decreased in post-test of CBT than Pre-test.The t-value, degree of freedom, and the two –tail reveled significant difference ($p<.05$) between the mean scores of the pre-test and post-score which suggests that CBT program lead to decreased depressed score in girls adolescents. Thus, the result showed that there was a significant difference in mean value *($t=13.65$, $p<.05$)* between the pre-test and the post-test score of CBT group.Effect size is a technique used to assess the magnitude of difference between two groups. Eta squared for paired sample t-test can be obtained using the following formula:

$$\text{Eta squared} = \frac{t^2}{t^2+N-1}$$

Cohen (1988) classifies .01 as a small effect , .06 as a medium effect and .14 as a large effect. The eta-squared obtained was ή=1.3 indicated that the mean difference between two measurements is large.

Table 1. Paired sample t-test of female in CBT.

Test	group	n	mean	SD	T	P
pre-test	female	76	27.49	4.87	13.65	.000
pos-test		76	17.48	3.59		

$p<.05$

5. Results

more than half (57.86%) were normal in post test.The pre-test score for CBT group (27.49, SD=4.87) while post-test score had mean value of (17.48, SD=3.59).Based on the above data, the mean score for the post-test of CBT group was 17.48 lower mean value in pre-test indicated that the depressed score decreased in post-test of CBT than Pre-test. Thus, the result showed that there was a significant difference in mean value *($t=13.65$, $p<.05$)* between the pre-test and the post-test score of CBT group.

6. Discussion

The results from hypothesis of this study indicated that there was significant difference in mean scores of CBT between pretest, post test and follow-up assessments of the experimental groups. The outcome of this research demonstrated the potential efficacy of Cognitive Behavioral Therapy for the treatment of depression in adolescents. These findings supported the effectiveness of CBT intervention for decreasing depression.Consequently, results indicated that participants who received CBT for depression obtained greater decrease in mean scores of depression from pretest to post test, and follow-up. This result was supported by the findings of a meta-analysis which examined the efficacy of CBT therapy including group CBT by Oei & Dingle (2008). Oei & Dingle (2008) reviewed many papers and reported that group Cognitive Behavioral Therapy is one of the most effective treatments for depression, comparable to medication and other forms of psychotherapy for depression including individual CBT (Oei & Dingle, 2008). This review demonstrated that group CBT is an effective treatment for depression with the average effect size of 1.11 to 1.30 indicating that the average person in a group Cognitive Behavioral Therapy condition was over one standard deviation more improved

than the average person in the control condition by the end of treatment (Oei & Dingle, 2008).

7. Conclusion

This research is limited to depression, Cognitive Behavior Therapy (CBT).The findings from the present study reveal that CBT method specifically avoids the problems of depression in adolescents by cognitive and behavioral programs. Thus, it is recommended that the Iranian Ministry of Education supports and encourages the establishment of counseling centers in schools and other education centers, where counselors and clinical psychologists can help students treating their mental disorders and subsequently solving related academic problems. At the same time, knowledge gained from the present research can be conveyed by various means such as workshops, seminars, conferences, publications and training programs. To control depression, there must be practical programs such as relaxation, mediation, individual and group counseling, etc. These programs can help and support students and also increase their capabilities to perform better in school. Based on literature, this is due to the fact that youth with better mental health succeed in their education and work, more easily get married, and have useful relationship with their partner and other dependents.

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