Effectiveness of Group Cognitive Behavioral Therapy on Depression among Iranian Women around Menopause

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Abstract: Menopause is the universal event that each woman will experience it if they survive into midlife. Although most women transition to menopause without experiencing psychological problems, some may develop a new onset of depression during this stage of life. The objective of this research was to study the effectiveness of group Cognitive Behavioral Therapy (CBT) on depressed women who are around menopause in regard to menopausal status. The study was conducted involving 44 women around menopause period who were placed randomly in the experimental and control groups. Participants’ the experimental group was exposed to 16 sessions of group cognitive behavioral therapy based on Beck’s Cognitive Therapy for depression. The results revealed that depression decreased from the pre-test to post-test and follow-up in the experimental group $F (1, 21) = 269.60, p=.001, f=2.34$. These findings indicated that group cognitive behavioral therapy is effective in decreasing women’s depression around menopause over time and its effect is equal among premenopausal and perimenopausal women $t (1, 20) =-1.46, p=.15$.

Key words: Group Cognitive Behavioral Therapy, menopause, depression.

INTRODUCTION

Depression is a debilitating disorder with significant impact on mental and physical health. The World Health Organization (WHO) reported that major depression will be the second most frequent cause of illness and also the second largest killer after heart disease by 2020 (Murray & Lopez, 1996). It is significant to note that studies have shown depression to be twice more prevalent among women than men (Kessler, McGonagle, Swartz, & Blazer, 1993). Also vulnerability to depression varies at different times in women’s life. Cohen and Soares, (2006) reported that prevalence of depression will be increased during transition to menopause twice as high as women who remained premenopausal (Cohen, et al., 2006). Perimenopause is the time when menstrual periods gradually lighten and become less frequent. Approaching complete menopause may last for a few months to a few years. Menopause is a crucial phase in women’s life thus at this time women are faced with significant physiological, emotional and social changes. This condition can trigger a new onset of depression or its recurrence. Women at this time may experience symptoms of menopause and depression simultaneously. It is however important to note that depression is not necessarily the result of difficulties faced by women at menopause stage. However, if depression occurs when such difficulties exist, then the challenge is greater.

Cognitive Behavioral Therapy (CBT) is one of the most effective psychological treatments for depression, which has been used in many studies. A recent meta-analytic review of outcomes of depression recovery suggested that CBT is effective for adult unipolar depression and rather superior to antidepressants (Butler, Chapman, Forman, & Beck, 2006). Moreover, Dobson (1989) and Rush (1983) conducted meta-analysis to evaluate the effectiveness of CBT for major depression in comparison with a waiting list condition, behavior therapy, pharmacotherapy, and other forms of psychotherapy. The results have shown that CBT is superior to waiting list, pharmacotherapy with tricycles antidepressants, and other therapies for treatment of depression, and produces positive changes.

Cognitive behavioral therapy is based on the theory that “an individual’s affects and behavior are largely determined by the way in which he structures the world”. The original cognitive framework for depression treatment suggested that individuals’ depressive mood is maintained by a triad of depressive cognitions regarding seeing the self as inadequate and unlovable, the environment full of obstacles, and the future as hopeless (Beck, 1967, 1976, and 1979). The procedure of therapy focused on the relationship between thoughts, feelings, and behavior, encourages individuals to reflect on the contents of their cognitions and identify their unrealistic beliefs and attitudes in order to modify them with more realistic ones (Beck, Rush, Shaw, & Emory, 1979).

Despite general evidence on CBT as a viable intervention for depression, relatively few studies have evaluated the effectiveness of group CBT among Iranian women around menopause period. The following study
was made to answer the question of whether group cognitive behavioral therapy is a reliable treatment for depression among Iranian women around menopause period.

**MATERIALS AND METHOD**

**Participants:**
The sample was 50 depressed individuals whose condition was diagnosed based on BDI-II and structural interview. These participants were selected from 530 women who were visited in the four health centers of the municipality in Tehran, Iran. The inclusion criteria for the study required individuals who were diagnosed with major depression, to be in the age range of 40-55 years, married, and had at least primary school education. Exclusion criteria were, currently under medication or psychotherapy, previous experience of CBT, severe suicidal thoughts or psychotic depression, and involved with severe illness. Thus, 50 participants who met the criteria for the study was randomly assigned in experimental (G-CBT) and control group (C-G). To analyze the data six participants were excluded from the two groups because they did not attend the follow-up assessments. Criteria for Premenopause and Perimenopause were based on five questions asked about the monthly menstruation pattern in the past six months.

**Procedure:**
Participants were asked to confirm in writing their agreement to participate in this research activity during their admission interview. Group CBT was delivered to the participants of the experimental group in 16 two-hour sessions twice weekly by the researcher and an assistant. In this study group cognitive behavioral therapy was based on Beck’s Cognitive Therapy for depression (Beck, et al, 1979) and White and Freeman’s (2000) group Cognitive Behavioral Therapy for specific problems and populations. In the cognitive model, depression is defined as emotional disorders that are significantly affected by cognition (Beck et al., 1979). In this model, cognition is viewed as a major determinant of emotions and behaviors that have a central role in maintaining dysfunctional emotion, behavior, and physiology. The model attempts to identify the thoughts and actions that influence mood. The goals of such therapy were to diminish depression through teaching assumptions and techniques of CBT. Sessions of therapy covered three major themes: how thoughts influence mood and activity, how daily activities influence mood and feelings, and how knowledge and information about menopause influence the way to manage its related problems, leading to improved feelings.

Each session was divided into two parts, the first part of the intervention focused on the skills group information based on cognitive behavioral assumptions. The therapist gave a lecture on the main assumptions and skills of CBT. In this part participants were helped to understand the nature and symptoms of depression and menopause. The subjects of cognitive distortion, unrealistic beliefs, negative interoperation, relaxation techniques, automatic negative thoughts, and interpersonal social skills were also taught. Participants were encouraged to be involved in the discussion of other group members’ personal issues and suggest possible solutions for them.

**Measures:**
1. BDI-II was the main source of data collection. BDI-II is the most widely-used questionnaire for screening, using as a baseline for measuring severity of depression, and monitoring improvements (Gloaguen, Cottraux, Cucherat, & Blackburn, 1998). The Persian version of the BDI-II was translated and standardized by Hojat and Shapurian in a sample of the Iranian population (1986). Ghasemzadeh, Mojtabai, Khanghadi and Ebrahimkhani (2005) reported high internal consistency (alpha=0.87) and an acceptable test–re-test reliability r =0.74 for the Persian version of BDI-II.

2. Demographic questionnaire was asked about characteristics of participants such as age, educational level, number of children, income, job, physical health, the history of depression, and some other questions on menopausal status (premenopausal, perimenopausal) were asked.

**Results:**

**Demographic Information:**
Demographic characteristics of the participants were as follow: The mean and standard deviation of the participants’ age were 48.77 and 4.54 years (from 41 to 55) respectively. The education levels of the participants were 32% had lower than primary school education, 55% were with secondary and high school level, and 13% of them had higher than high school diploma. In the case of jobs, 68% were housewives, 14% were currently employed, and 18% were retired. Economically, 36% of participants had very low income, 41% low, and 23% moderate. On the Number of children, 27% had 0-2 children, 63% had 3-6 and 9% more than 6 children. Overall, the sample of this study belonged to the middle and low socio-economic class. Fifty-five percent of the participants were at Perimenopause status and 45% Premenopause. Results of independent t-test showed that there were no significant differences in age t (42) = -1.197, p=.84, income t (42) = .09, p=.92, number of children
The Pre-test, Post-test and follow-up Scores of the BDI-II:

Results of repeated measure ANOVA illustrated that there was a statistically significant difference in the depression scores between pre-test, post-test, and follow-up over time $F(1, 21) = 269.60, p=.001$ in the experimental group. Comparing the achieved mean scores of depression over time showed that the post-test and follow-up scores were significantly lower than those in the pre-test. The obtained effect size was $f=.2.34$ indicating that the mean difference between three measurements was very large, based on Cohen’s (1992) criteria. These results suggested that participants’ symptoms of depression were improved after receiving group CBT intervention. Results of repeated measure ANOVA for the control group showed that there was no significant difference over the three time points $F(1, 21) =.54, p=.51$. Also, the finding regarding the BDI-II scores on Premenopause and Perimenopause variables showed that there was significant difference between BDI-II over three times in both groups.

Table 1: Repeated Measure ANOVA on Depression.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pre-test Mean (SD)</th>
<th>Post-test Mean (SD)</th>
<th>Follow-up Mean (SD)</th>
<th>df</th>
<th>F</th>
<th>Sig.p</th>
<th>PET*</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-CBT</td>
<td>33.95(9.6)</td>
<td>12.04(5.89)</td>
<td>12.63(6.41)</td>
<td>1,21</td>
<td>269.60</td>
<td>.001</td>
<td>.92</td>
</tr>
<tr>
<td>C-G</td>
<td>34.09(8.34)</td>
<td>32.77(6.92)</td>
<td>33.77(7.17)</td>
<td>1,21</td>
<td>.54</td>
<td>.517</td>
<td>.02</td>
</tr>
<tr>
<td>Premenopause</td>
<td>29.90(8.47)</td>
<td>9.80(2.50)</td>
<td>10.50(3.27)</td>
<td>1,9</td>
<td>80.28</td>
<td>.001</td>
<td>.89</td>
</tr>
<tr>
<td>Perimenopause</td>
<td>37.33(9.56)</td>
<td>13.91(7.25)</td>
<td>14.41(7.89)</td>
<td>1,11</td>
<td>236.68</td>
<td>.001</td>
<td>.95</td>
</tr>
</tbody>
</table>

*partial Eta square

Between Group Comparison:

We performed additional analyses to compare the outcome of BDI-II scores at follow-up between experimental and control groups. The result of an independent-samples t-test have shown that there was significant difference in scores of depression between experimental group (M = 12.63, SD = 6.41) and control group (M = 33.77, SD = 7.17); $t (42) = 10.29, p = .001$. The magnitude of the differences in the means (mean difference = 21.13, 95% CI: -25.27 to – 16.99) was considered large ($d= 3.08$). A visual inspection of group means showed that Perimenopausal women had more changed scores on BDI-II compared to Premenopausal women (mean difference 3.91), but running an independent $t$-test between two groups revealed that there was no significant difference between them regarding improvements in depression after CBT intervention $t(1,20)=-1.46, p=.15$.

Table 2: Independent t-test for comparing two groups at follow up scores.

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig.p</th>
<th>Mean Difference</th>
<th>SD</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>-10.29</td>
<td>42</td>
<td>.001</td>
<td>-21.13</td>
<td>2.05</td>
<td>-25.27 to -16.99</td>
</tr>
<tr>
<td>Pre and peri menopause</td>
<td>1.46</td>
<td>20</td>
<td>.15</td>
<td>-1.52</td>
<td>1.11</td>
<td>-3.88 to .83</td>
</tr>
</tbody>
</table>

BDI-II and Demographic Information:

One way ANOVA analysis was conducted to compare depression at follow-up based on demographic variables of participants. Mean depression scores of the experimental group based on level of education at follow-up measurement was as follows: primary (M=17.85, SD=8.66), secondary and high school (M= 9.58, SD=2.74), and bachelor (M=12.66, SD=3.78) indicating that participants’ education was significantly related to the change of the BDI-II scores $F (2, 19) = 5.11, p=.001$. These results therefore indicate that the higher the level of education the greater the likelihood of benefiting from the intervention. This is the reason why women with primary level education do not benefit as much from the treatment as they are unable to fully comprehend the logic of the process or they have problems with doing homework. No other significance results were found between the BDI-II and age $F (2, 19) = .84, p=.44$, job status $F (2, 19) = 155, p=.658$, and income $F (2, 19) = .277, p=.761$ in the follow-up measurement.

Discussion:

The findings of this study support the research hypothesis that women’s depression significantly decreases after group cognitive behavioral therapy. In addition, other results determined that there is no difference in the mean depression score of Premenopause and Perimenopause groups after applying group cognitive behavioral therapy. This result supports the applicability and flexibility of the CBT model for a wide range of the population.
First, the findings of the present study indicate that participants’ depressive symptoms were significantly improved after the intervention. These results show that the mean depression scores demonstrate statistically significant improvement for participants of group CBT over time, while there is no significant difference for the control group. Also, the findings regarding CBT’s large treatment effect size over time indicated that group CBT supports the practical effects of CBT or its therapeutic value as an intervention. This finding is consistent with those of prior studies suggesting that improvement in depression often occurs following CBT intervention (Butler, et al., 2006; Fujisawa et al. 2010). Moreover, in the present study, CBT was delivered in group format, which has been shown to be an effective therapy format for treatment of depression. This finding supports the work of Oei and Dingle (2008) on their review of 34 papers that delivered treatment in group or individual format. They also found that group cognitive behavior therapy is one of the most effective treatments for depression and even comparable to medication and other forms of psychotherapy including individual CBT.

In the process of this study, the researcher found that in addition to depressive symptoms, particular myths, assumptions and beliefs related to menopause influence women’s moods and behavior. Additionally, the study demonstrated that women’s functioning is largely influenced by lack of social skills such as assertiveness, and problem-solving capability, which can affect the severity of depression. Thus, the treatment protocol was adjusted to meet the participants’ needs. Studies have shown that enhancing a participant’s problem-solving skill has significant impact on improving depression (Szu-Yu Chen, 2006). Findings of this study are evident in the fact that the CBT model has flexibility to meet the different needs of women around menopause. The explanation for these results could be: First, in light of the significant role of assumptions, myths, and beliefs on women’s depression at the time of menopause, therapeutic techniques that emphasize modifying these issues will be effective for improvement of depression. Second, women around menopause encounter unexpected events, conflicts and problems which need new behavior and strategy. Women learn to discard maladaptive strategies and behaviors which are not useful anymore and try more adaptive behaviors. In this way, concentrating on CBT techniques that enhance problem-solving skills could be very beneficial for depressed women around menopause. These results suggest that when women learn new patterns of thinking and behavior and their social skills are improved, the level of their depression will be significantly reduced.

Conclusion:

This study provides information regarding the effects of CBT on depression among Iranian women around menopause. The findings confirm that, firstly, CBT is an effective intervention to reduce depression among women around menopause; secondly, the effects of CBT on improvement of depression are independent of the condition of Premenopause or Perimenopause of women, and thirdly, CBT delivered in group format is a practical way to improve depression and menopause difficulty. These are evident in the fact that the CBT model has flexibility to meet the different needs of individuals in varying populations.

The findings of this study suggest group CBT as a less expensive way to achieve most effective outcomes. Group CBT can be delivered for a large number of individuals within budget constraints. Also, the long-term effects of CBT should be considered as another indication of the cost-effectiveness of this intervention for depressed individuals.

These findings have implications for health policy makers to expand the knowledge and use of CBT as well as make available trained CBT therapists in order to deliver group CBT in primary care. Also, social workers, counselors, and therapists who work in menopausal and family clinics can benefit from the applicability of CBT.

REFERENCES