The effect of Teasdale`s cognitive therapy on anxiety reduction during pregnancy

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Abstract

Background: Anxiety of pregnancy is a relatively new concept and also a pregnancy risk factor. Mother`s anxiety and severe stress during pregnancy have teratogenic effect. Nowadays, various techniques are performed to reduce and control anxiety during pregnancy and childbirth. One of these methods is cognitive method. This study aimed at evaluating the effectiveness of the Teasdale cognitive model on anxiety reduction during labor.

Methods: This is a semi-experimental study using pretest-posttest and control group. Convenience sampling was used. A total of 80 pregnant women were interviewed. They completed Spielberger questionnaire, among them 24 people with intermediate and high state and trait anxiety scores were selected. Finally 12 people who were willing to participate in the workshop were trained to control anxiety and fear of childbirth using Teasdale cognitive method. Data were analyzed using SPSS Version 16. Descriptive - inferential statistics and univariate analysis of variance (ANCOVA) were used.

Results: In the experimental group, mean state and trait anxiety at pre-test compared to post-test was decreased. Teasdale's cognitive therapy effect on state anxiety (F=11.212, sig=0.003), and trait anxiety (F=9.419, sig=0.006) was statistically significant.

Conclusion: Based on the findings of this study, both state and trait anxiety was significantly decreased in the experimental group; consequently, Teasdale's cognitive therapy was effective in reducing anxiety during labor.

Key words: anxiety, delivery, Teasdale cognitive therapy.
Introduction

Pregnancy as a critical period is the underlying psychological and biological crisis and emotional changes. It is also one of the most important events in the woman's life (1). Pregnant women usually have the following symptoms; distress, anxiety, depression, psychosomatic symptoms, suicidal thoughts, hopelessness, and restlessness (2). Like any other crisis, pregnancy has two physical and emotional changes. Maternal health depends on the understanding of these changes and their interactions. It has a different clinical presentation in different people (3). Anxiety is the most common psychological reactions of women during childbirth and pregnancy (5). Pregnancy anxiety is a relatively new concept and also a pregnancy risk factor (6). In relation to levels of anxiety during pregnancy, researchers have reported that, anxiety is decreased in the second trimester and increases in the last trimester approaching the delivery time (7). Anxiety is an unpleasant feeling with some physical symptoms such as heart palpitations, shortness of breath, sweating, and restlessness (8). People become anxious in their lives, but chronic and severe anxiety is unusual, problematic, leading to disorder (9). During the anxiety disorders no particular issue threatens people; however, they feel anxious and worried excessively (10). The prevalence of anxiety disorders during pregnancy and their long-term negative impact on women and their children is relatively high (11). 80% of women suffer from anxiety disorders during delivery (12). According to some studies, the prevalence of depression and anxiety in women during pregnancy is 28.8%. This frequency for Iranian pregnant women is 15% (13). In a study by Shah Hosseini, 7.8% of the participants had severe anxiety. 9.2 percent of them had severe trait anxiety (14). According to Michael Paulus; women who have anxiety and depression during pregnancy, have the highest prevalence in fear of pregnancy and childbirth (15). Many factors such as genetic, environmental, biological, social and psychological factors are considered as the etiology of anxiety (16). One of the causes of anxiety is fear of the unknowns and women`s lack of knowledge with childbirth process, especially nulliparous women (17). Stress during pregnancy increases levels of corticotrophin and beta-endorphin. This process is associated with reduction of uterine-placental blood flow, eventually leading to fetal hypoxia. Mother's emotional states, anxiety and stress, affects the developing fetus (15). Several prospective studies have indicated that the high anxiety and mood disorder during pregnancy is associated with a variety of negative effects for mothers and their infants (18, 19); including, low birth weight (18), preterm delivery (20; 14), increasing the risk of spontaneous abortion (21), low Apgar score (22; 23), small head circumference (24), infant’s mental health problems (25) neuroen doctrine deregulation (26; 27), increased labor pain, prolonged labor, reducing maternal satisfaction (28), and postpartum depression (29). It also causes complications such as anemia, hyperactivity, and high irritability etc. (30). In a Study by Holem et al., they showed that anxiety and stress during delivery have increased the risk of assisted delivery, caesarean section, the amount of bleeding during childbirth, and delayed onset of lactation (31). Where individual`s mental infrastructure is established during childhood (32), considering mother’s physical and mental health during pregnancy is the most basic and reliable way to maintain motherhood and
growing fetus health (33). Different methods can be used to reduce anxiety during pregnancy and childbirth, including Teasdale cognitive method which is a kind of short-term structured, mindfulness-based psychotherapy. This therapy is effective in reducing the negative emotions, improving mood states, reforming cognitive emotional processing and preventing disorders recurrence. In 1991, Philip Barnard and John Teasdale created a multilevel theory of the mind called “Interacting Cognitive Subsystems,” (ICS). The ICS model is based on the Barnard and Teasdale’s theory that the mind has multiple modes that are responsible for receiving and processing new information cognitively and emotionally. The main component of the ICS is metacognitive awareness. Metacognitive awareness defines as, being aware that negative thoughts and feelings are not part of you; instead they are experienced events that are going through the curtains of your mind (34). This method is focused on the emotion and cognition (such as thinking and feeling), and helps patients to find new emotional adaptive sources and adaptive emotional responses (35). This study was conducted to evaluate the effectiveness of Teasdale cognitive therapy on the anxiety reduction during labor in two health centers of Sanandaj, Iran.

**Material and Methods**

The study was a semi-experimental using pretest-posttest and control group. The study population consisted of all pregnant women referring to two health centers in Sanandaj in 2015; using convenience sampling. A total of 80 pregnant women were interviewed. They completed Spielberger questionnaire and among them, 24 people with intermediate and high state and trait anxiety score were selected as the final samples. Finally 12 people who were willing to participate in the workshop were trained to control anxiety and fear of childbirth, using Teasdale cognitive method. In addition to the routine care, the experimental group received 8 sessions of Teasdale cognitive therapy; but, the control group received no intervention. After the sessions and before delivery, post-test was held for both intervention and control groups. Data were analyzed using SPSS Version 16. Descriptive - inferential statistics and univariate analysis of variance (ANCOVA) were used.

Spielberger state and trait anxiety scale was used. This scale was introduced by Spielberger et al. in 1970. It has two subscales including situational anxiety (state), and innate anxiety (trait) that has been normalized in Iran. It has 20 items for assessing trait anxiety and 20 items for assessing state anxiety. This questionnaire has appropriate validity and reliability that can be used in different populations. Its Cronbach's alpha coefficient is 0.94. Both the A-State and A-Trait scales comprise of 20 items each, and are scored as 1 to 4-point. Score 1, indicates low levels of anxiety and 4 indicates high levels of anxiety. In the present study, score ranging from 0 to 75 were considered. Scores 20-31 suggest mild anxiety; scores 32-42 suggest moderate to low anxiety, scores 43-53 suggest moderate to high anxiety, scores 54-64 suggest moderately severe
anxiety. 65-75 scores suggest severe anxiety, and scores 76 and more suggest very severe anxiety.

Results

The findings of the study showed that the majority of subjects were in the age ranges 20-30 years (59.7%), primigravida (58.33%) and housewives (91.67%).

Post-test mean state and trait anxiety decreased compared to pre-test in the experimental group. In terms of anxiety at the beginning of the study, both experimental and control groups were similar from moderate to high to severe (Table 1).

ANCOVA showed that Teasdale's cognitive therapy effect on the reduction of anxiety was significant (F=11.212, sig=0.003) (Table 2) also Teasdale's cognitive therapy effect on trait anxiety was statistically significant (F=9.419, sig=0.006) (Table 3).

Table 1) Descriptive indices of state and trait anxiety in the experimental and control groups

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Group</th>
<th>Pre-test (N=12)</th>
<th>Post-test (N=12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>State Anxiety</td>
<td>Experimental</td>
<td>49.33</td>
<td>9.75</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>44.33</td>
<td>9.51</td>
</tr>
<tr>
<td>Trait Anxiety</td>
<td>Experimental</td>
<td>44.58</td>
<td>8.98</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>42.66</td>
<td>9.92</td>
</tr>
</tbody>
</table>

Table 2) The results of ANCOVA assessing the significant differences between experimental and control groups in the state anxiety

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source of Changes</th>
<th>Sum Squares</th>
<th>Degrees of freedom</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig</th>
<th>Eta factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Anxiety</td>
<td>Pre-test</td>
<td>727.538</td>
<td>1</td>
<td>727.538</td>
<td>8.882</td>
<td>0.007</td>
<td>0.297</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>918.371</td>
<td>1</td>
<td>918.371</td>
<td>11.212</td>
<td>0.003</td>
<td>0.348</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>1720.128</td>
<td>21</td>
<td>81.911</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2) The results of ANCOVA to assess the significant differences between experimental and control groups in trait anxiety

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source of Changes</th>
<th>Sum Squares</th>
<th>Degrees of freedom</th>
<th>Mean Squares</th>
<th>F</th>
<th>Sig</th>
<th>Eta factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Anxiety</td>
<td>Pre-test</td>
<td>1122.784</td>
<td>1</td>
<td>1122.784</td>
<td>21.856</td>
<td>0.001</td>
<td>0.510</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>43.880</td>
<td>1</td>
<td>43.880</td>
<td>9.419</td>
<td>0.006</td>
<td>0.310</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>1078.799</td>
<td>21</td>
<td>51.371</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

Pregnancy and motherhood process are evolutionary and enjoyable events in the woman’s life. Every woman is willing to experience it in life. However, due to the physical and psychological changes that occur during pregnancy and childbirth, it can cause some degree of stress and anxiety. Studies have shown that patient’s level of knowledge is very effective in reducing their anxiety, because pregnant women encountered unknown situations during pregnancy and childbirth that causes anxiety. Therefore, the best and most effective way of raising pregnant women’s awareness is training them during pregnancy (37). The results of this study showed that eight sessions of cognitive therapy based on Teasdale cognitive therapy have reduced the level of participants’ anxiety.

The results of the present study are consistent with the study by Narimani et al. who reported that Mindfulness-Based Cognitive Therapy is effective on stress and depression in pregnant teenagers (38). During the sessions, anxious pregnant women have reported their negative thoughts, stress conditions, or any other negative emotion about pregnancy and childbirth. They realize that how their anxious delicately pushed their cognitive process on the negative side. This mode was greatly improved with the help of Teasdale's cognitive therapy intervention. Since the main objective of Teasdale’s cognitive therapy is its effect on the emotions, midwifery recommendations and training were used as well; therefore, educating the mothers created a positive attitude toward labor and delivery and increased their trust and self-confidence (27). In this method every thought, feeling or sensation entering individual’s consciousness is accepted without change and any judgment. This is a proactive response to thoughts that made a person sad or anxious and helps them to return to the normal condition after experiencing negative emotions (39). Rahimian Boger, in a study showed that attention to negative emotions and attitudes that trigger negative mood in people would be decreased by Teasdale’s cognitive therapy (40). In addition Teasdale’s cognitive therapy focuses on the mindfulness to control negative mood and dysfunctional thoughts and is better tolerated than treatments that are stronger and more aggressive and invade the patient’s dysfunctional thoughts.
and emotions. Apparently, the cognitive behavioral therapy compared to other cognitive behavioral treatments is better accepted; consequently, it is more effective than other methods (42; 41).

**Conclusion**

The levels of anxiety during pregnancy and labor have a lot of complications for mother and fetus. The high rate of cesarean section in Iran is mostly due to the fear and anxiety of labor. Therefore, this method can reduce the anxiety during labor and thus reduce the rate of cesarean section.

**Study limitations**

The subjects of this study were pregnant women referring to just two Health centers of Sanandaj, therefore the generalizability of our results to other centers and other areas should be exercised with caution. Another limitation was the small sample size.

**Acknowledgement:**

We would like to thank Deputy of Research for Science and Research Branch, Islamic Azad University, Sanandaj, Iran for financial support of the project. We also thank the participants in the study as well as Ms. Ghomri Ghaderi for her contribution and support during the period of the study.
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