The Effect of Relaxation on Premenstrual Syndrome in Dormitory Students of Azad Tonekabon University of Iran

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Abstract

Premenstrual syndrome is one of the most common disorders in women at productive age. The aim of this study was to investigate the effect of relaxation therapy on premenstrual symptoms. Three hundred undergraduate and postgraduate students in dormitory of Azad university of Tonekabon. From 80 students had PMS were chosen for randomize 30 students in two groups (1) controllers and (2) treatment. Just treatment group received relaxation training. Due to concluded that relaxation was helpful in reducing premenstrual syndrome symptoms therefore health professional should notice non drug therapy treatment in order to control signs of PMS wealth.

Keywords: relaxation therapy, premenstrual syndrome, symptoms of PMS, effect

1. Introduction

Premenstrual Syndrome (PMS) is a relatively common disorder among the women at the age of pregnancy. This syndrome is historically called premenstrual tension (Halbreich 2004). PMS is a series of physical, psychological and emotional symptoms with periodic changes in the mood, general feeling, physical and psychological comfort pertaining to menstrual period in women (Apotek 2007). Usually, the symptoms are commenced short after ovulation and are gradually intensified and reach the maximum level 5 days before commencement of menstrual period. These periodic symptoms are disappeared during pregnancy and menopause and this is because of periodic stopping of sex hormones' activity (Family Physician Journal of the U.S.A, 2003)

PMS is defined as periodic physical, cognitive, behavioral and mood changes and about 90% of women reports some symptoms of PMS in some cycles and suffer from the symptoms of this disease to some extent. Although about 30% of women in menstrual cycle experience average level of these symptoms, only 3 – 8% of them experience severe and disabling symptoms which interfere their social and working performance and family relations. This syndrome is different from normal menstrual symptoms: breast pain in normal menstrual cycle is observed without affecting the normal performance of the women, while three main keys to diagnose this syndrome include:

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1) Continuation of the symptoms only in luteal phase
2) Reduction of normal performance
3) Continuation of the symptoms of PMS in each cycle (Midwifery – Gynecology College of The U.S.A, 2003).

According to DSM TV-TR (2000), the main characteristic of this disorder is seen in most of menstrual cycles with 5 or more symptoms during the last week of luteal phase which include:

1- Apparent depression, sense of desperation
2- Prominent anxiety, tension, sense of excitation and restlessness
3- Prominent emotional instability
4- Apparent and stable anger or excitability
5- Decreased interest in routine activities
6- Apparent difficulty in concentrating
7- Sleepiness and rapid fatigue
8- Apparent change in appetite, eating too much
9- Problems in sleeping (sleeping too much or too little)
10- Sense of languor and losing control
11- Other physical symptoms like and breast tenderness and pain, headache, pain in joints, muscles and weight gain which apparently interfere the work, education, social activities and social relations.

This syndrome is more common among women who are in their forties and even is more common among the women with one child or history of postnatal depression or mood disorders (American Health Organization, Songhahi, 2010). During the studies made about the relation between severe symptoms and income of the women with average and severe PMS symptoms in Latin America, it was shown that there is a significant relation between the income and quality of life and also there is a significant relation between the severity of symptom and weight gain (job and daily activity) (Alexander Schiola et.al, 2011). The etiology of this syndrome includes: Estrogen, Progesterone, fluid retention, hyperprolactinemia, Vitamin B6, hypoglycemia, PG deficiency (Prostaglandin), allergy to androgen hormones, psychological problems, thyroid disorders and serotonin deficiency (Gynecology & abstract of Williames 2010. 2nd Volume). Of course, there is no special medicine for treating or preventing from PMS (Mortola, 1994; quoted by Babayanzadeh Ahari, 2009). Some medicines will relieve the physical symptoms but they are not much effective on psychological symptoms. On the other side, although psychotherapeutic medicines reduce the psychological symptoms, they are not much effective on relieving of physical symptoms (Sosic & Schenalt, 1997, quoted by Babayanzadeh Ahari, 2009). The medical treatment of this syndrome includes minimizing of alcohol, nicotine, caffeine and salt consumption and also prescription of mefenamic acid, fluoxetine, bromocriptine, GnRH agonist, progesterone, contraceptives, diuretic, lithium and gamma linolenic acid can be useful (Novak, Women Diseases, 2007). Beside the medical treatment, psychological treatments like exercise, relaxation of muscles, cognitive-therapy and sleep therapy groups are more emphasized in remission of this syndrome and also changing the lifestyle that includes four group seasons during 18 weeks emphasizes on diet, exercise and creating positive attitude in women during their menstrual period and controlling their menstrual symptoms and here the medical treatment together with psychological treatments and changing the lifestyle are more effective (Terry et.al, 2008). According to studies (Dvived et.al, 2008) regarding the effect of 61 relaxation techniques on stress criterion in PMS emphasizing on endocrine psychological symptoms pertaining to disease,
more than 300 remedial treatments for PMS showed that medical treatment is not enough for the symptoms of this syndrome and these relaxation techniques pertaining to less-known techniques of hatha-yoga successfully decreased the stress symptoms of PMS and improved the blood pressure.

Regarding the effect of relaxation and metacognitive therapy on general stress, the similar results that caused reduction of general stress symptoms were obtained (Adria Wells et.al, 2010). The results of the studies show that relaxation training decreases psychological and physical symptoms of PMS.

In another similar study, the relaxation technique was used with the aim of studying the activity of autonomic nervous system and reduction of sympathetic symptoms of PMS in women and the results showed that relaxation decreased the mood changes and improved the symptoms during PMS period (Georgia Kolokithas et.al, 2008). The present study tries to study the effect of relaxation on controlling the physical-psychological symptoms of PMS.

2. Methods

This is an experimental research with pre-test and post-test plan of control group and the study is a field study with random sampling. The population includes dormitory students of Azad Tonekabon University of Iran suffering from PMS.

2.1. PMS symptoms scale

Physical-psychological changes of students during one month were registered according to PDSD standard questionnaire ($\alpha=0.92$) (Dickerson, 2003) that included 20 lines including three parts that included behavioral-psychological-emotional and physiological changes and 31 columns were marked for 31 days to register the daily symptoms as: 1-no symptoms, 2-Mild, 3-Moderate, 4-Severe symptoms in vertical order.

2.2. Conditions to enter the test

260 students out of 300 filled the PMS questionnaires for one month (40 students didn’t cooperate), out of which 200 students were diagnosed with PMS symptoms (those with 7 symptoms before menstrual cycle up to maximize the 4th day of the menstrual cycle are known as persons suffering from this disease). Then 80 students with PMS symptoms who were qualified (those without any physical problems including heart disease, hyperthyroidism, hypothyroidism, asthma, those who use no drugs, those who had regular menstrual cycle with the intervals of 24-35 days, those without psychological and depression problems, those who hadn’t used antidepressants during the recent months) entered this research and were screened according to demographic questionnaire prepared by Kamali (2000) Then, the participants were randomly divided into two groups each with 15 participants and two groups including control group and experimental group. The experimental group received relaxation training in 7 sessions (each session included 30 minutes). It should be mentioned that control group didn’t receive any training. Then, PMDD questionnaires were given to both groups for one month in order to study the effect of training from the style menu. Insert your heading text and choose the appropriate heading level from the style menu. Insert your heading text and choose the appropriate heading level from the style menu. Insert your heading text and choose the appropriate heading level from the style menu. Insert your heading text and choose the appropriate heading level from the style menu.
3. Results

Descriptive statistics and inferential statistics methods were used to analyze the data in this section. The mean diagram and standard deviation were used in descriptive statistics section and covariance analysis was used to study the research hypothesis in inferential statistics section. All statistical analyses were performed using SPSS18 software.

Research Hypothesis: Relaxation training is effective on reduction of PMS symptoms. Covariance analysis was used to study the above-mentioned hypothesis. This statistical method allows the researcher to study the effect of an independent variable on dependent variable and remove the effects of the other variables. Before covariance analysis, first its hypotheses including regression homogeneity, having a linear relation, intervallic data, normal distribution and randomness of data were investigated.

Table 1: Means of PMS Pre-test & Post-test Standard Deviation in Experimental Group & Control Group

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pre-Test S</th>
<th>Post-Test S</th>
<th>Pre-Test Mean</th>
<th>Post-Test Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>19.412</td>
<td>20.408</td>
<td>54.67</td>
<td>54.27</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>20.149</td>
<td>18.187</td>
<td>64.60</td>
<td>45.93</td>
</tr>
</tbody>
</table>

As the linear relation and the hypothesized equivalence of variances’ error and homogeneity of regression line slope are not questioned, the researcher is allowed to use covariance analysis. Investigation of the mean and standard deviation of PMS rate in experimental group and control group is reported in table 1.

According to the results obtained from table 2 and for analysis of PMS dependant variable after PMS pre-test mean adjustment at the rate of 59.63, considering the calculated F, $\eta^2 = 0.579$, p=0.001, (d. f=1.27)=37.126 with F, as the significance level of p=0.001 is less than p=0.005, so the calculated F is statistically significant. Considering the calculated effect size as $\eta^2 = 0.579$, which is bigger than 0.14 and shows the high effect size of relaxation training on PMS. So, we can say there is a significant difference between the post-test grades of PMS in both control group and experimental group.

Considering the significance of difference of means with the reliability of 0.99, the hypothesis of research, saying that relaxation training is effective on reduction of PMS symptoms, is confirmed.

Table 2: Analysis of Covariance Results for PMS Variable

<table>
<thead>
<tr>
<th>Group</th>
<th>Sum of Squares (SS)</th>
<th>Degree Of Freedom (d. f)</th>
<th>Mean Squares (Ms)</th>
<th>Significance Level (p)</th>
<th>Effect Size (Eta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMS Group</td>
<td>2103.010</td>
<td>1</td>
<td>2103.010</td>
<td>0.0001</td>
<td>1.00</td>
</tr>
</tbody>
</table>

F=37.126 Statistical Power=1.00

4. Discussion

Generally, the results of this study show that relaxation training can effectively decrease the PMS symptoms. The studies made by Freeman (1999) use placebo for treating PMS and observed remission of patients and considering the results of the study, it was shown that the mental and psychological problems intensify the symptoms of this syndrome more than other factors and considering this fact, non-pharmaceutical methods were used in the present
study to decrease the symptoms of this syndrome and similar results were obtained. Kamali (2000) studied the effect of relaxation techniques on primary dysmenorrhea among students of Tabriz University of Medical Sciences and concluded that using of relaxation considerably decreased the intensity of menstruation symptoms, resting period and taking of tranquilizers during menstrual cycle when comparing pre-test and post-test. Relaxation training showed significant reduction of the symptoms of this syndrome and reduction of fatigue symptoms and taking of tranquilizers in comparison with pre-test in the recent study. Terry et.al (2008) concluded that relaxation, exercise and changing the lifestyle had the highest effect on improvement of PMS symptoms and the present study used relaxation method to decrease the symptoms of this syndrome and reached the similar results.

In another study made by Georgia Kolokithas et.al (2008), it was shown that relaxation techniques resulted in reduction of mood changes and improvement of PMS symptoms and considering the results of the above-mentioned study, the present study was performed in order to confirm it, where relaxation improved the symptoms of this syndrome and showed significant reduction of depressive symptoms and stress and anxiety disorder.

At the end, as the present study is a step towards more application of non-pharmaceutical methods, especially psychological methods considering the history of this syndrome and the role of many psychological factors in these symptoms among women and as women and children constitute a high number of population, the medical charter should pay attention to reduction of treatment expenses and improvement of mental-psychological health of mothers.

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