

The Effect of Relaxation and Positive Self-Talk on Symptoms of Premenstrual Syndrome

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Abstract

Background: Premenstrual syndrome (PMS) is characterized by recurrent, moderate-to-severe affective, physical, and behavioral symptoms that develop during the luteal menstrual cycle and disappear within a few days of menstruation.

Objectives: This article aims to identify the effects of relaxation, positive self-talk, and a combination of relaxation and positive self-talk on premenstrual syndrome.

Methods: In this quasi-experimental study, 80 women with PMS disorder were selected using a simple random sampling method, in Hamadan, west of Iran. They were randomly divided into four groups. The first and second groups underwent positive self-talk and relaxation, respectively. The third group experienced positive self-talk and relaxation at the same time. The fourth group did not receive any treatment. The duration of treatment was 8 one-hour sessions. Data were collected using a PMS symptom severity questionnaire. All groups were followed up for six months after the intervention. Finally, data analysis was performed using SPSS version 18 for ANCOVA and Bonferroni tests.

Results: The results showed that compared to the control group, relaxation (23.2) and positive self-talk (21.25) treatment methods alone can reduce PMS ($P < 0.001$). On the other hand, a combined (relaxation + positive self-talk) treatment method (13.75) was more effective in reducing PMS compared to relaxation or positive self-talk alone.

Conclusions: It seems that psychological therapy based on relaxation and positive self-talk can be significantly effective in reducing PMS.

Keywords: Relaxation, Positive Self-Talk, Premenstrual Syndrome

1. Background

Premenstrual syndrome (PMS) is a relatively common disorder among women of reproductive age. This syndrome is a collection of physical, psychological, and emotional symptoms related to women's menstrual cycles, characterized by cyclical changes in mood, overall feeling, and physical and psychological well-being. Psychological, social, and biological factors are effective in the pathogenesis of this syndrome. Some studies even argue that PMS is the result of the community (1). Mental and physical characteristics attributed to PMS symptoms vary from a woman to woman (2). The pattern of symptoms is, however, predictable for each individual. These symptoms begin up to ten days before menstruation and disappear shortly before or after the onset of menstruation (3). Only a small percentage of women (2 to 5%) have significant premenstrual symptoms, which can be considered different from the normal discomfort associated with menstruation (4). Today, alternative medicine is one of the most

common methods of treating any kind of disease because, in addition to cost-effectiveness, it leaves fewer side effects than chemical drugs. Stress management methods such as relaxation are among non-pharmacological preventions for PMS treatment. Relaxation training involves several methods and techniques to reduce tension and anxiety through voluntarily control of the muscles (5). From the perspective of Jacobson, this treatment enables people to control their anxiety through regular efforts by relaxation (6). Relaxation is a method frequently used in behavioral medicine to achieve muscular and cognitive relaxation. So far, multiple techniques have been designed for relaxation, including exercise, meditation, hypnosis, etc., generally with the same results (7).

In the relaxation method, patients are taught to completely relax their muscles. Jacobson initially designed this method (6). Later on, Wolpe applied it to meet his clients' fears. Generally, in the relaxation method, therapists direct their patients to contract a set of muscles and then relax them in order to feel the relaxation in these muscles. Then,

they are asked to perform the contraction-relaxation exercise in the muscles of different body parts, such as arms, neck, face, shoulders, feet, etc. Although these exercises might last for several sessions, patients are finally able to relax completely within one or two minutes (8).

Another stress management technique is to guide attitudes and feelings by controlling our inner dialogue. In this way, we can begin to assert control in all parts of our life. Self-talk is a kind of inner dialogue. In addition, self-talk is inner dialogue with us (9). When you are thinking about a subject, you are talking with yourself. Self-talk is the key to cognitive control (9, 10). During positive self-talk, they allow chance and success. They give orders to their subconscious minds to provide all the resources for success. Therefore, self-talk can direct behaviors and thoughts (11). This activity is believed to be effective for stress reduction and control. The importance of reducing and treating PMS, the lack of specified medications, and the fact that chemical treatment is no longer considered the best treatment lead us to seek modern and less harmful treatment methods and techniques, such as relaxation (5). In a study conducted by Yen et al. it was found that 92% of Chinese women have at least one PMS symptom (12). The results of studies by Tenkir, Fisseha, and Ayele showed that 99.6% of female students in Jima University have developed at least one PMS symptom (13). In a controlled and random study, Hunter et al. used woman-centered t (a combination of cognitive-behavioral therapy and narrative therapy) on a group of women with moderate to severe PMS symptoms and compared its effect with serotonin reuptake inhibitor medication (fluoxetine). The results showed that psychological treatment is as effective as fluoxetine in reducing PMS after a six-month period (14). A combination of these two treatments, however, was not more effective. Ramazan Zadeh et al. conducted a study entitled "The effect of breathing and muscle relaxation techniques on vasomotor symptoms in postmenopausal women." The results indicated a significant decline in hot flash frequency and other common vasomotor symptoms in two test groups (15). Lotfi Kashani et al. conducted a study entitled "The effect of relaxation training in reduced PMS." Their findings show that relaxation training can significantly reduce PMS (16).

Although acceptable evidence has been presented on the effectiveness of new stress management techniques such as relaxation and positive self-talk, determining the effectiveness of these techniques alone and in combination for the treatment of PMS symptoms requires further studies.

2. Objectives

This study aimed to evaluate the effects of relaxation, positive self-talk, and a combination of relaxation and positive self-talk on PMS.

3. Methods

3.1. Patients

This quasi-experimental study was conducted among women with PMS disorder. Participants consisted of all PMS-suffering patients referred to obstetrics and gynecology clinics in Hamedan, Iran. The number was averagely reported 1100 patients in a week in spring, 2015. The PMS patients were diagnosed by specialists and midwives. After clarifying the objectives of the study, a PMS questionnaire was distributed among the participants in order to diagnose the presence and severity of their PMS. Based on the test guidelines, the number of patients with and without PMS was determined. The criteria to enter the study were as follows: 1. Regular menstrual cycles (every 24 to 35 days); 2. No use of medications, vitamins, or hormones and no occurrence of stressful events such as the death of a relative, a marriage, or surgery within the previous three months; 3. Not receiving any kind of treatment to relieve symptoms during the study period; and 4. No history of internal or female disorders in the past or currently, and no psychiatric disorders. The PMS patients were screened through interviews (17).

In this study, 80 women with PMS disorder were recruited from seven clinics, through a random sampling method. Sixty participants as three experimental and 20 as one control groups were enrolled at the baseline survey. The experimental groups received instruction in positive self-talk, relaxation, and a combination of positive self-talk and relaxation, respectively. The control group did not receive any treatment.

This study was conducted with approval from Islamic Azad University's institutional review board and ethical committee. Informed consent was obtained from all the women before the project began. Researchers educated participants to ensure that they could reach a truly informed decision about whether or not to participate in the research.

3.2. Procedure

After obtaining informed consent, participants were enrolled in the study, and the questionnaire was distributed to the women to complete. Pretest and post-test data were collected by women in clinics that lasted about 30 minutes. Women in the three experimental groups

were given eight sessions of either positive self-talk, relaxation, or a combination of positive self-talk and relaxation training. Considering the typology of the study and the problems and limitations, participants underwent one-hour weekly training. Positive self-talk sessions included instruction on the positive self-talk method and how to detect positive and negative thoughts and moods, exchanging data about reasons for forming any negative thoughts, presenting an exercise for boosting positive thoughts, methods for decreasing negative thoughts and avoiding negative thoughts, assessing thoughts and self-talk, presenting thoughts and self-talks in a group and assessing them and presenting final methods for gaining positive self-talk skills. Relaxation sessions included awareness of PMS, exercises together with teaching, assessing exercises done at home, exercising previous methods and practicing concentration, checking home exercises and assessing previous exercises. Finally, another test was performed to evaluate the presence and severity of PMS in all four groups and the results were compared.

3.3. Instrument

The self-administered questionnaire comprised two sections: the first part was related to the psychological symptoms of PMS (17 items) and the second part was related to the physical symptoms of PMS (11 items). There are a number of replies to the questionnaire, it is enough to ask the patient whether mental or physical premenstrual symptoms of moderate to debilitating, suffering or not? It is recommended that the average person any signs or debilitating disease with your doctor, preferably genomics, among them. Especially for patient safety, it is important that any type of debilitating disease symptoms with your physician geneticists among them. Scoring was done based on DSM-IV.

3.4. Statistics

Analyses were conducted using SPSS 18, and a probability level of 0.05 was used throughout. Bonferroni and ANCOVA tests were employed to determine comparability of the intervention in compare with control group.

4. Results

According to [Figures 1 and 2](#), mean PMS prior to menstruation in the test group undergoing relaxation (22.25) is significantly lower than the control group (31.9). Therefore, it appears that relaxation is effective for reducing PMS.

According to the data in [Figures 1 and 2](#), [Table 1](#) ($P < 0.01$ and $F(3, 76) = 33.13$), the effect of various therapies is significant for reducing PMS. In addition to the F value, a

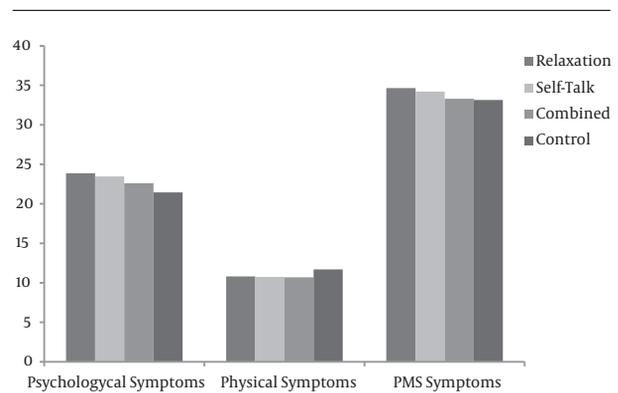


Figure 1. PMS Prior to the Study

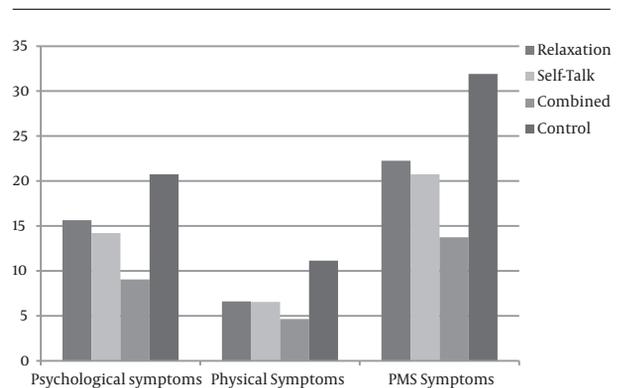


Figure 2. PMS After the Study

paired Bonferroni test was employed in order to compare the mean in the post-test in order to determine the effect of each of the methods on PMS.

According to the data in [Tables 1 and 2](#), the difference is 1.85 between the relaxation group and the positive self-talk group is 1.85. The significance level is 1. This difference shows that there is no significant difference between relaxation and positive self-talk in reducing PMS. The difference is 9.45 between the relaxation groups and the combined method group. The significance level is 0.0001. This difference shows the combined method was more effective for reducing PMS. The difference is 7.6 between the positive self-talk group and the combined method group. The significance level is 0.0001. This difference shows the combined method was more effective for reducing PMS.

5. Discussion

Findings show that training cognitive-behavioral techniques with an emphasis on positive self-talk, relaxation, and especially the combined method can be effective in re-

Table 1. The Summary of ANOVA Results Concerning the Effect of Various Treatment Methods on PMS

Source of Change	Sum of Squares	Freedom Degree	Mean Squares	F Ratio	P Value ^a	Eta Square
Effect	4732.05	3	1577.35	33.13	0.0001	0.57
Error	3618.7	76	614.47			
Total	52062	80				
Total Corrected	8350.75	79				

^aP < 0.01.**Table 2.** Bonferroni Test to Compare the Effect of the Three Methods for Reducing PMS and the Control Group^a

Field (j) Field (i)	Relaxation	Positive Self-Talk	Combined	Control
Relaxation				
I - J Difference	-	1.85	9.45	-12
P Value	-	1	0.0001	0.0001
Positive Self-Talk				
I - J Difference	-1.85	-	7.6	-13.85
P Value	1	-	0.005	0.0001
Combined				
I - J Difference	-9.45	-7.6	-	-21.45
P Value	0.0001	0.005	-	0.0001

^aThe difference is significant (P < 0.05).

ducing PMS. These results are consistent with those of Ramazan Zadeh et al. (15). It is claimed that menstruation, like all of the biological functions of the body, such as digestion, blood circulation, and defecation, plays a key role in creating biological balance. Changes in the quality of menstruation can have various effects on women's physical and psychological conditions. Depression, malaise, fatigue, irritability, sudden anger and feeling out of control, different types of headaches, sinus problems, arthritis, acne, joint pain, feelings of inefficiency, back pain, eye problems, weight gain, intestinal disorders, and fainting are some of the most important PMS symptoms (3, 18). When women practice proper breathing and experience increased blood circulation, almost all body organs are engaged and oxygen is well transferred to the different body organs, preventing cramps and pain in the specific body organ. Body activity causes all organs to receive oxygenated blood. As a result, the focus is divided among all body organs instead of only the organs involved with PMS. This reduces the pain. On the other hand, body activity accelerates the destruction of the uterus wall and the drainage of menstrual blood. Thus, menstrual pain and duration are reduced. Other results from this study confirm the efficacy of positive self-talk in reducing PMS. These

findings are consistent with those of Swanson et al. and Lee et al. (19, 20).

It is claimed that menstruation is an experience in that changes and transforms all aspects of women's lives. This distinctive women's experience has a great impact on their sense of identity and sense of being a woman. It is obvious that dealing with this transformation would play a highly valuable role in women's well-being. Premenstrual syndrome is a set of physical and mental symptoms that regularly occur in the luteal phase of the menstrual cycle. It disappears with the onset of menstruation (21). This set of periodic and relapsing physical, mental, and behavioral changes in the luteal symptoms are a phase of the menstrual cycle leading to disruption in interpersonal relationships or chaotic changes to normal and natural women's activities. During the first menstruation in junior high school, female students are faced with stress and anxiety. This is sometimes associated with feelings of guilt and worry for the teenage girl, especially in families whose upbringing and relationship of the parents (especially mothers) are not in such a way that the girls share their problems with. This phenomenon results in numerous problems. The root of many mental problems and illnesses are in a person's level of knowledge and awareness

of the issues or cognitive distortions related to that subject. Instead of paying attention to external, environmental, genetic, heredity and childhood event factors, cognitive therapists concentrate on the individual's thoughts, reforming their understanding, interpretations, and attitudes (22). The first and most important step in the cognitive approach is teaching clients the importance of ideas and ways of interpreting. Patients need to be convinced that their attitudes and beliefs are closely linked with their current problems and behaviors (23). When teenage girls undergo cognitive therapy concerning the facts that menstruation and its related issues are a natural biological phenomenon, and the way of dealing, nutrition, and physical activities play a key role in reduced PMS, they can well face PMS symptoms including anger, depression, and anxiety and physical pain. Positive self-talk training for girls and women diagnosed with PMS helps them to have positive thoughts about this natural biological process. This way, they would consider menstruation a sign of fertility and procreation and would have no sense of worry and guilt. A modified attitude regarding menstruation, along with proper nutrition and adequate physical activity can reduce the severity of PMS.

According to the results, relaxation, positive self-talk and a combination of relaxation and positive self-talk are effective in reducing PMS. These findings are consistent with the results of Tzeghai et al. (24).

It is claimed that PMS symptoms include both physical and psychological symptoms, which are linked (25). Cognitive therapy methods such as positive self-talk are effective in changing the attitude of patients toward the PMS symptoms and in modifying their interpretation of the conditions and the roots of the disease. Feelings of guilt and worry about the possible consequences of the disease and about underlying disease trigger the mental and physical PMS symptoms. Positive self-talk training helps modify and relieve these negative thoughts and symptoms. Relaxation also improves the blood circulation and, hence, the oxygen transfer to all tissues, which leads to reduced pain. The combined method provides the possibility of avoiding negative and worrisome thoughts by relaxation. The individual is free of negative thoughts during the practice. Concurrent practice of these two methods and engaging the mind and body with therapeutic procedures can have an accelerated effect on reducing PMS (26, 27). Therefore, the combined method (positive self-talk and relaxation) is effective in reducing PMS. On the other hand, differences were found among these three methods (relaxation, positive self-talk, and combined relaxation and positive self-talk methods).

Based upon the hypothesis testing, no significant difference was found between relaxation and positive self-

talk in reducing PMS. The combined method, however, was more effective in reducing PMS than the other two methods. These findings are consistent with those of Weinberg et al. (9). The results indicate that combined therapies have a greater effect than individual methods.

As stated in the hypothesis section, it is claimed that PMS includes physical and psychological symptoms. Effective therapies can help reduce PMS. Self-talk is more effective for psychological symptoms, while relaxation helps physical symptoms. Each of positive self-talk and relaxation is effective in one aspect of the patient's well-being. In positive self-talk, for instance, thoughts and cognitive structures are directly targeted, while the physical body is not directly treated. In relaxation, only the physical aspect is treated and almost no direct cognitive interventions are made in irrational thoughts. Therefore, each of the methods is somehow deficient. No difference was found concerning the level of their effectiveness. The combined method (positive self-talk and relaxation), however, has both advantages at the same time; it is both physically and psychologically effective. It reduces symptoms such as anxiety and depression and helps with physical well-being, blood circulation, and relieving muscle cramps. Therefore, the combined method is far more effective than each of positive self-talk and relaxation alone.

5.1. Conclusions

Relaxation, positive self-talk, and a combined method (positive self-talk and relaxation) are effective in reducing PMS. No significant difference was found between relaxation and positive self-talk with regard to reducing PMS. A combined method, however, is more effective for reducing PMS. It is recommended that physicians and therapists take advantage of a combined treatment method (positive self-talk and relaxation) along with medications, using training packages and consulting services.

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