Original Research Article

A Study to Evaluate the Effectiveness of Guided Imagery Technique on Premenstrual Syndrome among College Girls in Bidar, Karnataka

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ABSTRACT

Premenstrual syndrome (PMS) is a combination of emotional, physical, psychological and mood disturbances that occur after a woman's ovulation typically ending with the onset of her menstrual flow. The present study was conducted with the objectives 1) to assess the existing level PMS and stress among college girls, 2) to evaluate the effectiveness of guided imagery on premenstrual syndrome and stress among college girls and 3) to correlate the relationship with stress and guided imagery before and after guided imagery among college girls. A quasi experimental design one group pretest posttest design was used. The subjects selected were from the selected Nursing College in Bidar, Karnataka through purposive sampling technique. The sample consisted of the college girls who fulfilled the inclusion criteria and the sample size consisted of 30. Pretest was collected by using standardized PMS questionnaire and perceived stress scale. Subjects practiced Guided imagery relaxation by using 20 minutes guided imagery audio twice daily for 4 weeks. Post test was conducted using the same tools after 28 days of the program. Confidentiality was maintained throughout the study**.** Pre test for PMS Level and stress were assessed**.** Guided imagery relaxation given to the subjects for 28 days. The mean of pre test PMS score was 42. 3 and post test mean was 16.36 which indicated a great level reduction of PMS symptoms after guided imagery practice. The obtained t value 32.34 indicated that significant at P< 0.0001. Similarly in experimental group the mean stress post interventional score 11.13 was found to be lower than the pre stress interventional score 1.1371 and the t value signified that 19.13 which was significant at p<0.0001. Findings represents there is a significant positive correlation between mean PMS score with stress scores during pre and post assessment at p<0.05. Findings show that guided imagery potentially reducing stress, given excellent results for healing PMS related symptoms. Thus the guided imagery demonstrated stress relieving outcomes associated with PMS healing.

Key words: Effectiveness, Guided Imagery, Premenstrual syndrome, Stress, College students

INTRODUCTION

The premenstrual syndromes (PMS) are characterized by mood and behavioral changes that occur for several days to 2 weeks before menses, followed by symptom relief in the postmenstrual phase of the cycle. The severity and the regular occurrence of the symptoms in the premenstrual phase are the essential components of the diagnosis. The term PMS as used by clinicians and the public is generic, imprecise and commonly applied to numerous symptoms that range from the mild and normal physiologic changes of the menstrual cycle to clinically significant symptoms that limit or impair normal functioning. Historically, premenstrual symptoms have been difficult to diagnose

and treat because of the lack of diagnostic criteria and any scientific evidence of treatment efficacy. [1]

PMS symptoms range from mild to severe. Some people get their periods without experiencing any PMS symptoms at all. For other people, however, PMS symptoms can significantly affect their ability to perform regular activities and may even reduce their quality of life. Physical symptoms of PMS can include changes in appetite, such as food cravings, tender or swollen breasts, weight gain, abdominal bloating, pain in the lower abdomen or menstrual cramps constipation or diarrhea, headaches, fatigue oily skin, acne, pimple breakouts, and other skin symptoms. Psychological symptoms of PMS can include low mood, feeling tearful or crying, irritability or anger, depression, increased anxiety, mood swings, social withdrawal, problems sleeping, such as insomnia, difficulty concentrating and decreased libido. In PMS, people may also notice that the symptoms of conditions such as diabetes, depression, and inflammatory bowel syndrome worsen. Also, age can affect the severity of PMS. During per menopause, which is the transitional period leading up to menopause, people may experience worsening PMS symptoms. [2]

Surveys indicate that PMS is among the most common health problems reported by women of reproductive age and up to 40% of menstruating women experience some difficulty with the symptoms.

In a population-based survey of 1194 women, classification of the premenstrual symptoms using an empirically derived algorithm showed that 16% had minimal symptoms, 67% had moderate symptoms, 12.6% had severe symptoms, and 4.5% had PMDD.

In another recent population-based survey, the prevalence of PMDD in the population of reproductive-aged women was estimated at 6%, with an additional 19% identified as near-threshold cases that were highly symptomatic but had four rather than five symptoms as required for the PMDD diagnosis. In yet another community-based study, 8% of menstruating women had severe premenstrual symptoms and 14% had moderate premenstrual symptoms that were significantly associated with functional impairment. These estimates consistently suggest that approximately 20% of women experience severe premenstrual symptoms and are consistent with the clinical evidence that many women who seek treatment for PMS do not meet the stringent criteria for PMDD. [1]

Women who had high stress before both cycles were 25 times more likely to experience physical and psychological PMS symptoms than those who reported low stress before both cycles. [3]

Overall, women reporting high stress levels were two to four times more likely to report moderate to severe psychological and physical symptoms during menstruation than were women who did not report high stress levels.

"Each woman is an individual, and some women may experience severe symptoms that require medications," "However, future studies may show that stress reduction techniques can prevent or reduce the severity of premenstrual syndrome, which might provide a cost effective alternative to medications for some women". [4]

Guided imagery is a proven form of focused relaxation that helps create harmony between the mind and body. Guided imagery coaches you in creating calm, peaceful images in your mind – a "mental escape". Guided imagery provides a powerful psychological strategy that enhances a person's coping skills. Many people dealing with stress feel loss of control, fear, panic, anxiety, helplessness and uncertainty. Research has shown that guided imagery can dramatically counteract these effects. It can help people overcome stress, anger, pain, depression, insomnia and other problems often associated with illnesses. [5]

Findings were consistent with another quasi experimental study, pre and

post test control group design was to investigate the effect of a guided imagery relaxation therapy on the menstrual pain. Data were analyzed by Mann Whitney test with significant threshold set to 0.05 indicated that the experiment group experienced menstrual pain score mean 2,6 ± 0,5, while in the control group 4,6 ± 0,6. It concluded that guided imagery relaxation affect on menstrual pain. [6]

OBJECTIVES

The present study was conducted with the Objectives of

- ❖ Evaluate the effectiveness of guided imagery on premenstrual syndrome among college girls
- ❖ Evaluate effectiveness of guided imagery on stress among college girls
- ❖ Correlate the relationship with stress and guided imagery before and after guided imagery among college girls

HYPOTHESES

- ❖ There will be a significant difference in the mean scores of premenstrual syndrome before and after the guided imagery technique among the college girls
- ❖ There will be a significant difference in the mean scores of stress scores before and after the guided imagery technique among the college girls
- ❖ There will be a significant relationship between premenstrual syndrome and stress before and after guided imagery technique among college girls

MATERIALS AND METHODS

Research Design: A quasi experimental design one group pretest posttest design was used.

Setting: The subjects selected were from the selected Nursing College in Bidar, Karnataka.

Population: The target population was all female who had attained menarche but not attained menopause and the accessible population was all female girls studying in selected college at Bidar.

Sample and Sample size: The sample consisted of the college girls who fulfilled the inclusion criteria and the sample size consisted of 30.

Sampling technique: Purposive sampling technique was used to select the subjects.

Inclusion criteria: College girls in the age group of 18-21 years, had regular menstrual cycle, who were likely to have their menstrual period after one week of pretest and who were available during the data collection period.

Exclusion criteria: College girls who were having PMS and stress scores normal, who were not willing to participate and who had other systemic illness

Description of the tool:

Part I: Demographic variable of the college girls are age, religion, food habits, domicile, menstrual cycle, Number of sanitary pads used, alternative therapies used, duration of menstrual cycle and history of hospitalizations due to menstruation

Part II: Consisted of the standardized PMS questionnaire which had 20 items related to the severity of the PMS symptoms. It was rated mild, moderate and severe and was ranged as

No PMS 0-12   **Mild** 13-25
Moderate 26-38   **Severe** 39-51
Disabled 52 and above

Part III: Consisted of the standardized Perceived stress scale which had 20 items was rated mild, moderate and severe and was ranged as

Normal   0-12   Mild stress 13-25
Moderate stress 26-38
Severe stress 39-51   Disabled   52-above

Data collection procedure:

A brief description and purpose of the study was given to the college girls of vasantha college of Nursing during April 2016. Informed consent was taken from the study subjects who met the inclusion criteria. Pretest was assessed through the PMS questionnaire, and perceived stress scale. Subjects practiced Guided imagery relaxation by using 20 minutes guided imagery audio twice daily for 4 weeks. Post test was conducted using the same tools

after 28 days of the program. Confidentiality was maintained throughout the study**.**

Statistical analysis: Collected data were coded and carried out by using statistical methods of descriptive, inferential statistics such as t- test, correlation

Ethical Clearance:

The study was approved by the institutional scientific and ethics committee of vasantha nursing college, Bidar, Karnataka. Each participant signed an informed consent after accepting to be enrolled in the study

RESULT

Study findings were organized and interpreted using descriptive and inferential statistics.

Table 1. Frequency and percentage distribution of background variables among nursing students. **(N=30)**

S. No	Background Variables	Frequency (n)	Percentage (%)
I	**Demographic Variables** **Age (years)** a) 17 b) 18 c) 19	 8 12 10	26.67 40 33.33
1.			
2.	**Religion** a) Hindu b) Christian c) Muslim	 14 9 7	 46.67 30 23.33
3	**Food Habits** a) Vegetarian b) Non Vegetarian	 9 21	 30 70
4	**Domicile** a) Day Scholar b) Hostler	 7 23	 23.33 76.67
5	**Menstrual Cycle** a) Regular b) Irregular	 22 8	 73.33 26.67
6	**No. of sanitary pads used / day of Menstruation**. a) 3 b) 4 c)more than 4	 12 11 7	40 36.67 23.33
7	**Duration of Menstrual Cycle** a) <3 days b) 3 – 5 days c) >5 days	 7 19 4	23.33 63.33 13.33
8	**History of Hospitalization Due to Menstrual Problem** a) Yes b) No	 4 26	13.33 86.67

The demographic data are presented as frequency and percentage in Table 1. The majority of the participants were in the age group of 18 years (40%), 46% were Hindus, 76% were hostlers, 70% non vegetarians, 73% had regular menstrual periods,19% had 3-5 days menstrual cycle and 26 students not admitted in hospital due to menstrual problem .

Table 2. Frequency and percentage level of PMS and Stress during pretest and posttest among college girls. **(N=30)**

S. No	Variables	Pretest		Posttest	
		Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
1	**Level of premenstrual syndrome** No PMS Mild Moderate Severe Disabled	 0 0 7 23 0	 0 0 23.33 76.67 0	 3 27 0 0 0	 10 90 0 0 0
2	**Level of stress** a) Mild stress b) Moderate stress c) severe stress	 0 20 10	 0 66.67 33.33	 20 10 0	 66.67 33.33 0

In regards to PMS level is viewed 23 samples (76.67%) were identified with severe level of PMS score and 7 samples (23.33.0%) had moderate score. None of the samples were on mild and no PMS score level among college students

In pretest stress scores for the 30 samples observed, ,10 samples (33.33%) had the stress of much higher level. 20 samples (66.67%) accounted for moderate level stress None of the samples had much lower, slightly lower and average stress score level among college students.

In experiencing to PMS in Posttest 27 samples (90.0%) had improved to mild PMS level and 3 samples (10%) had no PMS problem among college students. In understanding stress in posttest, 20 samples (66.67%) had mild level Stress, 10 samples (33.33.0%) had moderate level stress. Findings show that guided imagery potentially reducing stress, given excellent results for healing PMS related symptoms.

Table 3. Mean difference, Standard Deviation, Paired t value and p value of PMS and Stress among college girls

	Pre Test		Post Test		Paired 't' Value and p value
	Mean	**SD**	**Mean**	**SD**	
PMS	42.3000	3.0075	16.3667	2.7976	32.34 0.0001
STRESS	20.5000	1.1371	11.1333	3.0596	19.13 0.0001

Findings of Table 3 showed that the mean of pre test PMS score was 42. 3 and post test mean was 16.36 which indicated a great level reduction of PMS symptoms after guided imagery practice. The obtained t value 32.34 indicated that significant at P< 0.0001.

Similarly in experimental group the mean stress post interventional score 11.13 was found to be lower than the pre stress interventional score 1.1371 and the t value signified that 19.13 which was significant at p<0.0001.Thus the guided imagery demonstrated stress relieving outcomes associated with PMS healing.

Guided imagery was especially effective in inducing relaxation in PMS problem while at the same time reducing stress level. Hence regular daily practice of Guided imagery program has the ability to modulate stress and emotion regulation and large effect on PMS symptoms.

Findings of table 4 shows that subjects who had high stress before intervention reported high level PMS symptoms. Findings suggest that stress reduction intervention of Guided imagery testing to see reduces PMS symptoms. Findings represents there is a significant positive correlation between pre and post assessment mean PMS score with stress scores during posttest. Guided imagery is an effective healing therapy in maintaining the physical and psychological wellbeing of the patients and had significant reduction in their PMS symptoms and stress.

DISCUSSION

Study findings show that Guided imagery that reduces or completely releases PMS symptoms and helps to enjoy better moods can help in relieving stress and optimal emotional management throughout. The study samples were small sample size (n=30), allowing the study not to be generalized among the subjects. The study allowed subjects to ventilate their feelings during the assessment of PMS symptoms and stress which was more ventilating strategy for them. PMS and Stress variables were measured subjectively as oral response was only elicited from the study participants using standardized scales.

Table 4. Correlation coefficient PMS and Stress during pretest and posttest among college girls

Variables	PMS Pre Test	PMS Post Test	Stress pretest
PMS Post Test	0.3717 0.0431*	1	-
Stress pretest	0.2269 0.2280	-0.1680 0.3748	1
Stress posttest	0.1979 0.2946	-0.1590 0.4013	0.9713 < 0.0001***

P< 0.0001***

There was a significant reduction in the mean state PMS symptoms among college girls in the study group during posttest at p<0.0001 level. A highly significant reduction in the mean stress in study group was identified during posttest at p<0.0001 level. Hence H1 and H2 were accepted.

There was a significant positive correlation between PMS and stress at p<0.001 level. A moderate positive correlation was present between PMS and stress during posttest in the study group. Hence H3 was accepted

Study findings were supported with to investigate the effect of relaxation therapy on premenstrual symptoms of under and postgraduate students in dormitory of Azad university of Tonekabon. From the Samples of three hundred students, 80 students that had PMS were chosen. 30 students in control group and treatment group were selected through randomization. Treatment group received relaxation training Study concluded that relaxation was helpful in reducing premenstrual syndrome. [7]

Study findings were consistent with other findings of Premenstrual Syndrome is a psycho neuroendocrine stress related disorder and more than 300 treatment modalities for PMS show that the existing remedies have not provided satisfactory help to relieve PMS. 61- points relaxation exercise (61-PR), a relatively less known hath yoga technique, is a successful means of stress relaxation and is expected to relieve PMS as well. The present study was conducted on 50 clinically healthy women volunteers who were in their reproductive age group and in their premenstrual period, from which a control group (n=20) and a PMS group (n=30) based on the symptoms were identified. In both groups basal heart rate (HR/min), systolic (SBP; mmHg) and diastolic blood pressure (DBP; mmHg), electromyogram (EMG; mV), electro dermal galvanic activity (EDG; μv), respiratory rate (RR/min) and peripheral temperature (T; °F) were recorded and the subjects were taken through a guided 61-PR. The symptoms and parameters were re-recorded after the 61-PR. In control group, the basal HR was 82.06±8.07, SBP 111.95±8.23, DBP 76.8±6.42, EMG 4.08±2.99, EDG 9.77±3.29, RR 15.60±3.77 and T was 97.86±0.63. After 10 minutes of 61-PR, HR (77.27±10.85, P0.05) rose significantly.

In the PMS group, the basal HR was 90.61±8.46, SBP 122.5±11.52, DBP 83.53±8.26, EMG 5.79±2.75, EDG 13.14±6.54, RR 19.13±3.76 and T was 93.43±5.29. After 10 minutes of 61-PR, HR (75.58±10.11). After 10 minutes of 61-PR, HR (75.58±10.11, P<0.0001), SBP (114.53±9.70, P<0.0001), DBP (77.46±8.68, P<0.0001), EMG (2.56±1.77, P<0.0001), EDG (10.64±5.72 P<0.0001), and RR (16.13±3.76, P<0.0001), declined to a much greater extent and T (93.49±5.28, rose more significantly. [8]

CONCLUSION

Guided imagery is a gentle but powerful technique that focuses and directs the imagination. Participants visualize a goal they want to achieve, and then imagine them going through the process of achieving it. Effective stress management is a vital part of healthy living and can help to boost women's reproductive health. It is clear evidence that their related data analyses indicated a significant score between pre and post PMS and Stress scores. So using guided imagery to reduce the severity of PMS and Stress can lead to increased comfort

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