The Effects of stretching exercises and walking in premenstrual syndrome

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DOI: 10.47750/pnr.2022.13.S06.100

Abstract

Introduction: Premenstrual syndrome is a collection of symptoms characterized by the onset of lower abdominal pain, back pain, breast pain, depression, anxiety with limitation in participation in daily activities of women. Different treatment approaches have been followed to treat Premenstrual syndrome, but to treat precisely few exercises have been included. Thus, the study aims to find the effectiveness of stretching exercise and walking in treating Premenstrual syndrome.

Subject: 25 women who are diagnosed to have Premenstrual syndrome.

Methodology: 25 women with the age group of 14-30 years, diagnosed with Premenstrual syndrome were selected, they were given stretching exercises and walking for 3 months, a week before the onset of the menstrual cycle. The premenstrual syndrome questionnaire has been given before starting the treatment and again filled out after 3 months of treatment.

Results: Statistical analysis was done using paired T-test. The outcome measures were physical and mental health. The Statistical analysis showed a significant difference after the treatment of 3 months period.

Conclusion: Stretching exercises and walking decreases the premenstrual symptoms and improves the physical and mental health of women.

Keywords: Premenstrual syndrome, stretching exercise, walking, physical and mental health.

1. INTRODUCTION

Premenstrual syndrome is a condition that can be experienced by most women. It affects physical and mental health during certain days of the menstrual cycle. It just begins before the menstruation starts and continues after a week or as soon as menstruation stops. Furthermore, it can re-occur in every ovulation cycle till women attain menopause. Likewise, It ranges from mild to severe. The severity and frequency of symptoms also vary for every woman which adversely influences the quality of life both physically and mentally. It also makes the woman withdraw from the family, society, and workplace.

The symptoms of the premenstrual syndrome include abdominal bloating, abdominal pain, lower back pain, soreness, acne, constipation, diarrhea, food craving, headache, sensitivity to sound and light, changes in sleep patterns, anxiety, depression, mood swings, emotional instability.

Need for the study:

- Considering high prevalence of Premenstrual Syndrome among women there arises need to develop treatment protocols for coping with premenstrual symptoms. This study was conducted to investigate the effect of exercise on females with Premenstrual Syndrome complaints.

- The previous study has stated that Effects of the 8 Weeks’ Aerobics Exercises and prescription of walking and swimming on Non-Athlete Girls Showing a reduced Symptom of the Premenstrual syndrome. Another study also stated
Abdominal stretching exercises to reduce premenstrual syndrome. On the other hand, doing regular exercise causes an increase in beta-endorphin thereby consequently its increased level influences reducing the pain.

Thus, Considering the high prevalence of Premenstrual Syndrome among women. Therefore, there is a need to develop treatment protocols for coping with premenstrual symptoms. This study was conducted to investigate the effects of stretching exercises and walking in females with Premenstrual Syndrome complaints.

Background of the Study:

Yunikhoriamujtahhidahromah (2020) has concluded, that the abdominal stretching exercise can increase the release of neurotransmitters, reduce the level of progesterone, sympathetic nervous activity, reduces pain perception, and decrease the severity of premenstrual symptoms.

Muntahavirk (2019) has concluded, premenstrual syndrome symptoms are frequently detected in the majority of females, Aerobic exercise such as walking, swimming, and stretching exercise has proved a positive approach in reducing the signs and symptoms of premenstrual syndrome.

2. MATERIALS AND METHODOLOGY:

2.1 STATEMENT OF THE STUDY: The effects of stretching exercise and walking in premenstrual syndrome.

2.2 SAMPLE SIZE: The Sample size of the study is 25 subjects

2.3 SAMPLE TECHNIQUE: Convenient sampling method.

2.4 STUDY DESIGN: pre-test post-test Experimental study design

2.5 STUDY POPULATION: Subjects diagnosed with premenstrual syndrome.

2.6 MEASUREMENT TOOL: premenstrual syndrome questionnaire.

2.7 INCLUSION CRITERIA:

• Women with Age group of 14 -30 years.
• With a regular menstrual cycle.

2.8 EXCLUSION CRITERIA:

• Women with a history of any metabolic disorders
• Cancer
• Cardiorespiratory problems

2.9 DURATION OF STUDY: Three months.

2.10 STATISTICAL TOOL: Paired t-test
2.11 HYPOTHESIS:

- Alternate hypothesis:
  The effects of stretching exercise and walking in premenstrual syndrome may have a significant effect on women.

- Null hypothesis:
  The effects of stretching exercise and walking in premenstrual syndrome may not have a significant effect on women.

2.12 PROCEDURE

- This is an Experimental study of pre and post-test types. 25 samples are selected based on inclusion and exclusion criteria.
- The samples will receive stretching exercises and walking.

1. Cat Stretch Position:
- Instructed to choose quadruped position, keeping arms perpendicular to floor, with hands directly under the shoulders placed flat on the ground; knees are hip-width apart.
- While inhaling, raise the chin and tilt head back, push the umbilicus downwards and raise the tailbone and Squeeze the Gluteal muscles.
- Holding the position and taking a deep breath, follow this by a counter movement: as exhale, drop the chin to your chest and arch the back up as much as you can; relax the gluteal muscles.
- Hold the position for 30 seconds
- Returning to the initial stage.

2. Lower trunk rotation:
- lie on the back with knees bent and the feet flat on the floor.
- With the knees together, bring them to one side with the feet staying on the floor.
- Hold 30 seconds and contract the abdominal muscles while moving your legs to the opposite side, again holding for 30 seconds.
- returning to the starting position

3. Abdominal curl-ups
- Instructed to Lie down on the back in floor.
- With hips flat on ground, push upper body upward, while looking straight ahead.
- Holding the position for 30 seconds,
- Then Returning to the starting position.
4. Lower abdominal stretching

- Get on the hands and knees. Patients are instructed to tuck head downward, arching the back.
- Extend the neck upwards, and drop the belly downwards stretching the abdominal muscles.
- Hold for 30 seconds,
- Returning to the starting position.

5. Hip stretch

- Instructed to Kneel right knee.
- Putting the left foot on floor with left knee at 90-degrees.
- Driving the hip forward, maintaining a straight back, Instructed to lean the torso forward.
- Holding position for 30 seconds.
- Returning to the starting position.

6. Pelvic bridging

- Patients are instructed to lie on back with hands at the sides, knees bent, and feet flat on the floor under the knees.
- Are instructed to Tighten the abdominal and gluteal muscles, by pushing low back into the ground before pushing up.
- Raise the pelvis to create a straight line knees to shoulders.
- Squeeze the core muscles and pull the belly button back towards the spine.
- Are instructed to Hold the position for 30 seconds.
- Then returning to the starting position.

7. Walking

Walking with the normal speed of individuals capacity for ten minutes in a plane surface continuously without breaks.


2.14 TOOLS USED: premenstrual syndrome questionnaire.

2.15 OUTCOME MEASURES: Physical and mental health.
Variables measured in experimental Group:

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<th>Pre - Test</th>
<th>Post – Test</th>
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COMPARISON OF PRE AND POST-TEST VALUES OF EXPERIMENTAL GROUP:

Changes within the Experimental Group are analyzed using paired t-test.

The descriptive statistics as mean, standard deviation, t-value has been obtained using t-test.
The statistical results support the application of stretching exercise and walking are effective.

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<th>Level of significance</th>
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Experimental group:

Physical and Mental health:

Mean value for pre-test – 41.68

Mean value for post-test – 29.08

For 24 degrees of freedom and at a 5% level of significance

The table value is 4.081

The Calculated value is 18.02 that is more than the table value 4.081.
Accepting alternate hypothesis, there is an improvement in the physical and mental health of women with premenstrual syndrome.

3. Discussion

Premenstrual syndrome is a condition that affects almost all women both physically and mentally, also affecting the daily activities including office, college, schooling, etc. therefore, exercise prescription reduces the symptoms of premenstrual syndrome.

Several possible studies that show exercises provide a drastic improvement in the reduction of premenstrual syndrome. Muntahavirk 2019, concluded that premenstrual syndrome symptoms are frequently detected in the majority of females, aerobic exercises such as walking and swimming, and stretching exercises have proved a positive treatment approach in reducing the signs and symptoms of premenstrual syndrome.

Amenehsafarzadehet has proved that regular and continuous exercise has a great effect on premenstrual syndrome prevention. Niravvaghela 2019, concluded that aerobic exercises relieves premenstrual syndrome that occurs during luteal phase of the menstrual cycle. Amanda j Daley July 2009, has concluded that aerobic exercises help in relieving Premenstrual syndrome.

The Experimental group has undergone stretching exercises and walking had shown significant improvement in improving the physical and mental health of women with premenstrual syndrome.

The experimental group underwent stretching exercises and walking had shown improvement because of it.

- Improves muscle flexibility.
- Decreases sympathetic activity by reducing stress.
- Decreases fatigue.
- Improves the quality of life during the menstrual cycle.
- Decreases the absence of work.

4. Conclusion

Premenstrual syndrome is a common condition in women. Physical and mental health is being affected during this period. This study shows evidence that stretching exercises and walking improves both the physical and mental health of women who are affected with premenstrual syndrome and it can be assessed using a premenstrual syndrome questionnaire.

Limitations and suggestions

- Smaller sample size, so larger sample size can be analyzed with more than 100 samples.
- A Limited time frame of exercise, so time frame can be extended up to 6 months or a year
- No longer follow-ups, so follow-ups can be extended up to a year to more years.
- Alternatives can be done in exercise prescription, such as strengthening exercises, treadmill walking, Pilates exercises, endurance training can be included.
Can be categorized for married and unmarried and with various professionals (like athletes, dancers, cricketers).

Any particular component can be measured in detail like abdominal bloating, backache, menstrual cramps, depression.

other scales such as the premenstrual tension syndrome rating scales, The visual analog scale can be used for measurement.

Can include dietary modifications along with exercises.

The Age limit can be extended to 40 years.

ACKNOWLEDGEMENT:

We thank the patients who were a part of this study.

COMPETING INTEREST: Nil.

AUTHORS CONTRIBUTION:

Study designing, performing statistical analysis, framing the protocol, literature reviews, analyses of the study, the first draft of the manuscripts have been performed by Author 1 under the guidance corrections made by Author 2

ETHICAL APPROVAL:

Informed consent was signed by the subjects. Privacy of the patients was ensured throughout the study. All manuscripts have been approved by the institutional review board (IRB).

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