Home based Exercise management in Primary Dysmenorrhea

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ABSTRACT

Background: In recent years researchers have made important discoveries for reducing pain during painful menstruation. Dysmenorrhea causes considerable personal and family disruption. Exercise seems to reduce menstrual symptoms, including pain. In this study, exercise has been given to reduce the pain and make them physically active during menstruation.

Objectives: To find the effects of Home Exercise in Primary Dysmenorrhea

Materials and methods: Experimental study was taken up among the 20 subjects suffering from primary dysmenorrhea, based on the inclusion and exclusion criteria. The exercise intervention was given during the menstrual cycle for 3 days, after that Questionnaire was administered to assess the intensity of pain who were suffering from primary dysmenorrhea. Numeric Pain Rating Scale has been used as to assess pain level as the pretest and posttest.

Results: Paired t-test used to compare the outcomes within the group for numerical pain rating scale(P<0.001). In the present study all subjects who received exercises showed significant decrease in the intensity of pain assessed by using Numeric Pain Rating Scale.

Conclusion: The study conclude that exercise will decrease duration and severity of pain in primary dysmenorrhea

Keywords: Primary Dysmenorrhea, Home Exercises Programme

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INTRODUCTION

Primary dysmenorrhea or painful menstruation is a difficult menstrual flow absence of specific pelvic disease\(^1\) is one of the most common problem among young girls when they experience their first ovulatory cycle and its prevalence increases during adolescence 15-17 years and reaches highest in 20 to 24 years and decreases thereafter.\(^2\) Dysmenorrhea pain begins few hours before or after the onset of menstruation lasting for 24 to 48 hours.\(^2\) Dysmenorrhea involves menstrual periods that are accompanied by spasmodic pain usually in the pelvis or lower abdomen which may radiate up to thigh and also causes symptoms such as back ache, nausea, vomiting, diarrhea and fatigue, dizziness.\(^3\)

Women who exercise have a reduced incidence of dysmenorrhea. These may be due to exercise related hormonal effects on the lining of the uterus, or increased level of circulating endorphins. Compared with other women, females with primary dysmenorrhea have increased activity of the uterine muscle with increased contractility and increased frequency of contractions.\(^3\) Painful Menstruation affects approximately 50% of menstruating women, and 10% are incapacitated for up to 3 days. It is the leading cause of lost time from school and work among women of childbearing age.\(^4\)

Though Dysmenorrhea is not a life threatening problem it has a major impact on the quality of life of the female which may cause considerable personal and family disruption and work disturbances. Considering the following reasons and problems faced by females, we planned to conduct this study among students of our university in order to create an awareness of exercises for dysmenorrhea and also to reduce their absence from college due to dysmenorrhea.

MATERIALS AND METHODS

Subjects

Experimental study was taken up among the subjects suffering from primary dysmenorrhea. 49 subjects were selected from the saveetha women’s hostel, Saveetha University based on the inclusion and exclusion criteria. Those subjects with primary dysmenorrhea and between the age of 18 to 25 years were included and excluded if they are married, secondary dysmenorrhea and those who use analgesics, Subjects with a history of Endometriosis or Ovarian Cysts. Numeric Pain Rating Scale has been used as to assess pain level as the pretest and posttest. The exercise intervention was conducted during the menstrual cycle for 3 days.

PROCEDURE

Exercise Program: Cat Stretch

Starting position: On your hands and knees on the floor, hands under shoulders, knees under hips, feet relaxed, eyes looking at the floor.

Step 1: Arch your back, pushing your stomach toward the floor as far as it is comfortable. Tuck your chin in and look at the floor.

Step 2: Hold for 10 seconds, counting aloud, and then relax.
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Step 3: Round your back, pushing it toward the ceiling, and drop your head toward the floor.

Step 4: Hold for 10 seconds, counting aloud. Maintain a rounded back as you do step 5

Step 5: Sit back on your heels, stretching your arms out in front of you as far as possible.

Step 6: Hold for 20 seconds, and then relax. 3 repetitions were performed

**Lower Trunk Rotation**

**Starting position:** Lying on your back, knees bent, feet on the floor, arms extended out to steady yourself.

Step 1: Slowly roll your knees to the right as close to the floor as possible. Keep your shoulders on the floor as much as possible.

Step 2: Hold for 20 seconds, and then roll to the left side. Hold for 20 seconds, and then return to starting position. 3 repetitions were performed

**Buttock Stretch**

**Starting position:** Lying on your back, knees bent

Step 1: Place the outside of your right ankle against your left thigh just above your knee.

Step 2: Grasp the back of your thigh just above your knee and pull it toward your chest as far as is comfortable. If this is too difficult, try pulling in your right ankle and knee, leaving your left foot on the floor.

Step 3: Hold for 20 seconds, then return to the starting position and relax. 3 repetitions were performed

**Abdominal Strengthening: Curl Up**

**Starting position:**

Lying on your back on the floor, knees bent, feet on the floor, hands resting beneath head.

Step 1: Arch the small of your back up off the floor and push your stomach toward the ceiling. Hold for 20 seconds, counting aloud.

Step 2: Flatten your lower back against the floor by tightening the muscles of your abdomen and buttock.

Step 3: Partially curl your upper body in toward your knees.

Step 4: Hold for 20 seconds, counting aloud. 3 repetitions were performed

**Statistical Analysis:**

Paired t-test used to compare the outcomes within the group for numerical pain rating scale. P value <0.05 was considered statistically significant. The results also showed that all subjects who received exercises showed significant difference of the questionnaire (P<0.001)

**Results:**

The study revealed that the Pretest and posttest values of Numerical Pain rating score of the questionnaire are presented in Table 1.
**Table 1:** Comparison of Pretest and Posttest values of Numerical Pain rating score

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>t-value</th>
<th>p-value</th>
</tr>
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<tbody>
<tr>
<td>Pre-test</td>
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<td>0.89</td>
<td>0.13</td>
<td>22.5167</td>
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<tr>
<td>Post-test</td>
<td>4.29</td>
<td>1.19</td>
<td>0.17</td>
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</table>

**Figure 1:** Comparison of Pretest and Posttest values of Numerical Pain rating score

**DISCUSSION**

The present study focused on the problem of pain during menstruation in girls in the age group of 18-25 years. In this study the Effects of Exercise protocol is proved to be significantly improving in participants suffering from primary dysmenorrhea, results have shown that exercises reduced pain and discomfort in subjects suffering from primary dysmenorrhea.

A mechanism by which exercise may improve the symptoms of dysmenorrheal (Reducing stress) has been articulated. Menstrual pain probably stems from increased contraction of the uterine muscle, which is innervated by the
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sympathetic nervous system. Stress tends to enhance sympathetic activity, and may therefore increase menstrual pain by exacerbating uterine contraction. By relieving stress, exercise may decrease this sympathetic activity, thereby alleviating symptoms. In fact, exercise is known to cause the release of endorphins, substances produced by the brain that raises the pain threshold. Rima Gupta et al stated that non-pharmacological intervention like dry ginger powder and active exercises were effective as a treatment for dysmenorrheal. These methods were preferred instead of counter medications. And also stated that non-pharmacological methods of management of primary dysmenorrhea should be included in schools and colleges as a part of curriculum as it can benefit the students. Dysmenorrhea is characterized by cramping lower abdominal pain that may radiate to the lower back and upper thighs and is commonly associated with nausea, headache, fatigue and diarrhea. These symptoms of dysmenorrheal can be managed by Physical exercise as a non-medical approach. Therapeutic approach prevents from the side effects of pharmacological approach. The idea that exercise might help relieve menstrual pain is not new; in 1943 Billig proposed that women with dysmenorrhea had contracted ligamentous bands in the abdomen and subsequently developed a series of stretching exercises for which he claimed a high rate of symptom relief. The belief that exercise was effective seems to have prevailed and led to anecdotal beliefs among health agencies, clinicians, and women that exercise is beneficial.

Warren et al. studied the effects of a period of weight training exercises on the features of menstrual cycle and the results showed that the intensity of dysmenorrhea significantly decreased after doing the exercises compared to the beginning of the study. Menstrual pain may be resulted from increased contraction of uterine muscle which is innervated by the sympathetic nervous system. Stress is supposed to increase the sympathetic activity which may lead to the increase of menstrual pain by enhancing the intensity of uterine contraction. So, due to the fact that exercise could reduce and moderate stress, the sympathetic activity may be decreased. Thereby, intensity of menstrual pain and other related symptoms may be reduced as well. Another possible dilemma in this respect is that, since performing physical activity leads to the release of endorphins which are produced by brain, the pain threshold could be enhanced. For these reasons we planned to conduct our study as a home based intervention program of exercises for dysmenorrheal. As once the exercises are taught every female suffering from dysmenorrheal can perform the exercises on her own to prevent from various health problems.

CONCLUSION

Our study proved that exercises help in reducing pain during menstrual cycle. There...
by as a non-pharmacological intervention, these therapeutic exercises can be used to enhance the wellbeing, and participation of females in activities during menstrual cycle without

CONFLICT OF INTEREST
Authors declared that there is no conflict of interest

REFERENCES: