ISSN 2063-5346

# A STUDY TO OVERVIEW THE INFLUENCE OF HOME BASED STRETCHING EXERCISE TO REDUCE PRIMARY DYSMENORRHEA AMONG COLLEGE STUDENTS

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**Article History: Received: 10.05.2023 Revised: 29.05.2023 Accepted: 09.06.2023**

**Abstract**

**Objectives:** It's not uncommon for adolescents to suffer from primary dysmenorrhea, which has the potential to disrupt their normal routines.

**Aim:** An evaluation of the effects of stretching exercise on primary dysmenorrhea is being conducted Avinashilingam Institute for home science and higher education for women.

**Working method:** The study's goal is to examine the influence of home-based stretching exercises on lowering the intensity of primary dysmenorrhea in adolescents.

**Result:** Stretching exercise was found to have a statistically significant effect on dysmenorrhea.

**Conclusion:** Increase student awareness and understanding of the benefits of regular physical stretching by include this topic in school curricula.

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**DOI:10.48047/ecb/2023.12.9.34**

## INTRODUCTION

Menstrual discomfort affects almost half of women in their reproductive years; 10% experience severe dysmenorrhea and one to three days of their lives are disrupted each month. Primary dysmenorrhea is characterised by cramps and pains in the lower abdomen that radiate to the inner side of the thighs and begin several hours before menstruation. It can last anywhere from 12 to 72 hours. At least one-half of those who are affected have symptoms that extend to the body as a whole. Primary dysmenorrhea is still not fully understood, but it has been established to play a crucial role in its development and that prostaglandin activity is responsible for most of its symptoms.

Dysmenorrhea has been successfully prevented and treated with physical activity and regular exercise in the last twenty to thirty years. Pregnant women's steroid hormone levels drop as a result of regular exercise. As a result of this, the endorphin hormone is elevated, which raises the tolerance for pain.

As the sympathetic nervous system, which controls the contraction of the uterine muscles, is activated by stress, this might exacerbate the symptoms of premenstrual syndrome (PMS). As a result, the sympathetic nervous system is less active, which reduces dysmenorrhea symptoms.

Observational studies in this area have yielded conflicting outcomes, despite the fact that exercise appears to alleviate dysmenorrhea symptoms. Physical activity has been shown to improve dysmenorrhea in some studies and to increase the symptoms of dysmenorrhea in others. Dysmenorrhea was shown to be less severe in women who were physically active than in those who were sedentary in a research by Hightower. The intensity of dysmenorrhea was shown to be considerably lower in the athletic group than in the non-athletic group in a research conducted by Dyusk on 67 athletic women. A study by Jart et al. found no significant difference in the prevalence of dysmenorrhea among women who exercised aerobically versus those who did not. 179 nursing students participated in a study done by Metheny and Smith, and the results showed that those who exercised regularly had considerably more severe dysmenorrhea than those who did not.

A 25-year-old randomised experimental trial on 36 women found that aerobic exercise had a positive effect on primary dysmenorrhea. Daley came to the conclusion in a meta-analysis that exercising had no effect on primary dysmenorrhea. However, in light of the numerous health benefits associated with regular physical activity, the topic of exercise's impact on dysmenorrhea remains debatable. But recent research on Iranian women's primary dysmenorrhea have shown that exercise can help alleviate symptoms.

When it comes to primary dysmenorrhea, few clinical research have evaluated the benefits of exercise and the two activities indicated above. Our goal is to find out if stretching versus aerobic exercise is more effective at preventing and treating menstrual irregularities (DMI).

### Purpose of study:

The study's goal is to examine the influence of home-based stretching exercises on lowering the intensity of primary dysmenorrhea in adolescents.

### Research Hypothesis:

Adolescent girls who conduct stretching exercises at home report less intense menstruation discomfort than their non-stretching counterparts. Permission to study was obtained from the appropriate authorities at Avinashilingam Institute for Home Science and Higher Education for Women (main campus). A year's worth of footage Researchers used self-reporting questions on demographic factors, a menstrual profile questionnaire, and an assessment of pain intensity using the Numeric Pain Scale to collect data on over 1200 students. The

samples will be chosen based on inclusion and exclusion criteria and the purposive sampling technique.

The prescribed exercises were as follows:

**The first stretching exercise:** Stand with your feet hip-width apart and bend your trunk forward from your hip joint until your shoulders and back are parallel to the floor. Repeat 10 times for 5 seconds each time (Figure 1).

**The second stretching exercise:** When asked to stand, the participants were instructed to lift one heel off the floor and then alternate lifting the other heel off the floor. There were 20 repetitions of the exercise (Figure 2).

**The third stretching exercise:** The patients were instructed to stand with their feet shoulder width apart, to stretch their trunks and hands forward, and then to squat for five seconds before raising their bodies and performing the same movements ten times (Figure 3).

**The fourth stretching exercise:** Extend your feet out wider than your shoulders in order to complete the experiment Bending and touching her left ankle with her right hand, she was then instructed to do the same thing with the other foot. This was done by placing her left hand in a stretched posture in a position where her head was in the middle and she moved her head to look for her left hand. Every 10 repetitions on each side of the body, we did the exercises in the same order (Figure 4).

Group B (core strengthening)

There was a survey and then the participants were told that if they completed the exercises for 20 minutes each day, they would be eligible to participate in the study (8 weeks). Elbows and toes lift the body upward for 5 seconds and 5 repetitions of this pose (Figure 7).

**Cat and camel:** Prone kneeling, subjects were instructed to inhale from the nose while hunching their backs (cat) and exhale from the mouth while curving their spine (camel) for five seconds, ten times per session (Figure 8).

**Curl up:** Positioned supine and mildly knee-flexed, the individuals were instructed to clasp their hands behind each other and slowly bring their bodies nearer the knee. 10 times in 5 seconds (Figure 9).

NPRS and main dysmenorrhea questionnaires were completed at the 8th week.

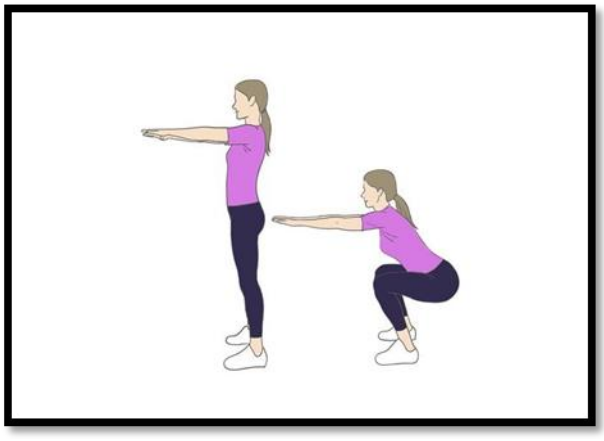

**FIG: (1) Stretching Exercise for Hip**

**FIG: (2) Stretching Exercise Hip**

**FIG: (4) Stretching Exercise leg**

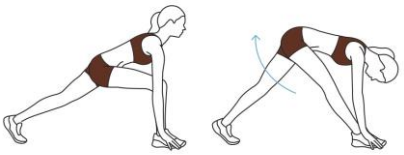

**FIG: (5) Stretching Exercise back**

**FIG: (6) Pelvic bridging.**

**FIG: (7) Plank**

**FIG: (7) Cat and Camel**

**FIG: (8)** Curl up.

**TABLE 1 : DEMOGRAPHIC PROFILE OF AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN**

| personal characteristics | |
|---|---|
| **School Type** | |
| General secondary school | ✓ |
| Technical secondary school | ✓ |
| **Age:** (years) | |
| 15 | ✓ |
| 16 | ✓ |
| 17-19 | ✓ |
| | |
| **Academic year** | |
| First | ✓ |
| Second | ✓ |
| Third | ✓ |
| **Residence** | |
| Urban | ✓ |
| Rural | |
| **Fathers' education** | |
| Illiterate | ✓ |
| Read & write | ✓ |
| Primary | ✓ |
| Preparatory | ✓ |
| Secondary | |
| University | |
| **Mother' education** | |
| Illiterate | ✓ |
| Read & write | |
| Primary | |
| Preparatory | |
| Secondary | |
| University | |
| **Father's occupation:** | |
| Governmental employee | ✓ |
| Free business | |
| Skilled worker | ✓ |
| | |
| **Mother 's occupation:** | |
| Housewife | ✓ |
| Employee | |

**TABLE 2: MENSTRUAL PROFILE OF STUDENTS WITH DYSMENORRHOEA**

| Characteristics | Dysmenorrhea | | |
|---|---|---|---|
| | No | Yes | Total |
| Age in menarche | 35 | 95 | 130 |
| < 12 | | | |
| 13 | 54 | 111 | 165 |
| >15 | 28 | 58 | 86 |
| Mentrual regularity | 139 | 278 | 417 |
| Regular | | | |
| Irregular | 32 | 89 | 121 |
| Length of menstrual cycle | 28 | 58 | 86 |
| Short | | | |
| Normal | 126 | 636 | 762 |
| Long | 70 | 14 | 84 |
| Duration of menstrual flow | 56 | 19 | 75 |
| Short | | | |
| Normal | 44 | 145 | 189 |
| Long | 12 | 32 | 44 |
| Uses of drug for menstrual cycle | | | |
| No | 16 | 145 | 161 |
| Yes | 159 | 36 | 195 |
| Family history of Dysmenorrhea | | | |
| No | 156 | 147 | 303 |
| Yes | 46 | 179 | 225 |
| Total | 1001 | 2042 | 3043 |

**TABLE 3 : DISEASES ASSOCIATED WITH PSYCHOLOGICAL SYMPTOMS**

| PSYCHOLOGICAL SYMPTOMS | NOT AT ALL | MILDLY | MODERATELY | SEVERELY |
|---|---|---|---|---|
| • Menstrual migraines | - | 18 | 18 | 19 |
| • Depression | - | - | 18 | 19 |
| • Irritability/easily agitated | | 18 | 18 | - |
| • Rapid mood changes | 18 | 18 | 18 | 19 |
| • Poor concentration | - | 18 | 18 | 19 |
| • Anxiety | 19 | - | - | 19 |
| • Insomnia | - | - | - | 18 |
| • Hypersomnia | - | 19 | - | 19 |
| • Over eating/food craving | 18 | 18 | 189 | 18 |
| • Tension/nervousness | - | 19 | 19 | 19 |
| • Feeling of inferiority | 18 | 18 | - | - |
| • Lack of self confidence | - | 18 | 18 | - |
| • Difficulty in remembering | - | 19 | 19 | 18 |
| • Not able to do critical thinking | - | 19 | 19 | 18 |

**TABLE 4:DEMOGRAPHIC CHARACTERISTICS OF THE THREE GROUPS.**

| Demographic Characteristics | Stretching exercise N (44) SD ± mean | Core strengthening Exercise N (44) SD ± mean | Control N (38) SD ± mean | P-value |
|---|---|---|---|---|
| Age | 20.52 ± 1.03 | 20.6 2 ± 1.06 | 21.06 ± 1.31 | 0.324 |
| Menarche | 12.29 ± 1.36 | 12.31 ± 1.29 | 12.24 ± 1.07 | 0.411 |
| BMI | 23.24 ± 1.02 | 23.30 ± 1.07 | 23.27 ± 1.09 | 0.897 |
| Duration of Menstrual cycle | 24.63 ± 4.26 | 24.73 ± 3.62 | 24.52 ± 4.34 | 0.792 |
| Duration of Bleeding | 5.71 ± 1.1 8 | 5.81 ± 1.16 | 24.52 ± 4.34 | 0.528 |

**TABLE 5: COMPARING MEAN SCORES OF PAIN INTENSITY IN THREE GROUPS USING VISUAL ANALOG SCALE SCORE**

| Pain intensity | stretching exercise N (44) SD ± mean | Core strengthening Exercise N(44) SD ± mean | Control N (38) SD ± mean | F- value | P value |
|---|---|---|---|---|---|
| **First cycle (before the intervention) (pre)** | 7.62 ± 1.82 | 7.52± 1.98 | 7.47 ± 1.56 | 0.723 | 0.876 |
| **Second cycle (post 1)** | 5.71 ± 2.81 | 5.5 3± 2.49 | 7.83 ± 1.78 | 711.05 | <0.001 |
| **Third cycle (post 2)** | 4.64 ± 2.01 | 4.97 ± 1.69 | 7.71 ± 1.35 | 1025.76 | <0.001 |

**TABLE 6: COMPARING MEAN SCORES OF PAIN DURATION (H)**

| Pain duration | stretching exercise N (44) SD ± mean | Core strengthening Exercise N (44) SD ± mean | Control-38 SD ± mean | F - value | P value |
|---|---|---|---|---|---|
| **First cycle (before the intervention)** | 6.85 ± 0.19 | 6.71 ± 0.14 | 6.31 ± 1.12 | 0.35 | >0.05 |
| **Second cycle** | 5.23 ± 0.42 | 5.11 ± 0.38 | 5.88 ± 1.29 | 32.74 | <0.001 |
| **Third cycle** | 2.32 ± 0.39 | 2.19 ± 0.29 | 5.68 ± 1.03 | 120.12 | <0.001 |

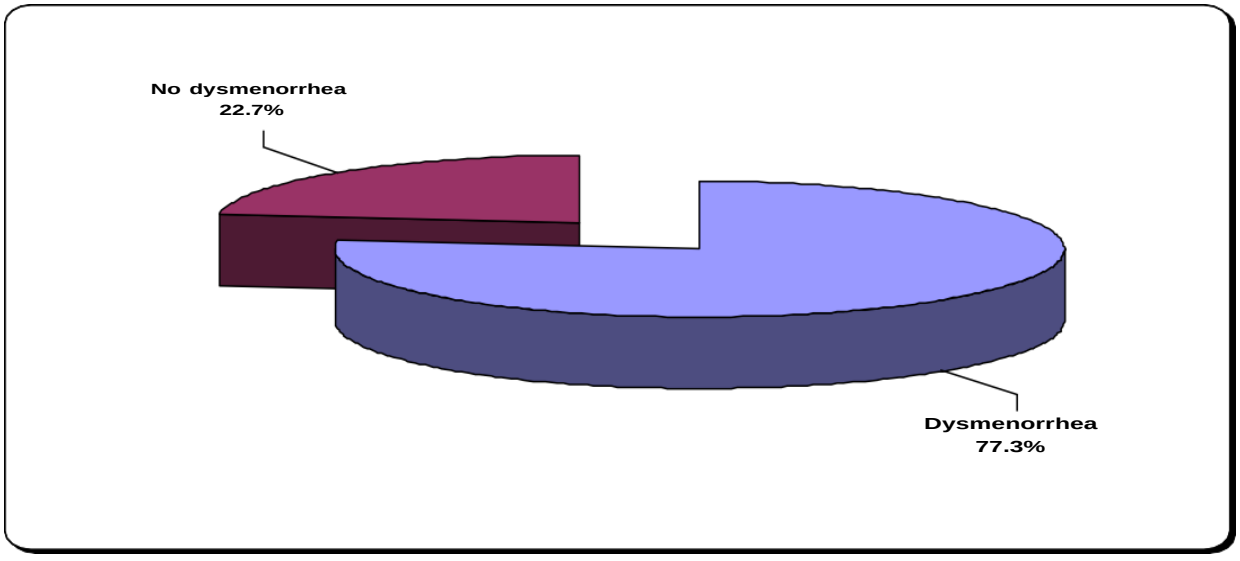


**FIG (8) : DISTRIBUTION OF THE STUDIED STUDENTS REGARDING THEIR SUFFERING FROM DYSMENORRHEAL COLLEGE NAME**

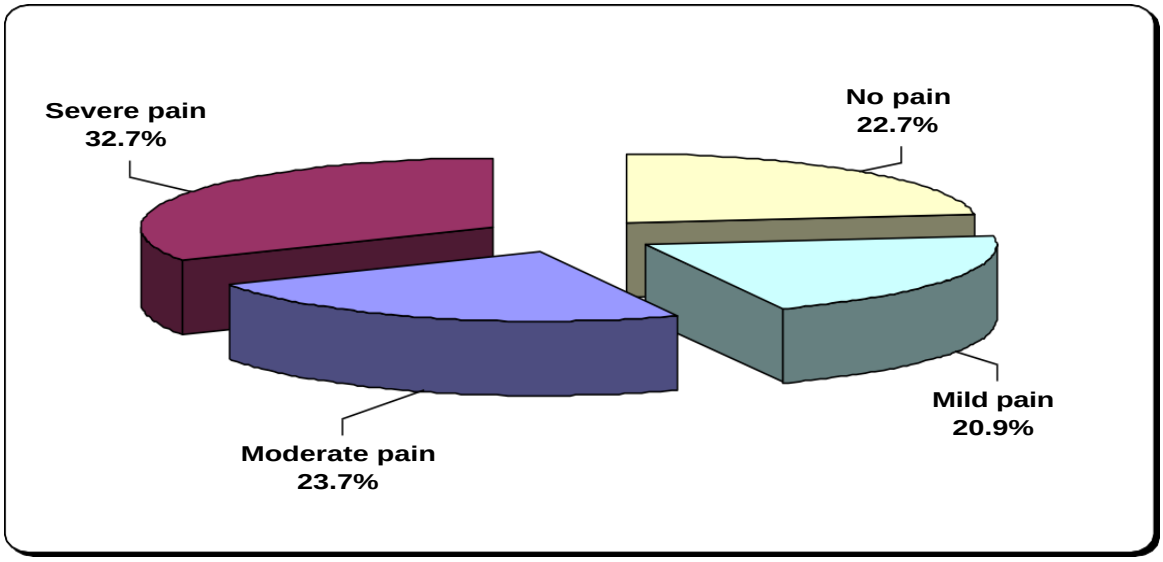


**FIG ( 9 ): DEGREE OF PAIN RELATED DYSMENORRHEA AMONG STUDIED STUDENTS**

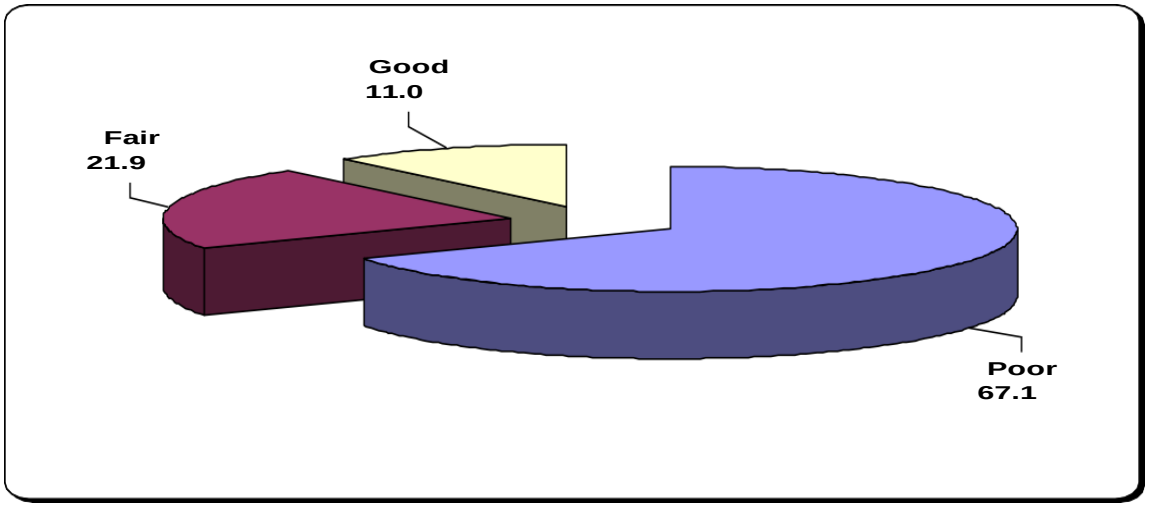


**FIG (10) : TOTAL SCORE OF KNOWLEDGE REGARDING MENSTRUATION AND DYSMENORRHEA AMONG STUDIED STUDENTS**

**Figure (8):** Dispersal of research subjects by degree of dysmenorrhea is seen in the graph below. It was shown that 77.3 percent of the students had dysmenorrheal symptoms.

**Figure (9):** Roughly a third (32.7 percent) of the students with dysmenorrhea felt severe discomfort, while just about a quarter (20.9 percent) said they had mild pain, according to the research.

**Figure (10):** These results show how well students understand the relationship between menstruation and dysmenorrhea. Only 21.9 percent of the pupils studied had fair understanding, while more than two-thirds (67.1 percent) had inadequate knowledge.

Primary dysmenorrhea is a common and serious health issue, especially in young women, and it can significantly impair daily activities, as well as the physical and emotional well-being of the sufferer. It also has a detrimental effect on one's general well-being. This study was designed to examine whether stretching exercise can reduce the pain of dysmenorrhea in adolescent girls. Students in this study ranged in age from 15 to 19 years old, and the mean age was 16.31 ± 0.91 years old, which is in agreement with a previous study that examined adolescent girls' knowledge and level of concern related primary dysmenorrhea in Amritsar. This is also in line with a study on dysmenorrhea among high school girls in Manipur: Across sections and they reported that students aged 15-19 had a mean age of 16.78 ± 0.90. Study results revealed that almost half of the students were in their first year of college, while just about a fifth were in their third year. This may be explained by the fact that students who were more dedicated to schoolwork throughout their first few years were more likely to participate in monthly assessments of their schoolwork. Those findings contrast with those of Iranian researchers, who looked at symptoms of dysmenorrhea and their association with BMI in female teenagers and found that the vast majority of students were in their first and third years of college. The mean age of menorrhea was 12.70 ± 1.10 years old in the current study. This is in agreement with the findings of those who stated that the average age of menarche was 12.37 ± 871.

In addition, these findings were backed up by a study in Egypt that found that the average age of menarche was 12.5 ± 2.08 years old, which is consistent with the findings of this study. In terms of the number of pads changed daily and the types of towels used during menstruation, the current survey found that the great majority of students used sanitary ready towels and that the number of pads changed daily ranged from three to one. Some of this could be attributed to women's greater awareness of sanitary pads due to media exposure. More than a quarter of Indian schoolgirls reported exclusively using sanitary pads in a cross-sectional examination of their attitudes, knowledge, and behaviour related to the menstrual cycle and the issues it causes. More than a third of college students experience dysmenorrhea, according to a recent study. A study in Ethiopian secondary school students found that more than three-quarters of the pupils had dysmenorrhea and its associated causes. In contrast to studies in India that found that less than two-thirds of students were affected by dysmenorrhea, these findings show that ethnicity, sociocultural variables, cultural background, and geographic location all have a role in the prevalence of dysmenorrhea among adolescent girls. In terms of intensity of discomfort. A third of students reported severe pain, a fifth reported moderate pain, and a quarter reported light pain, according to the results of this study. This contradicts the findings of the researchers who studied dysmenorrhea among high school girls.

## CONCLUSION

More than three-quarters of the students studied had dysmenorrhea. Pretest knowledge of menstruation and dysmenorrhea was low for more than two-thirds of the students, but after execution of the education programme, their knowledge increased. Statistically significant differences were found between pre- and post-test knowledge of the students. Dysmenorrheal pain was reduced more effectively by stretching exercise.

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