

Influence of Physical Activity on Menstrual Pain Among Young Women in Ahmedabad

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ABSTRACT

Background: menstrual pain is one of the most common gynecologic complaints. the purpose of the study is to examine the relationship between physical activity and menstrual pain among young women in Ahmedabad.

Introduction: primary dysmenorrhea is menstrual discomfort without pelvic disease along with cramping abdominal pain associated with menses. it affects quality of life and physical activity of women. Any disturbance in menstrual pattern can eventually affects ones physical as well as psychological health which in term hamper the quality of life of women. according to early research women who does exercise have much less indication of menstrual pain than women with sedentary lifestyle.

Methodology: The study conducted on 100 young women from Ahmedabad based on inclusion and exclusion criteria. Women of age group 18 to 30 years were included. The outcome measure used for physical activity is international physical activity questionnaire (IPAQ) and for menstrual pain is numeric pain rating scale (NPRS) was filled by 101 individuals with menstrual pain and submitted through google form.

Result: Data was analyzed by using SPSS 29.00 version. For the correlation between physical activity and menstrual pain spearman rho test was applied ($r = -0.436$ and $p = \text{less than } 0.001$).

Conclusion: There is significant negative correlation between physical activity and menstrual pain among young women. study suggest that subjects with higher physical activity have lower menstrual pain.

Keywords: physical activity, menstrual pain, numeric pain rating scale, international physical activity questionnaire.

INTRODUCTION

A common gynecological disorder called dysmenorrhea results in painful menstrual cramps that start in the uterus. The two subtypes of dysmenorrhea are primary and secondary. Primary dysmenorrhea is the term used to describe menstrual discomfort in the absence of pelvic illness.

These symptoms stem from elevated endometrial prostaglandin levels and its metabolites. ⁽¹⁾ The frequency grows as one ages, peaking in young ladies. ⁽³⁾ Of girls

between the ages of 18 and 25, 84.2 percent said they had dysmenorrhea. ⁽²⁾

The most common symptom is a lower belly ache that feels similar to labour pain. Moreover, the lumbar region, supraspinatus, suprapubic area, lower back, and thighs may also experience radiating pain. Furthermore, there might be headaches, vomiting, diarrhoea, constipation, nausea, and incontinence. Usually, it starts on the first day of menstruation and lasts until the third. ⁽⁴⁾

Apart from the obvious medical problems, dysmenorrhea often presents as mental or behavioural issues. Mood fluctuations and physical discomfort interfere with daily responsibilities, causing major social impairments. ⁽⁵⁾ Dysmenorrhea impairs quality of life and increases absenteeism at work and education, impeding ideal teens' cognitive and psychosocial development ⁽⁶⁾ However, another study examining the relationship between exercise and cramping pain discovered no notable alteration following aerobic exercises. ⁽⁷⁾ By boosting progesterone and estrogen levels, lowering renin levels, and lowering serum aldosterone levels, exercise relieves physical symptoms. ⁽⁸⁾ Hormone abnormalities resulting from a sedentary lifestyle, elevated task stress, and reduced physical activity have a substantial effect on our physical selves.

MATERIALS & METHODS

Following approval from the institutional ethical committee, a correlation study was conducted using purposive sampling on nulliparous females aged 18–30 years with a regular menstrual cycle (28 ± 7 days) and menstrual pain is measured by Numeric pain rating scale (NPRS). Women with gastroenterological, urogynecology, autoimmune, psychiatric, and other chronic pain syndromes, childbirth, positive pregnancy tests, intrauterine devices, pelvic surgery, irregular menstrual cycles, or a

pathological history of secondary dysmenorrhea were excluded from the study.

The duration of this study was one month, during which 100 data points were collected from various colleges in Ahmedabad through an online Google Form. The Google Form questionnaire consisted of demographic details and the International Physical Activity Questionnaire.

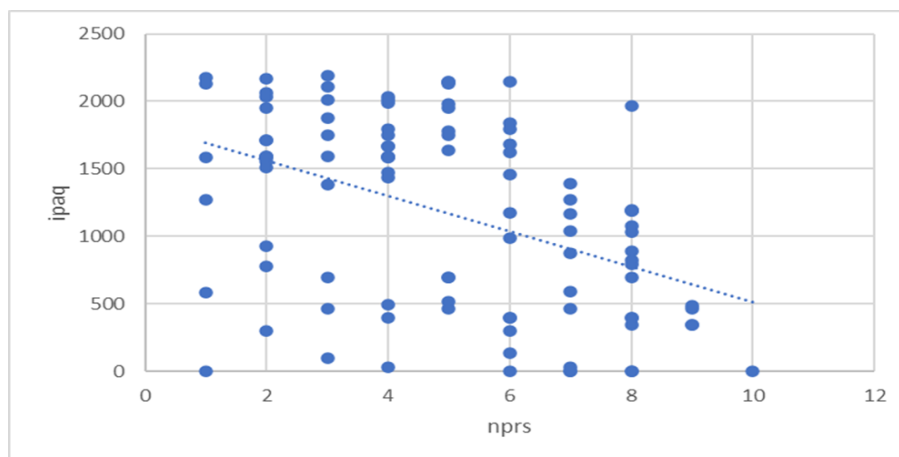
The seven-item, self-administered International Physical Activity Questionnaire assesses a person's level of physical activity over the previous a week. Walking, sitting, moderate exercise, and vigorous activity make up its four domains. Despite being included in IPAQ, sitting is not considered a physical activity in this analysis. The intraclass reliability of the international physical activity questionnaire is ($r=0.80$).

RESULT

SPSS version 29 was used for data analysis. Normality of data was checked by Kolmogorov-Smirnov test. Non parametric test was applied using spearman rho to find the correlation between international physical activity questionnaire (IPAQ) and numeric pain rating scale (NPRS). There is significant negative correlation ($r=-0.436$, $p<0.001$)

Correlation between IPAQ and NPRS table.1

TEST	N	R	P value
Spearman's RHO correlation	100	-0.436	P<0.001



Graph 1 correlation between IPAQ and NPRS

DISCUSSION

Uterine pain that occurs just before or during the onset of menstruation and lacks obvious clinical symptoms is known as primary dysmenorrhea etiology. It falls within the categories of a syndrome that is medically unexplained and multifactorial disorder. A few risk factors associated with primary dysmenorrhea include younger age, low body mass index (BMI), smoking, early menarche, prolonged or abnormal menstrual flow, pelvic infections, previous sterilization, genetic influence, a history of sexual abuse, high caffeine intake, and breakfast consumption.

The current study discovered that there is significant moderate negative correlation found between physical activity and menstrual pain among young women. Sonal Kulshrestha et al (2019) has conducted a study and concluded that, physical activity must be considered as a significant and important risk factor while identifying different types of menstrual disorder.

It has previously been documented that smoking and menstruation discomfort are related and that there is a dose-response relationship. Although the observed relationship with menarche is debatable, women's menstrual discomfort has been linked to both an early and late menarche. The fact that lengthier menstrual flow, a history of abortions or gynecological diseases, and not using hormonal contraception are linked to higher pain intensity further supports the protective

effect of hormonal contraception against this condition.

According to certain research mild to moderate menstrual discomfort is adequate to diagnose dysmenorrhea. Some people define dysmenorrhea as menstruation pain that is linked to "the incapacity to function properly and the necessity for medicine." The current study discovered that the degree of menstrual pain does not correspond with the requirement for medicine or the incapacity to work regularly, which is a significant difference between these two criteria.

The current study found that between 32 and 40 percent of the women reported experiencing poor social functioning or absenteeism due to menstruation discomfort, while about 55 percent of the women reported having to take medication for their pain. About 25% of people have dysmenorrhea, which is defined as menstruation pain, absenteeism, and the need for medicine. This is the full picture of the condition. Estimates of dysmenorrhea's prevalence will vary depending on how it is defined.

CONCLUSION

The result of the present study suggests that subjects doing physical activity have lower menstrual pain intensity. Intervention like, relaxation technique, stretching, Pilates, yoga and breathing exercise will help to relieve the pain. Future research can do with larger sample size on condition like primary

dysmenorrhea group from different zones of Ahmedabad can be taken. In addition, with other factors affecting stress, working hour and physical activity will be helpful to determine the level of pain in better ways. Further researches can be conducted to see effect of increased physical activity level on pain intensity in primary dysmenorrhea

Declaration by Authors

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