

Correlation of Kinesiophobia and Physical Activity Level Among Individual with Primary Dysmenorrhea

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ABSTRACT

Introduction: Primary dysmenorrhea is most common complaint in women's medicine. More than 50% of women who have menstrual bleeding have a painful menstruation. Persistence primary dysmenorrhea has direct impact on everyday activity, physical performance and show avoidance response to coping with pain causing fear of movement known as kinesiophobia. Therefore, the objective of study is to find correlation between kinesiophobia and physical activity level.

Materials and Methods: An observational study was conducted on females between age group of 18-24 years from various colleges of Ahmedabad city. Tempa scale of kinesiophobia (TSK) and international physical activity questionnaire (IPAQ) was filled by 111 individuals with primary dysmenorrhea and submitted through google form. Ethical clearance has been taken.

Result: SPSS version 20 was used for statistical analysis. There is significant negative correlation found between kinesiophobia and physical activity level ($r = -0.278$; $P = 0.003$).

Conclusion: - The result of the present study suggests that subjects of primary dysmenorrhea with higher physical activity level have lower kinesiophobia.

Keywords: Primary Dysmenorrhea, Kinesiophobia, Physical Activity Level.

INTRODUCTION

Dysmenorrhea is a common gynecological condition causing excruciating menstrual cramps that originate in the uterus. Primary and secondary dysmenorrhea are the two subtypes of the condition. Menstrual discomfort without any pelvic disease is referred to as primary dysmenorrhea. Elevated endometrial prostaglandin levels and its metabolites are the underlying cause of these symptoms.⁽¹⁾ The incidence increases with age and is highest in young women.⁽⁴⁾ 84.2% of college-bound girls between the ages of 18 and 25 reported having dysmenorrhea.⁽³⁾ The most prevalent symptom is pain, which is situated in the lower abdomen and resembles labor pain.

Pain may also radiate to the thighs, lower back, suprapubic area, lumbar region, and supraspinatus. Additionally, there may be headaches, nausea, constipation, diarrhoea, incontinence, and vomiting. It typically begins on the first menstrual day and lasts until the third day.⁽⁵⁾

According to a cognitive-behavioral paradigm like the fear-avoidance theory, pain can result in kinesiophobia, a fear of movement that frequently results in long-term restrictions on mobility.⁽²⁾ In addition to the apparent physical issues, dysmenorrhea frequently manifests as behavioural or mental disorders. Physical discomfort and mood swings interfere with regular tasks, leading to serious social

impairments.⁽⁶⁾ Dysmenorrhea affects quality of life and contributes to absence from job and school, which hinders optimal psychosocial and cognitive development in adolescents.⁽⁷⁾

Regular physical activity and exercise have recently been recognized as efficient ways to cure and prevent dysmenorrhea.⁽⁸⁾ According to earlier research, the exercise group had much less indications and symptoms of dysmenorrhea than the sedentary group.⁽⁹⁾ On the other hand, a another research looking at how exercise affects cramping discomfort found no significant difference after aerobic activities.⁽¹⁰⁾ Exercise improves physical symptoms by lowering renin levels, raising estrogen and progesterone levels, and decreasing serum aldosterone levels.⁽¹¹⁾

Hormonal imbalances brought on by a sedentary lifestyle, increased task stress, and decreased physical exercise have a significant impact on our bodies. In order to better understand the relationship between physical activity level and kinesiophobia in primary dysmenorrhea among college-bound students, the study has focused on this relationship.

MATERIALS & METHODS

Following approval from the institutional ethical committee, an observational study was conducted using purposive sampling on nulliparous females aged 18–24 years with a regular menstrual cycle (28 ± 7 days) and menstrual pain higher than 4 mm according to the Visual Analogue Scale (VAS) for the last 6 months. Women with gastroenterological, urogynecological, 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 (December 1 to December 31), during which 111 data points were collected from various colleges in Ahmedabad through an online Google Form. The Google Form questionnaire consisted of demographic details, the Tempa scale, and the International Physical Activity Questionnaire.

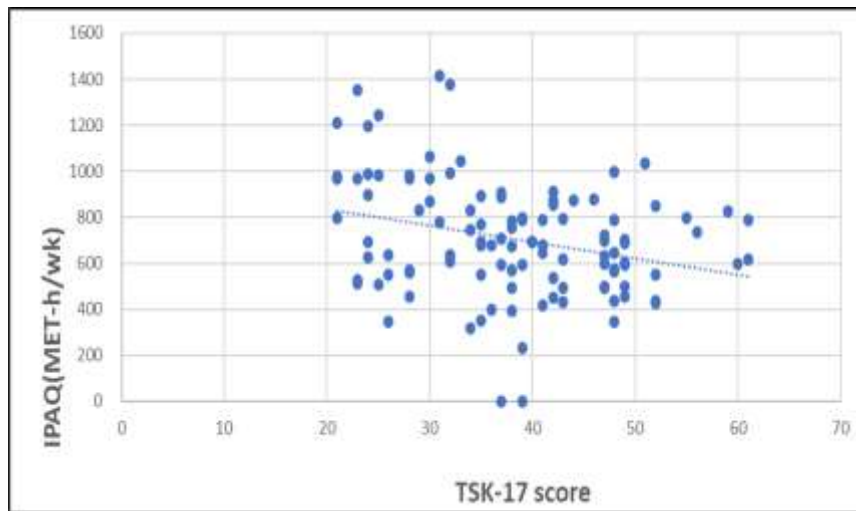
The Tampa Scale for Kinesiophobia (TSK-17) quantifies fear of movement. Its total scores range from 17 to 68, where the lowest score of 17 means no or negligible kinesiophobia and the higher scores indicate an increasing degree of kinesiophobia. Tampa scale of kinesiophobia-17 has a (test-retest reliability = 0.887)⁽¹²⁾

The International Physical Activity Questionnaire is a seven-item, self-administered tool that evaluates an individual's physical activity during the past seven days. It has 4 domains, which consist of vigorous activity, moderate activity, walking, and sitting. Although sitting is part of IPAQ, this information is not analyzed as part of physical activity. International physical activity questionnaire has a (intra-class reliability $r=0.80$).⁽¹³⁾

RESULT

Statistical analysis was performed on 111 female participants using SPSS version 20 for data analysis. Normality of data was checked by using Shapiro-wilk test. As per analysis the data was not normally distributed and a non-parametric spearman's correlation test was used and p value <0.05 is considered statistically significant.

A weak negative significant correlation was found between kinesiophobia and physical activity level ($r= -0.278$; $p= 0.003$).



Graph 1 correlation of kinesiophobia with physical activity

Spearman's correlation	Mean±SD	r-value	P value
Kinesiophobia	38.12±0.95	1.000	0.03
IPAQ	708.52±23.98	-0.278	0.03

Table 1 correlation of kinesiophobia with physical activity

DISCUSSION

Primary dysmenorrhea is a uterine pain that occur just before or during the start of menstruation and have no apparent clinical etiology. It can be categorized as a multifactorial disorder and a medically unexplained syndrome. Younger age, low body mass index (BMI), smoking, early menarche, prolonged or aberrant menstrual flow, pelvic infections, prior sterilization, genetic influence, a history of sexual abuse, high caffeine intake, and breakfast consumption are a few risk factors linked to primary dysmenorrhrea.

The current study discovered a marginal but significant relationship between kinesiophobia and level of exercise. 111 data points revealed that people who engaged in more physical exercise displayed less kinesiophobia. Similar to the current study, Filiz Altug ae et al.⁽¹⁴⁾ investigated the association between kinesiophobia, physical activity level, and quality of life in low back pain patients and discovered a negative correlation ($r = -0.096$) between the two variables. For those with primary dysmenorrhrea, removing the fear of movement will increase physical activity levels and enhance quality of life. According to a study by Noorbaksh Mahwal et al.,⁽¹⁵⁾ regular physical activity

significantly decreased the amount of drugs taken ($p= 0.01$), the volume of bleeding ($p\# 0.002$), the rate of bleeding ($p= 0.005$), the duration of menstrual pain ($p= 0.001$), and the intensity of past and present pain ($p= 0.01$, $p= 0.05$). Therefore, minimizing the negative effects of primary dysmenorrhrea.

CONCLUSION

This study finds a direct relationship between persistent primary dysmenorrhrea and daily activities, physical performance, and the avoidance reaction to pain management that results in a fear of movement. The current study's findings thus imply that participants with primary dysmenorrhrea who engage in more physical exercise had lower kinesiophobia. The present study has some limitations, including the fact that the daily activities of the students were not taken into consideration. Further researches can be conducted to see effect of increased physical activity level on pain intensity in primary dysmenorrhrea.

Declaration by Authors

Ethical Approval: Approved

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