

Original article:

Dysmenorrhea and its association with stress among female students of Kathmandu Medical College

Karki Prabin Kumar¹, Rai Chandra Kala², Kharel Sushil³, Khakurel Gita⁴

¹Department of Physiology, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal

²Department of Physiology, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal

³Department of Physiology, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal

⁴Department of Physiology, Kathmandu Medical College and Teaching Hospital, Kathmandu, Nepal

Corresponding author: Dr. Prabin kumar Karki

Abstract

Introduction: Dysmenorrhea is one of the common gynecologic problems among female students. It results in long resting period and regular school/college absenteeism among that age group. Dysmenorrhea among female medical students may be associated with high stress level.

Aims & Objectives: To assess the relationship between the degree of stress and incidence of dysmenorrhea among the female students of Kathmandu Medical College.

Material & Methods: A cross-sectional study was conducted among 171 female first year and second year MBBS, BDS and BSc Nursing students of Kathmandu Medical College, Duwakot. A questionnaire containing anthropometric data and menstrual history along with the PSS(perceived stress scale) was provided to participating students. Students t-test and chi-square test were used to compare and find association between parameters.

Result: Out of 171 students, 92 (53.8%) were suffering from dysmenorrhea. Although PSS (perceived stress scale) score was high among students with dysmenorrhea than normal menstruation, it was not statistically significant ($P>0.05$). No association was found between dysmenorrhea and severity of stress scale.

Conclusion: Since association could not be found between high stress score and dysmenorrhea, there may be other influencing factors in menstrual function which have to be studied further.

Key words: Dysmenorrhea, stress, medical students

Introduction

Dysmenorrhea is a cramping type of pain that is felt around the lower abdominal area, originating just before or during the onset of menstruation and subsides after 2 to 3 days. It is normally associated with other symptoms like nausea, vomiting headache, lightheadedness, diarrhea and leg pain.^{1,2} It is one of the common gynecologic problem among female adolescents. It represents one of the important causes

of long resting period and regular school/college absenteeism among that age group.^{3,4}

Mental stress is one of the important cause of primary dysmenorrhea among young females.⁵ There appears to be an association between severity of the stress and the frequency of females who suffer from dysmenorrhea. But it has been difficult to find a level of stress which interferes with their normal menstrual cycle.^{6,7}

A large number of young females studying in medical colleges are under regular pressure of medical studies and exam. There have been only few researches on stress induced dysmenorrhea among female medical students of Nepal.

Aims & Objectives

This study aims to assess the relationship between the degree of stress and incidence of dysmenorrhea among the female students of Kathmandu Medical College.

Material & Methods

This cross-sectional study was conducted among female first year and second year MBBS, BDS and BSc Nursing students of Kathmandu Medical College, Duwakot, Bhaktapur from March to May 2017. Healthy 171 students aged above 18 years were included in the study. The students with ongoing medical illness, primary amenorrhea and history of pelvic pathology were excluded from the study.

The participating students were properly explained about the research and consent form was signed. Ethical clearance for the study was obtained from Institutional Review Committee, Kathmandu Medical College. A questionnaire containing anthropometric data and menstrual history along with the PSS(perceived stress scale) was provided to participating students. PSS was calculated for each subject.

The PSS is widely used psychology assessing tool for measuring the perception of stress⁸. The 10 questions in this scale asks about subjects feelings and thoughts during the last month, where

0 = Never 1 = Almost Never 2 = Sometimes
3 = Fairly Often 4 = Very Often

PSS scores were obtained by reversing responses (0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated questions (4, 5, 7, & 8) and then adding up scores of all questions. Scores ranging from 0-13 was considered as low stress, 14-26 as moderate stress and 27-40 as high perceived stress.

Statistical analysis was performed by SPSS version 23 and the results were expressed as percentage and mean \pm standard deviation (SD). Students t-test and chi-square test were used to compare and find association between parameters.

Observations & results

The age of the students was between 18 to 23 years with mean age of 19.81 ± 1.05 years. Out of 171 students, 92 (53.8%) students said they were suffering from dysmenorrhea [Figure 1]. Although PSS (perceived stress scale) score was high among students with dysmenorrhea than normal menstruation, it was not statistically significant ($P > 0.05$) [Table 1]

The chi- square test was applied and no association was found between dysmenorrhea and severity of stress scale [Table 2].



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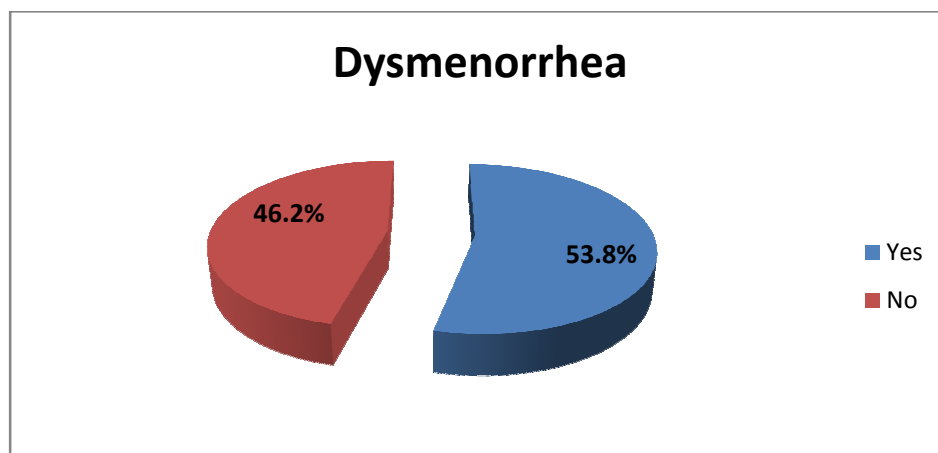


Figure 1. Prevalence of dysmenorrhea among female students

Table 1. PSS score among female students with dysmenorrhea and normal menstruation

Dysmenorrhea	N	Mean stress score	Std. deviation	Range	Students t-test
Yes	92	22.32	5.850	10-39	P>0.05
No	79	20.81	5.323	9-33	
Total	171	21.62	5.647	9-39	

Table 2. Severity of stress level among female students according to PSS score range

		Low Stress (0-13)	Moderate stress (14-26)	High stress (27-40)	Total	Chi Square test	
Dysmenorrhea	Yes	Count	5	67	20	P>0.05	
		% of Total	2.9%	39.2%	11.7%		53.8%
	No	Count	11	56	12		79
		% of Total	6.4%	32.7%	7.0%		46.2%
Total	Count	16	123	32	171		
	% of Total	9.4%	71.9%	18.7%	100.0%		

Discussion

In this study, we tried to find an association between perception of stress and incidence of dysmenorrhea among female students of Kathmandu Medical College. Dysmenorrhea among female medical students affects their daily study.⁴ Incidence of dysmenorrhea in present study (53.8%) was slightly higher than other similar studies done in past.^{5,9} In the present study mean perceived stress score among students with dysmenorrhea (22.32 ± 5.850) was not significantly higher than students with normal menstruation (20.81 ± 5.323), $P > 0.05$. This was in contrast to similar studies done in the past.^{5,10,14} Various researchers have identified stress as one of the important factors causing menstrual irregularities.^{11,12}

In this study 123(71.9%) students had moderate stress scale and 32(18.7%) students had high perceived stress scale. The chi-square test was applied and no

association was found between incidence of dysmenorrhea and severity of stress scale. This result was in agreement with other researchers who could not find association between dysmenorrhea and stress.^{9,13} However Wang L et al⁴ and Masoumeh Kordi et al¹⁴ found association between high stress level and incidence of dysmenorrhea.

Although some studies showed association between stress and dysmenorrhea, researches done in past has not established a definite relationship. This research too could not establish a relation of high perceived stress and dysmenorrhea although large number of students had moderate and high stress scale.

Conclusion

In spite of high stress levels among female students, we could not find its association with incidence of dysmenorrhea. There may be other influencing factors in menstrual function which have to be studied further.

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