A Cross-Sectional Survey on Menstrual Problems Among Students of Selected Schools in Kerala

S. Bismis Urumi

Research Scholar, Department of Nursing, Shri Venkateshwara University, Amroha, India

Abstract: **This paper presents an overview on a cross-sectional survey on menstrual problems among students of selected schools in Kerala.**

Keywords: **cross-sectional survey, menstrual problems, students**

1. Introduction

Menstrual cycles often bring about a variety of uncomfortable symptoms leading up to your period. Premenstrual syndrome (PMS) encompasses the most common issues, such as mild cramping and fatigue, but the symptoms usually go away when your period begins. However, other, more serious menstrual problems may also occur. Menstruation that is too heavy or too light, or the complete absence of a cycle, may suggest that there are other issues that are contributing to an abnormal menstrual cycle. Remember that a "normal" menstrual cycle means something different for every woman. A cycle that's regular for you may be abnormal for someone else. It's important to stay in tune with your body and to talk to your doctor if you notice any significant changes to your menstrual cycle.

Dysmenorrhea which is one of the most common gynecologic complaints in young women who present to clinicians can be defined as difficult menstrual flow or painful menstruation Premenstrual syndrome (PMS) is the name given to a collection of physical and psychological symptoms that some women experience during the late luteal phase of each menstrual cycle (7 to 14 days prior to menstruation). Although various etiologies of premenstrual syndrome such as elevated prolactin levels, hypoglycemia or vitamin deficiencies have been proposed, none of these theories has been definitively proven.

The prevalence of primary dysmenorrhea decreases with increasing age; prevalence is highest in the 20 to 24 year old age group and decreases progressively thereafter. On the other hand, premenstrual syndrome is a multifactorial syndrome that affects adolescent girls with a high frequency. It affects millions of women during their reproductive years. Both dysmenorrhea (usually of the primary type) and PMS are common problems and have negative effect on a woman's life Making the diagnosis of PMS has been problematic, since its specific etiology is unknown and there is no objective marker which can quantitate the existence or the severity of symptomatology or even the objective response to therapy. The diagnostic and statistical manual of mental disorders (DSM-IV) classified PMS as a mental disorder and termed it the premenstrual dysphoric disorder (PMDD). Our study used the diagnostic criteria proposed by DSM-IV to diagnose PMS. Menstrual problems affect not only the woman, but also family, social and national economics as well. Therefore, this study will come up with the magnitude of menstrual problems and associated factors at the university level.

2. Methodology

- *Study design:* quantitative cross-sectional design was used
- *Study area and Period:* The study was conducted from May 01 to 30, 2015 in selected higher secondary schools in Kerala
- *Sampling:* sample size was 200 female students studying in selected higher secondary schools in Kerala

A. Sampling technique

The study subjects were selected by simple random sampling technique from each faculty.

B. Data collection

A pre-tested, structured and self-administered questionnaire was used to collect the data. It was prepared in English then translated to Amharic and again back to English. Questions in relation to socio- demography, Environmental/ behavioral, Obstetric/Gynecologic information were included. Data was collected by distributing the pretested, structured questionnaire to each respondent after we got oral consent and voluntariness from each respondent. Explanation on the objective of the study, relevance of the study and how to fill the questionnaire to the study subjects was given before they filled the questionnaire. Participants' privacy and confidentiality of the information was maintained by using anonymous type of self-administered data collection tool. Verbal consent was obtained from each participant to ensure their voluntariness to participate

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127

in the study. Respondents had given the right to put an end for the question or segment of questions or refuse to participate at all. After data collection, health education on the normal physiology of menstruation and menstrual problems was given for the study subjects by the investigator.

Data Analysis: Data was entered and analyzed using SPSS version 16.0 windows. The univariate analyses (proportions, percentages, and ratios) had been displayed. The logistic regression (unconditional), in both the classical bivariate analyses and multivariate analysis, was considered. The technique was backward stepwise regression. The unadjusted (crude) and adjusted odds ratios together with their corresponding 95% confidence interval had been computed. A p-value ≥ 0.05 was considered statistically significant in this study. Efforts were made to assess whether the necessary assumptions for the application of multiple logistic regression were fulfilled. For this, the Hosmer and Lemeshow's goodness-of-fit test was considered. A good-fit as measured by Hosmer and Lemeshow's test will yield a large P-value.

3. Results

The result revealed that age of respondents ranges between 14 to 17 years with the mean age of 16 years. Most (79.6%) of the respondents were Hindus in religion. Most (94.6%) of them were single in marital status. The educational status of parents was majority (33.2%) graduates. The age at menarche ranged between 10 and 16 years with mean of 14.7 ± 1.6 years. Menstruation was irregular in 46.2% of the respondents. This study revealed that few (3.8%) of the respondents had menstrual cycle length of shorter than 21 days and the majority (81.3%) of them had between 21 and 35 days, inclusively.

The overall prevalence of dysmenorrhea (which is assumed to be primary dysmenorrhea since secondary dysmenorrhea is rare at this age) was 81.2%. The number of respondents who had reported PMS (at least one symptom 1-8 days prior to menstruation in the last 12 months) was (62.7%). Among these, only (29.6%) of them had fulfilled the diagnostic criteria for PMDD. Higher proportion of respondents who had PMS also suffer from dysmenorrhea (83.7%), compared to those who had not PMS (67.3%). The most common five symptoms felt by dysmenorrheic respondents during dysmenorrhea were stomach cramp (80.8%), depression (56.2%), fatigue (53.5%), backache (55.2%), and bloating (40.9%).

The most common five psycho-behavioral premenstrual symptoms reported by the respondents were irritability (44.8%), fatigue (38.7%), depression (56.3%), anxiety/tension (43.7%) and social isolation/withdrawal. The five most common physical premenstrual symptoms reported by the respondents were breast tenderness (42.3%), bloating (43.5%), acne (36.7%), headache (29.8%), and joint or muscle pain (18.9%). About 43.2% of the respondents participated in physical exercise.

During the multivariate analysis of dysmenorrhea in relation to all exploratory variables, only two of the most contributing factors remained to be statistically significant and independently associated with the presence of dysmenorrhea (at 0.05 level of significance). During the multivariate analysis of PMS in relation to all exploratory variables, only five of the most contributing factors remained to be statistically significant and independently associated with the presence of PMS (at 0.05 level of significance). It showed that the present parsimonious model adequately fits the data for dysmenorrhea and PMS as P-value from Hosmer and Lemeshow test was 0.673 and 0.729, respectively.

4. Discussion and conclusion

The overall prevalence of dysmenorrhea (which is assumed to be primary dysmenorrhea since secondary dysmenorrhea is rare at this age) was 79.6% and according to the multidimensional scoring system of dysmenorrhea, the proportion of severe, moderate and mild dysmenorrheic respondents were 14.2%, 38.2%, and 47.5%, respectively. It is relatively higher than other existing studies. Family history of dysmenorrhea was an important predictor for the presence of dysmenorrhea. It was found that those respondents who have family history of dysmenorrhea were 4 times more likely to have dysmenorrhea compared to those who do not have family history of dysmenorrhea. Menstrual regularity was one of the factors associated with the presence of PMS. Those students who had irregular menstruation were 1.87 times more likely to have PMS compared to students who had regular menstruation. An educational status of the parents with degree and above is most likely to reduce PMS in their daughters by 55% than illiterate parents.

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128

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