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## Dysmenorrhea in adolescence-biophysical and bio-chemical integrative understanding

**Dr. Bishnupriya Mohanty, Manjusha Patil and Sangram Keshari Das**

### Abstract

It is estimated that more than half of all the women in adolescence age suffer from dysmenorrhea and it interferes with their daily emotional and physical aspects. Hence it is the leading cause of school absenteeism. Dysmenorrhea is an important health problem of adolescents in school as well as health practitioners. The main aim of this study is to measure the prevalence of dysmenorrhea, access the impacts of dysmenorrhea and self management strategies.

A cross sectional study was done from 5th October 2021 to 18th October 2021 on female college going students across Goa.

More than 2/3rd of the respondents were medical students and remaining were non- medical students. The prevalence of dysmenorrhea was 74.2%. These students had pain whereas 25.8% didn't experience pain. About more than 50% reported that they don't have any family history of dysmenorrhea. About 28.6% reported pain 1 or 3 days before menstruation, 54% onset of menstruation pain starts, 15.9% no pain and remaining pain is 4 to 7 days before menstruation. About 50.8% have cramps, 31.7% have dull pain, remaining have radiating cramps, leg pain, back pain etc. Most of them 39.7% say pain gets relieved on 3rd day, 31.7% say on 2nd day, 9.5% on onset of menstruation and remaining once bleeding stops, 2 hours of menstruation. About 63.5% have lower abdomen pain, 15.9% back pain, 9.5% whole abdomen pain and remaining calf, back of thigh, leg pain. About 87.3% students don't take any medications and 12.7% take medications.

**Keywords:** Dysmenorrhea, kashtartava, cross sectional study

### Introduction

The term dysmenorrhea refers to severe painful cramping pain in lower abdomen often accompanied by sweating, headache, vomiting, Diarrhea, nausea, fatigue just before or during menses. It is a common gynecological problem among adolescent females. Menstrual period is a natural phenomenon which occurs throughout the reproductive years. Most females experience certain degree of pain and distress during their menstruation. Dysmenorrhea is a painful sensation. It is categorized into 2 types: - Primary and Secondary. Primary dysmenorrhea is defined as painful menses with normal pelvic anatomy frequently beginning during adolescents.

Secondary dysmenorrhea is a menstrual pain associated with underlying pathology and its onset might be years after menarche.

Due to its importance different treatments are used such as NSAIDS, herbal, dietary therapies, yoga, meditation and acupuncture have been used to lessen the effect of dysmenorrhea. Several studies have shown that prevalence of dysmenorrhea varies greatly depending upon methods of data collection. According to a study done in Jordan the prevalence of dysmenorrhea was 90.1%. In china, dysmenorrhea occurred about 37%. The symptoms of dysmenorrhea may begin a few hours before menstruation begins and may peak during the heaviest flow too. The most common symptoms are stomach cramps, backache and mood change. Younger age, low body mass index, smoking, early menarche, prolonged menstrual flow, premenstrual somatic changes, pelvic infections, psychological disturbance, genetic influence and a history of sexual assault influence the prevalence and severity of dysmenorrhea. A study conducted in Jordan indicated that underweight having a low family income, living in a rural area and family history of dysmenorrhea were associated with dysmenorrhea. A study conducted in Vietnam showed mean age and age at menarche, educational status and religion were associated with dysmenorrhea.

A study conducted in Turkey showed that dysmenorrhea was significantly higher in coffee consumers, females with menstrual bleeding duration greater than 7 days and those who had family history.

### Dysmenorrhea in Ayurveda

In Ayurveda all the gynecological disorders are well explained in a separate chapter called Yoni Vyapad which consists of 20 gynecological diseases. Dysmenorrhea is termed as Kashtartava in Ayurveda and mentioned not as a disease but as a symptom in many of the gynaecological disorders. Aggravated Vata Dosha is the cause for all types of pain in the body. Apana vata (subtype of Vata) which is responsible for normal regulation of menstruation gets disturbed due to some causative factors and Vata gets vitiated<sup>[1]</sup>. This causes painful menstruation.

### Reference of Kashtartava in Ayurveda Texts

The features of Kashtartava are mentioned as symptom in many of the Yonivyapad. Some of them along with their Lakhshanas (symptoms) are as follows<sup>[2,3]</sup>:

#### Vatika Yoniroga

When Vata constitution women resorts to food and regimen which causes aggravation in Vata then this Apana Vata gets aggravated. Symptoms are pain, stiffness, a sensation of ants crawling, dryness around areas near to vagina. Because of Vata aggravation there is untimely menstruation which is frothy, thin and un-unctuous and is associated with pain and sound. It can be closely related to primary dysmenorrhea<sup>[4,5]</sup>.

#### Udavartini Yonivyapad

Due to suppression of natural urges like flatus etc. it moves in reverse direction, the aggravated Vata (Apana vata) instead of normal downward movement moves upward and fills the yoni (uterus). This yoni pushes the rajas (menstrual blood) upwards and fills with pain. The women feel immediate relief from pain when the menstrual blood is discharged. Besides the painful and frothy menstruation associated symptoms are body ache and malaise. This is closely related to primary dysmenorrhea<sup>[6]</sup>.

#### Antarmukhi Yonivyapad

When women after heavy meals indulges in sexual intercourse or sleep in improper position then the Vata situated in reproductive organs gets pressed by food and causes crookedness of cervix or uterus. She suffers from pain caused by the vitiated Vata near the vagina/uterus i.e. bones and muscles near the pelvic cavity. She also suffers from dyspareunia (pain during sexual intercourse). This can be closely related to retroverted uterus and cause secondary dysmenorrhea<sup>[7-9]</sup>.

#### Suchimukhi Yonivyapad

Acharya Charaka had described this as a congenital disease. When the pregnant woman indulges in Vata increasing regimen; then it leads to aggravation of Vata Dosha and, the genital organs of the female fetus in the womb of the mother become narrow or stenosed. This can be related to the cervical stenosis and cause secondary dysmenorrhea<sup>[10]</sup>.

#### Mahayoni yonivyapad

According to Acharya Charaka, this condition is caused when the women indulges in sexual intercourse in uneven bed that makes Vata aggravates which affects the uterus.

Symptoms are stiffness in the orifice of uterus and cervix, dysmenorrhea, discharge of menstrual blood which is dry and frothy, muscular protuberance in the vagina, pain in the groins, excessive dilatation of the uterus orifice. This can be closely related to prolapsed of uterus (procidentia) and cause secondary dysmenorrhea<sup>[11-17]</sup>.

### Artavakshaya

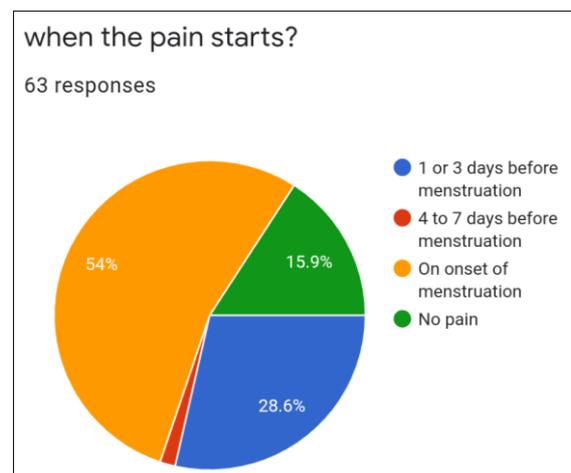
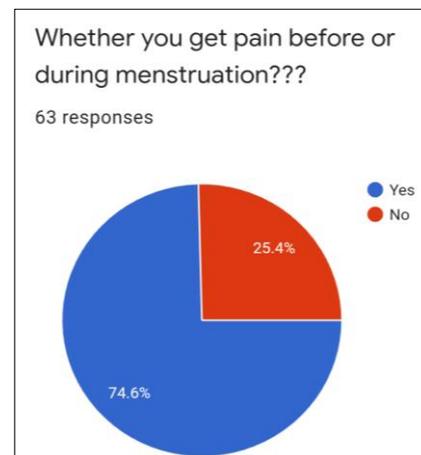
This is a condition with several features of Vata vitiation i.e. irregular menstruation, scanty menstrual blood with dysmenorrhea. This can be closely related to primary dysmenorrhea due to nutritional deficiency<sup>[18-21]</sup>.

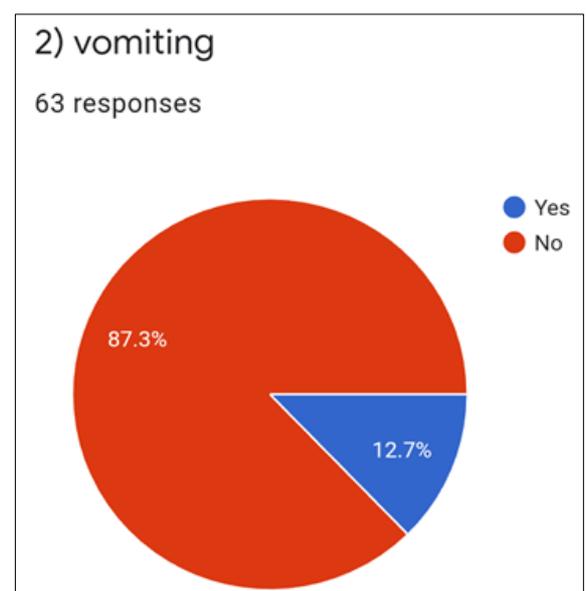
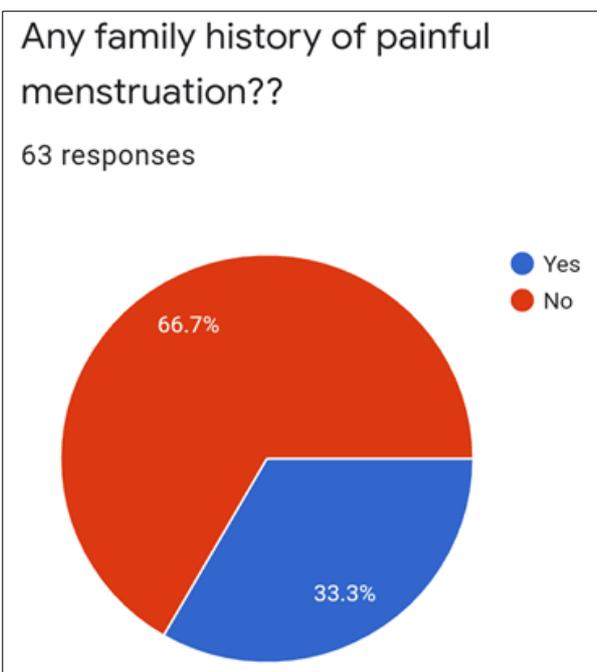
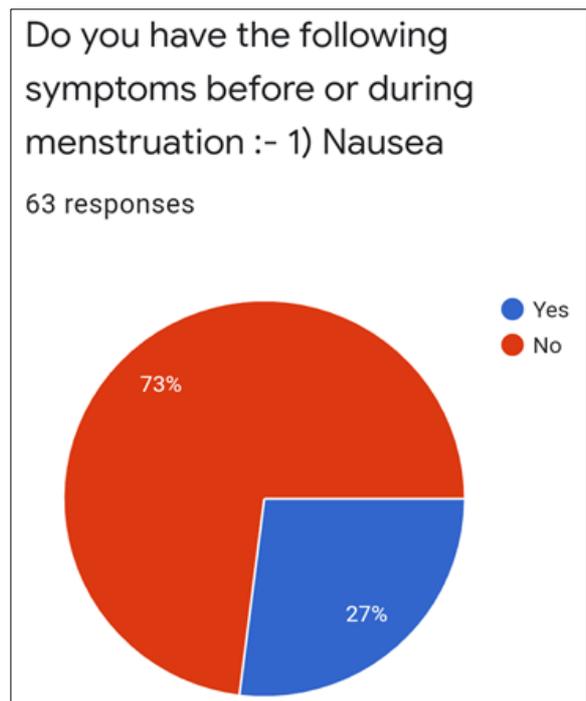
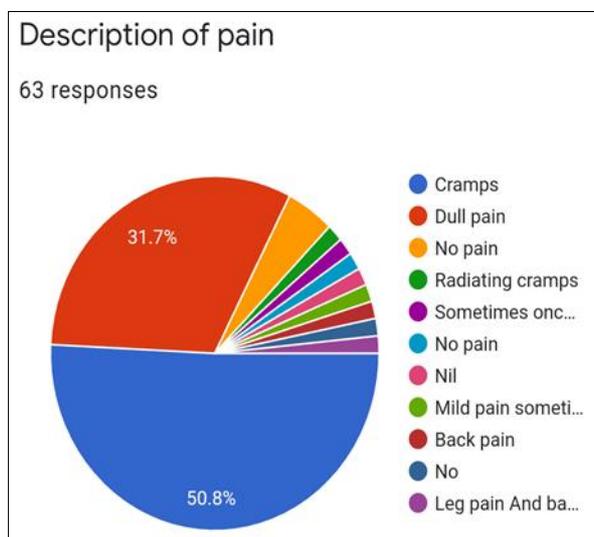
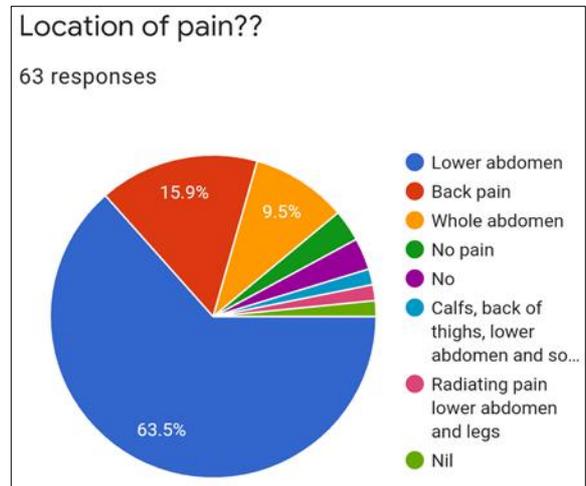
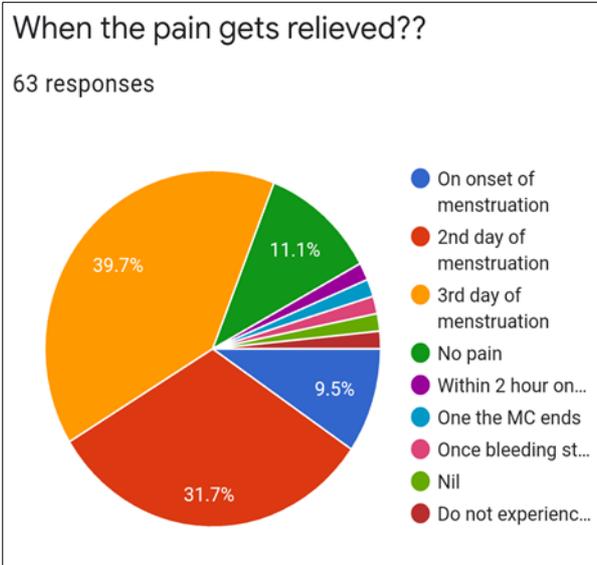
### Method

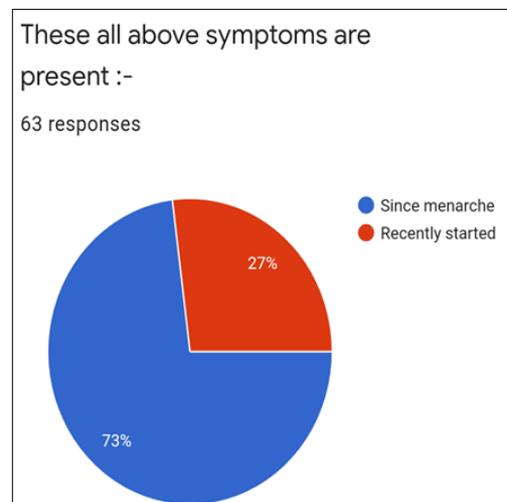
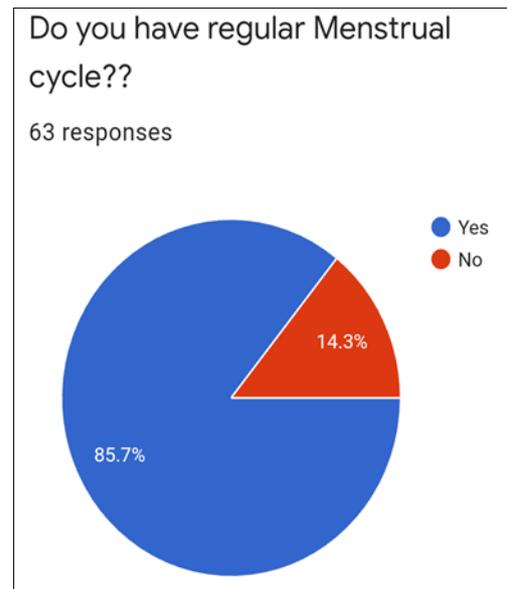
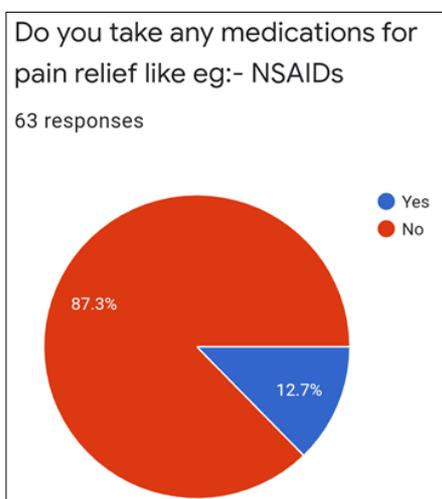
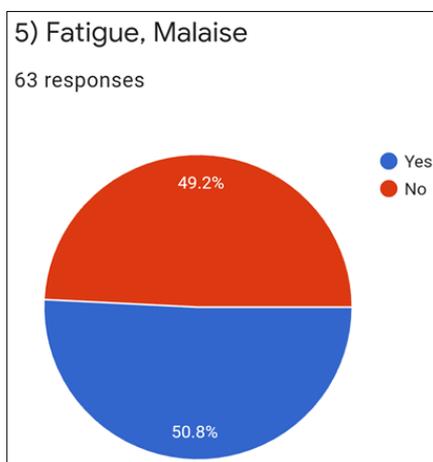
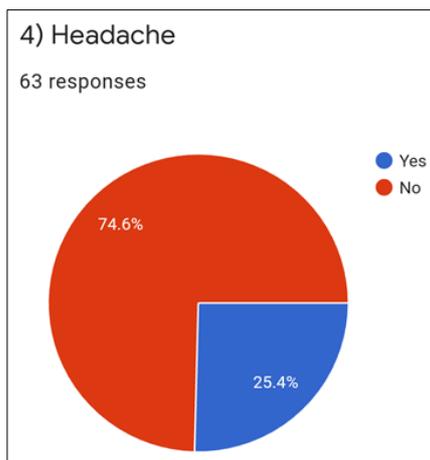
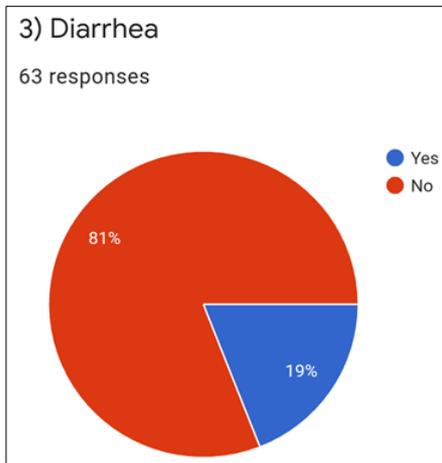
A cross sectional study was conducted from 5th October 2021 to 18th October 2021 in colleges. There were total 80 female students for this survey. Considering the responses, 50% expected prevalence of dysmenorrhea were there. Total 63 students were there. A two step stratified random sampling technique was used to study participants. Sampling from each department and then sampling from different class or academic year. Pretested, self administered, semi structured questionnaire was prepared which was in English was used to collect the data. Consent was taken from each participant. Data was collected and formed in a form of table and presented here.

### Results

Out of 80 participants, 63 were successful to complete the questionnaire. Remaining failed to complete the questionnaire. The mean age of the participants was 15 years to 25 years age group.







**Conclusion**

In this study, the overall prevalence of dysmenorrhea among the adolescents was found to be moderate. About 33% of the participants stated that they have family history of dysmenorrhea. About half of the participants stated that the pain starts to occur on onset of menstruation and continuous type of pain which lasts for 1 or 3 days. Most of adolescents have Primary Dysmenorrhea. Half of the participants have fatigue during menstruation.

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