

# Prevalence and Severity of Dysmenorrhea during Menstruation in Adolescent Girls in a Tertiary Care Hospital, Koshi Region (Northern Bihar), India

Shashi Kiran<sup>1</sup>, Ashish Kumar<sup>2</sup>, Ramanand Kumar Pappu<sup>3</sup>, Chandan Kumar Poddar<sup>4</sup>, Maheshwar Narayan Singh<sup>5</sup>

<sup>1</sup>Assistant Professor, Department of Obstetrics and Gynaecology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar. <sup>2</sup>Assistant Professor, Department of Obstetrics and Gynaecology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar. <sup>3</sup>Associate Professor, Department of Microbiology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar. <sup>4</sup>Assistant Professor, Department of Microbiology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar. <sup>5</sup>Professor, Department of Microbiology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar.

## ABSTRACT

### BACKGROUND

Almost a quarter of India's population comprises of girls below 20 years. One of the major physiological changes that take place in adolescent girls is the onset of menarche, which is often associated with problems of irregular menstruation, unwarranted bleeding, and dysmenorrhea. We wanted to evaluate the prevalence, severity, knowledge aspect of treatment and impact of dysmenorrhea in females of reproductive age group in a tertiary care teaching hospital in Koshi Region (Northern Bihar) India.

### METHODS

This was a survey based, cross sectional study conducted over a period of six months from June 2019 to January 2020. After obtaining consent, the study included 100 women in the age group of 18-28 years, studying or functioning (general college, college students and nursing students and personnel) in the Department of Obstetrics and Gynaecology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar, and Associated Hospital of Bihar. Patients suffering from DM, HTN. Renal disorders and hepatic disorders were excluded from the study.

### RESULTS

In this study it was found that they often use over the counter pain medication. Those who self-medicated with over the counter preparations use sub beneficial dose and of substandard drugs. By experience they knew that which medicine could relieve dysmenorrhea. Dysmenorrhea is a common gynaecological problem among adolescents in Saharsa, Bihar.

### CONCLUSIONS

Dysmenorrhea is common gynaecological problem among adolescents in Saharsa, Bihar. Mild and moderate dysmenorrhea do not cause absenteeism from school, college and work place. In this study only 6% were absent from school, college or work place during menstruation. But several studies had reported 34 to 50% absenteeism from school, college or work place During menstruation.<sup>13,14</sup> Adolescent girls, almost always, silently suffer the pain due to dysmenorrhea and the embarrassment associated with it due to lack of knowledge about reproductive health.

### KEYWORDS

Adolescent Girls, Dysmenorrhea, Physiological Symptoms

*Corresponding Author:*

*Dr. Ashish Kumar,  
Assistant Professor,  
Department of Obstetrics and  
Gynaecology,  
Lord Buddha Koshi Medical College and  
Hospital, Saharsa, Bihar.  
E-mail: chandan\_mmb@yahoo.com*

*DOI: 10.18410/jebmh/2020/120*

*Financial or Other Competing Interests:  
None.*

*How to Cite This Article:*

*Kiran S, Kumar A, Pappu RK, et al.  
Prevalence and severity of dysmenorrhea  
during menstruation in adolescent girls in  
a tertiary care hospital, Koshi region  
(northern Bihar), India. J. Evid. Based  
Med. Healthc. 2020; 7(11), 548-552.  
DOI: 10.18410/jebmh/2020/120*

*Submission 17-02-2020,  
Peer Review 19-02-2020,  
Acceptance 02-03-2020,  
Published 13-03-2020.*



## BACKGROUND

Puberty is a progression period from childhood to adulthood and is associated with physical, endocrinal, emotional, and mental growth, with a change from complete dependence to comparative independence. The period of adolescence for a girl is a period of physical and psychosomatic groundwork for safe motherhood. As the undying reproducers of future generations, the health of adolescent girls influences not only their own health, but also the health of the future population. Almost a quarter of India's population comprises of girls below 20 years. One of the major physiological changes that take place in adolescent girls is the onset of menarche, which is often associated with problems of irregular menstruation, unwarranted bleeding, and dysmenorrhea. Of these, dysmenorrhea is one of the common inconvenience experienced by many adolescent girls. A dysmenorrhea incidence of 33.5% was reported by Nag (1982),<sup>1</sup> among juvenile girls in India. A study done in Sweden<sup>2</sup> showed that more than 50% of all menstruating women experience some discomfort. It has also been reported by a senior obstetrician that probably 5 - 10% of girls in their late teens suffer from severe occasional dysmenorrhea interrupting their educational and social life.<sup>3</sup> Menstrual cramps or agonizing cramps are pain in the lower abdomen, back or upper thigh and if this is severe it is recognized as dysmenorrhea. Pain is the main complaint in lower abdomen which may possibly radiate to thigh etc. and may be associated

With other complaints like nausea, vomiting and diarrhoea. It frequently starts with menstruation and typically last in two or three days. It is estimated to occur in 20% to 90% of women of reproductive age group. In many countries mainly in Asia has introduced formal menstrual leave to afford women with either paid or unpaid leave from their employment. In our state it is known as particular leave for women and it is paid. This practice is controversial due to the fact that while menstruating women work efficiently. And many women do not use this leave. It is more common among those with excessive bleeding, irregular bleeding, and low body weight and whose menstruation started before 12 years of age. And it is less common in those who exercise regularly and those who have children early in life. In recent times concluded that dysmenorrhea (87.87%) is a common problem in India.

Secondary dysmenorrhoea is usually due to pelvic pathology and it is not common in adolescent girls, however some adolescent girls may suffer secondary dysmenorrhoea following pelvic inflammatory disease or an abortion.<sup>4</sup> In Sweden the prevalence was >2-4%. Similar conclusion had been reported by<sup>5</sup> in rural married women of Andhra Pradesh. Dysmenorrhea is not a disease but it has definite negative effects on daily activities and mechanism of women in and out of the home and may deteriorate their living. However, it is often disregarded by many of women and believe the pain as a normal part of the menstrual cycle. Thus, many women fail to report their pain. It is mostly neglected by not only females themselves but also by health

care professionals. Data regards to natural history of dysmenorrhoea over the reproductive age are lacking. So, the current study is planned to evaluate the prevalence, severity, knowledge aspect of treatment and impact of dysmenorrhea in females of reproductive age group in tertiary care teaching hospital in Koshi Region (Northern Bihar) India.

We wanted to study the prevalence of dysmenorrhea in adolescent girls of Northern Bihar and determine severity of the problem with associated symptoms and general health status.

## METHODS

This was a survey based, cross sectional study conducted over a period of six months from June 2019 to January 2020. After obtaining consent, the study included 100 women in the age group of 18-28 years, studying or functioning (general college, college students and nursing students and personnel) in the Department of Obstetrics and Gynaecology, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar, and Associated Hospital of Bihar. The survey was provided to students at class hours while organization to their duty hours. The survey was prepared with reference to previous literature. It includes two parts. First part of the survey includes sociodemographic (age, weight, learning, wedded status, work profile) and medical history (obstetric and gynaecological details). The second part contains Menstrual Distress Questionnaires (MDQ) and visual analogue scale. A modified menstrual suffering survey used to score the severity of dysmenorrhoea was arranged by choosing 18 most relevant questions. Visual analogue scale for pain (VASP)<sup>5</sup> was used to conclude pain throughout menstruation. The VASP Consists of a 10 cm parallel scale divided into 10 parts and marked 1 to 10 from 'no pain' corresponds to '0' from left tremendous to 'worst possible pain' corresponds to '10' on the extreme right. Participants were asked to place a mark on the 10cm line at a point that corresponds to the level of pain wakefulness they usually feel during menstruation. Participants were asked to in sequence the symptoms experienced during their most recent menstrual period. Sample size is calculated as 350 at 95% level of assurance interval with a margin of error 10%.

Obesity (as per WHO norms)- Underweight -BMI less than 18.5, Normal weight -BMI 18.5 to 25, Overweight -BMI 25 to 30, Class 1 obesity -30 to 35., Class 2 obesity 35 to 40, Class 3 obesity 40 and above.

### Inclusion Criteria

- Age between 18 to 28 years.
- Unmarried or nulliparous.
- Non-smoker, non- alcoholic.
- Not taking any medicine.
- Not suffering from any chronic disease.

### Exclusion Criteria

Patients suffering from Hypertension, Diabetes mellitus, chronic renal disease, any neurological disorder and physical disability were excluded from the study.

The following data was collected-

- 1) Details of education-non matric graduate and post graduate or professional.
- 2) Dietary habits vegetarian or non-vegetarian.
- 3) Socioeconomic class,
- 4) Family history of any chronic disease especially dysmenorrhea.
- 5) Physical work and its nature.
- 6) Age of menarche.
- 7) Duration of menstrual cycle.
- 8) Duration of bleeding period.
- 9) History of dysmenorrhea.
- 10) Severity of dysmenorrhea.

**Statistical Analysis**

Analysis was done using descriptive statistics, percentage, mean, standard deviation and chi square test.

**RESULTS**

In our learning 100 women among age group of 18-28 yrs., participate from my clinic after accomplishment their consent. They were not distress from hypertension, Diabetes mellitus renal or hepatic disorders. Factor history was taken. Height and weight were recorded. The mean age was 21.8 yrs. The mean age of menarche was-12.33 yrs., with extreme age-09 to 15 yrs. 66% were non- vegetarian and 34% were vegetarian. 32 subjects i.e. 32% were doing regular exercise for 30 minutes, rest 68 Subjects i.e. 68% were not doing exercise but engaged in household and other physical work and have no time to do regular exercise.

There was no significant difference in the prevalence and severity in both groups. 12 subjects i.e. 6% in this group excessive Bleeding was present and panic of staining of clothes with blood was also a factor to go external for long periods as no laboratory are present at workplaces and schools or colleges with conveniences to change pads. Better hygienic pads and condition of lady’s washroom will certainly advance their malingering from workplaces and schools or colleges.

BMI- 10 subjects i.e. 10% were under weight, 85 subjects i.e. 85% were normal weight, 5 subjects i.e. 4.8% were overweight. No obese subject.

Exercise Habits- 26% regular exercise for 30 minutes, 74% no regular exercise.

Diet habits- Non- vegetarian were 66 subjects i.e. 66%, Vegetarian were 34 subjects i.e. 34%. Socio economic class- 12 subjects i.e. 12% were of high Socio-economic class, Middle class -64 subjects i.e. 64% were of middle socio-economic class, and 24 subjects i.e. were of lower 24% were of middle socio-economic class.

Socio-economic class- High -12%, Middle class -64%, Lower 24%.

Educational qualification- 50 subjects i.e. 25% were non-matric. 41 subjects i.e. 41% were graduate and 34 subjects i.e. 34% were postgraduates and professional.

In our study, mainstream adolescents use non-pharmacological methods such as topical heat application, herbal preparations, yoga, effect with changing results. Some use to take rest while many used to engage themselves in some work for distraction. Some use to take low calorie diet. Many girls either do not seek medical advice or are under treated. They follow advice of their female family members or friends. In this study it was found that they often use over the contradict pain medication. Those who self-medicated with over the counter preparations use sub beneficial dose and of substandard drugs. By experience they knew that which medicine could relieve dysmenorrhea. But they do not know side effects of the preparations. They were advised to have medical advice and follow the advice-do not ignore dysmenorrhea.

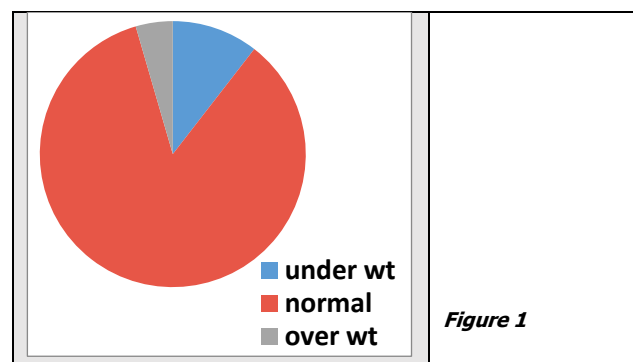


Figure 1

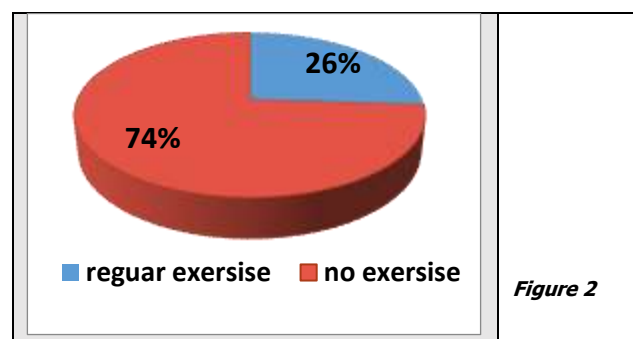


Figure 2

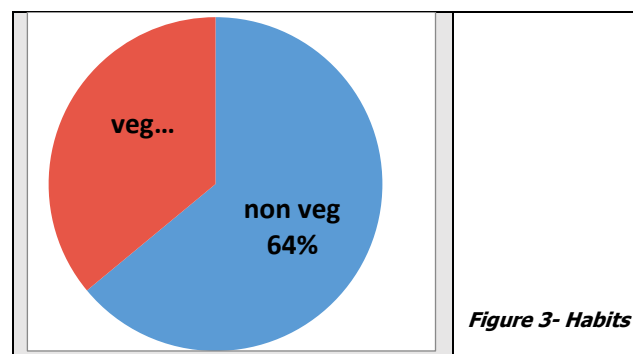


Figure 3- Habits

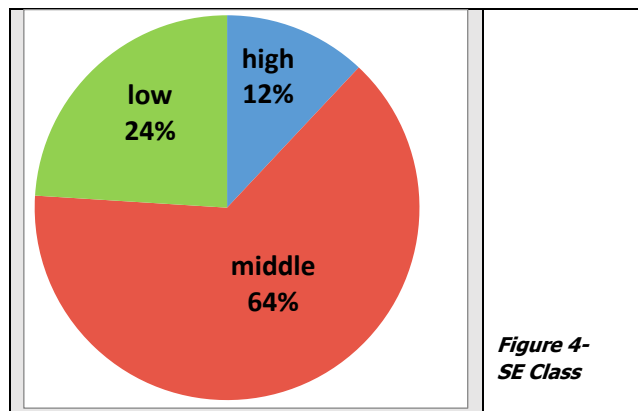


Figure 4- SE Class

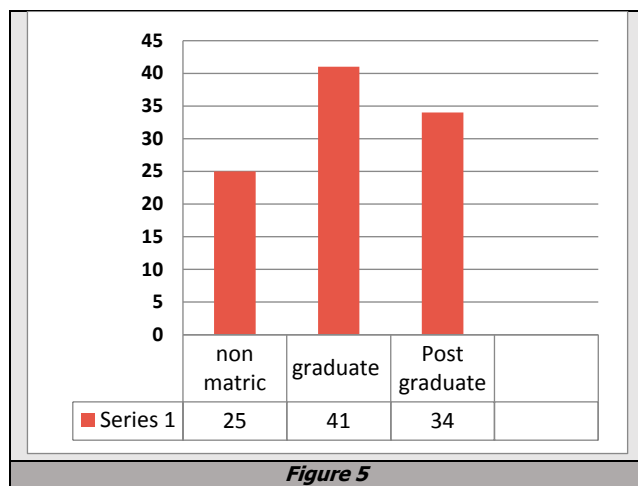


Figure 5

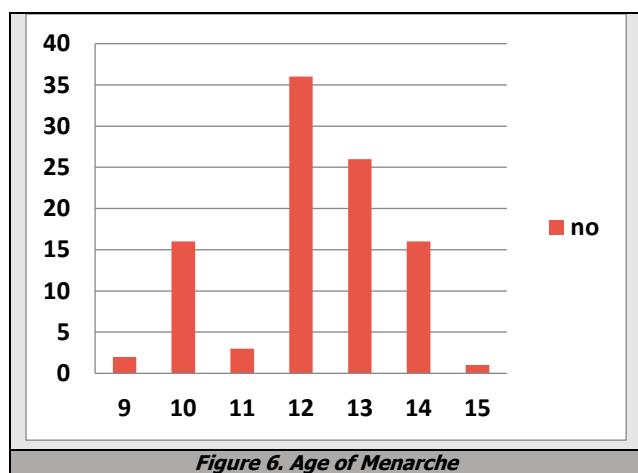


Figure 6. Age of Menarche

### DISCUSSION

In our study we found the indicate age of menarche in this area is 12.33 years .Many other studies reported same age group.<sup>5,6</sup> Prevalence of dysmenorrhea is 51-80% according to many studies.<sup>7,8</sup> In this study also we found that dysmenorrhea is in attendance in 73% cases –this is the most common gynaecological Problem of adolescent. In this study 42% were suffering from mild dysmenorrhea, 52% from moderate and 6% with severe dysmenorrhea. Singh et al<sup>9</sup> showed that 63.29% suffer from mild dysmenorrhea, 30.37% from moderate and 6.32% from severe grade of dysmenorrhea. However, Jerry et al<sup>10</sup> from moderate and 6.32% from severe grade of dysmenorrhea. However, Jerry

et al<sup>10</sup> were suffering from mild dysmenorrhea, 38% moderate and 14% with severe dysmenorrhea In our study BMI was not associated with dysmenorrhea in significant manner. Parazzini et al<sup>11</sup> also did not found any association with obesity. However, reports on association between overweight and dysmenorrhea are contradictory.<sup>12,13,14</sup> In present study we could not found relation between dysmenorrhea and exercise habits and diet habits. Another studies also supports our finding that physical activities are not associated with dysmenorrhea. Adolescent girls, almost always, silently suffer the pain by dysmenorrhea and the embarrassment associated with it due to lack of knowledge about reproductive health. But Harlow et al<sup>12</sup> have contradictory reports. Mild and moderate dysmenorrhea do not cause absenteeism from school, college and work place. In this study only 6% were absent from school, college or work place during menstruation.

They follow advice of their female family members or friends. In this study it was found that they often use over the contradict pain medication. Those who self-medicated with over the counter preparations use sub beneficial dose and of substandard drugs. By experience they knew that which medicine could relieve dysmenorrhea.

### CONCLUSIONS

Dysmenorrhea is common gynaecological problem among adolescents in Saharsa, Bihar. Mild and moderate dysmenorrhea do not cause absenteeism from school, college and work place. In this study only 6% were absent from school, college or work place during menstruation .But several studies had reported 34 to 50% absenteeism from school, college or work place During menstruation.<sup>13,14</sup> Adolescent girls, almost always, silently suffer the pain due to dysmenorrhea and the embarrassment associated with it due to lack of knowledge about reproductive health.

### REFERENCES

- [1] Nag RM. Adolescent in India. Calcutta: Medical Allied Agency 1982:18-26.
- [2] Andersch B, Milsom I. An epidemiological study of young women with dysmenorrhoea. Am J Obstet Gynecol 1982;144(6):655-660.
- [3] Dawn CS. Textbook of gynaecology and contraception. 10<sup>th</sup> edn. Calcutta: Dawn Books 1990.
- [4] French L. Dysmenorrhoea. Am Family Physician 2005;71(2):285-291.
- [5] Cakir M, Mungan I, Karakas T, et al. Menstrual pattern and common menstrual disorders among university students in Turkey. Pediatr Int 2007;49(6):938-942.
- [6] Demir SC, Kadayyfcy TO, Vardar MA, et al. Dysfunctional uterine bleeding and other menstrual problems of secondary school students in Adana Turkey. J Pediatr Adoles Gynecol 2000;13(4):171-175.

- [7] Pullon S, Reinken J, Sparrow M. Prevalence of dysmenorrhoea in Wellington women. *N Z Med J* 1988;101(839):52-54.
- [8] Ng TP, Tan NC, Wansaicheong GK. A prevalence study of dysmenorrhoea in female residents aged 15-54 years in Clementi Town, Singapore. *Ann Acad Med Singapore* 1992;21(3):323-327.
- [9] Singh A, Kiran D, Singh H, et al. Prevalence and severity of dysmenorrhea: a problem related to menstruation, among first and second year female medical students. *Indian J Physiol Pharmacol* 2008;52(4):389-397.
- [10] Klein JR, Litt IF. Epidemiology of adolescent dysmenorrhea. *Pediatrics* 1981;68(5):661-664.
- [11] Parazzini F, Tozzi L, Mezzopane R, et al. Cigarette smoking, alcohol consumption and risk of primary dysmenorrhea. *Epidemiology* 1994;5(4):469-472.
- [12] Harlow SD, Park M. A longitudinal study of risk factors for the occurrence, duration and severity of menstrual cramps in a cohort of college women. *Br J Obstet Gynaecol* 1996;103(11):1134-1142.
- [13] Sundell G, Milsom I, Andersch B. Factors influencing the prevalence and severity of dysmenorrhoea in young women. *Br J Obstet Gynaecol* 1990;97(7):558-594.
- [14] Banikarim C, Chacko MR, Kelder SH. Prevalence and impact of dysmenorrhoea on Hispanic female adolescent. *Arch Pediatr Adolesc Med* 2000;154(12):1226-1229.