

Original Research Article

## A Cross Sectional Study on Menstrual Hygiene, Pattern & Other Menstrual Problems among Adolescent School Going Girls

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**Abstract:** Adolescence is the period of rapid physical growth, psychological and social changes. An understanding of the physiology of puberty and menarche is essential for all adolescent girls so that they can acquire accurate information and dispel myths. Poor menstrual hygiene is an important risk factor for reproductive tract infections. The objective is to compare the age of menarche, menstrual hygiene, and problems associated with menstruation among adolescent girls from urban and rural schools in Thiruvananthapuram district. Methodology Community based descriptive cross-sectional study with a population of 200 going adolescent girls in both urban and rural schools in Thiruvananthapuram. The study was done over a one year period. Data was obtained from school records and also using a pre tested questionnaire. The data collected was subjected to statistical analysis. Results There was no significance difference between urban and rural population in the mean age of menarche which was 11.9 years. 88.5% had regular cycles and 86.5% had normal menstrual flow. Dysmenorrhea was present in 63% of population of which 23.8% had congestive dysmenorrhea and 76.2% had spasmodic dysmenorrhea. Menstrual hygiene was good 87.5% Conclusion. The mean age of menarche among adolescent girls was found to be 11.9 years the prevalence of irregular cycles among adolescent girls was found to be 11.5% with heavy menstrual bleeding in 7%. The prevalence of dysmenorrhoea was found to be 63%. Severe dysmenorrhoea was present in 12.5% of girls. Menstrual hygiene was good in 87.50% of girls. There was no statistically significant difference between urban and rural population.

**Keywords:** Adolescence, Dysmenorrhea, dispel myths

### INTRODUCTION

“A healthier society and a progressive nation need to take care of its adolescents, for they are the future of nation”. India the second populous country in the world has an adolescent population of 21.5% [1]. Adolescents have been defined by World health organization as the period of life spanning between 10-19 years. Adolescence is the period of rapid physical growth, psychological and social changes. Behavior and habits picked up during adolescence have a lifelong impact. Reaching youngsters at an earlier impressionable age before they become responsible adults can lay foundation for a better lifestyle. An understanding of the physiology of puberty and menarche is essential for all adolescent girls so that they

can acquire accurate information and dispel myths. Poor menstrual hygiene is an important risk factor for reproductive tract infections. This study in an attempt to find out the extent of problems associated with menstruation and level of menstrual hygiene among adolescent girls

### OBJECTIVES

To compare the age of menarche, menstrual hygiene, and problems associated with menstruation among adolescent girls from urban and rural schools in Thiruvananthapuram district.

## MATERIALS & METHODS

**Study design:** A community based, descriptive cross-sectional study

**Study population:** 200 school going adolescent girls

**Study setting:** The study was conducted in 2 schools in Thiruvananthapuram district, Kerala. One was a school in urban area (Sree Gokulam Public School, Attingal, Thiruvananthapuram) and another was a school in rural area (Bhartiya Vidyapeetam, Parassala, Thiruvananthapuram).

**Study period:** one year

**Study age group:** 13-15 years

**Sample size:** Based on a pilot study which was conducted among adolescent girls in the same district in 2012 by Child Development Centre, the sample size for the present study was fixed to 200. 100 girls in the age group of 13-15 years from each school were included in the study. Study protocol was cleared by institutional ethical committee. Before conducting the study, informed consent was sought from respective school principals, adolescent girls and their parents. Girls who did not give consent were excluded from the study. The space for conducting the study was provided by the respective school.

## DATA COLLECTION PROCEDURES

The chronological age and socio economic status were elucidated from the school records. Data was collected by pre-tested questionnaire. The questionnaire included questions on age of menarche, regularity of cycles, amount and duration of menstrual flow, dysmenorrhoea, and menstrual hygiene. All girls in the age group of 13-15 had attained menarche and all

of them could recollect and tell properly their age of menarche. A comparative study was also done in mean age of menarche between urban and rural girls.

Regularity of cycles was assessed by asking about the frequency of menstrual cycles. Cycles once in 21-35 days were taken to be regular cycles and frequency <21 days or >35 days were considered to be irregular cycles. The number of days for which menstrual bleeding persisted, average number of pads/clothes changed per day, passage of clots during menstruation were the parameters used to assess the amount of menstrual blood flow. Prevalence of dysmenorrhoea was found out by asking if menstruation was associated with any symptoms of painful abdominal cramps. Type and severity of dysmenorrhea was assessed by asking relevant questions. Menstrual hygiene was assessed by type of material used as menstrual napkin, frequency of changing them and method of their disposal.

At the end of the study, a workshop was conducted and girls were provided fundamental health education with regard to reproductive and sexual health. They were also taught the importance of balanced diet and advised to adopt healthy eating habits and a better lifestyle.

The data collected were subjected to statistical analysis

## RESULTS

### AGE DISTRIBUTION

In the study population, 23.50 % ( 47 girls) were aged 13 yrs, 49 % ( 98 girls) aged 14 yrs and 27.50 % ( 55 girls) aged 15 yrs. The mean age was 14.04 years

### SOCIO ECONOMIC STATUS

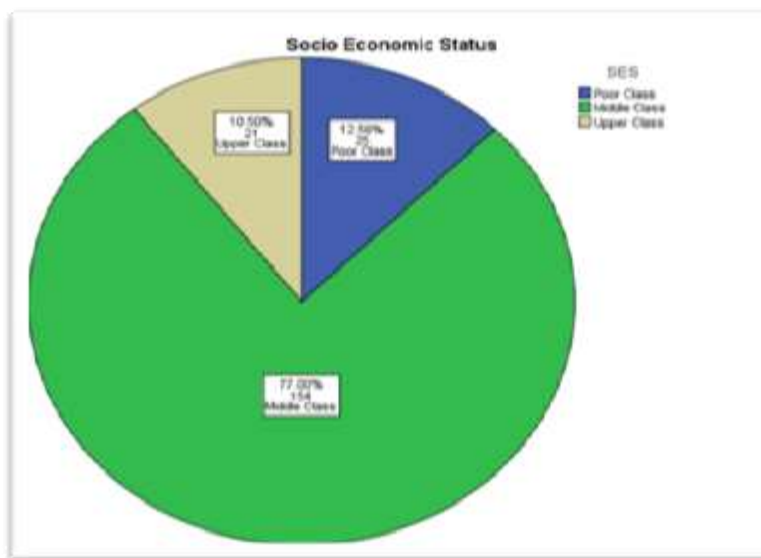


Figure 1

Among the study participants, 77 % ( 154 girls) were from middle class, 10.5 % ( 21girls) from upper class and 12.5 % ( 25 girls) from poor class.

The mean age of menarche among 200 adolescent girls was 11.9yrs±0.92 years with a minimum of 10 years and maximum of 14 years.

**MENSTRUATION PARAMETERS  
AGE OF MENARCHE**

**COMPARISION BETWEEN URBAN & RURAL  
GIRLS**

Table 1

Study population	Mean age of menarche
Urban	11.85yrs
Rural	12.08yrs
p value	0.856(not significant)

Table 2

Age of menarche	Urban	Rural
≤ 12yrs	75	70
> 12yrs	25	30

In the study population, 11 girls had attained menarche at the age of 10 years. Out of those 11 girls, 10 girls were from urban population and 1 girl was from rural population. None of the girls had premature menarche.

**MENSTRUAL FLOW PATTERN**

With respect to menstrual blood loss among 200 girls, 86.50% (173 girls) had normal flow, 6.50% (13girls) had scanty flow and 7.00% (14 girls) had heavy flow.

**REGULARITY OF MENSTRUAL CYCLES**

Among 200 study participants, 88.50% (177 girls) had regular cycles and 11.50% (23 girls) had irregular cycles.

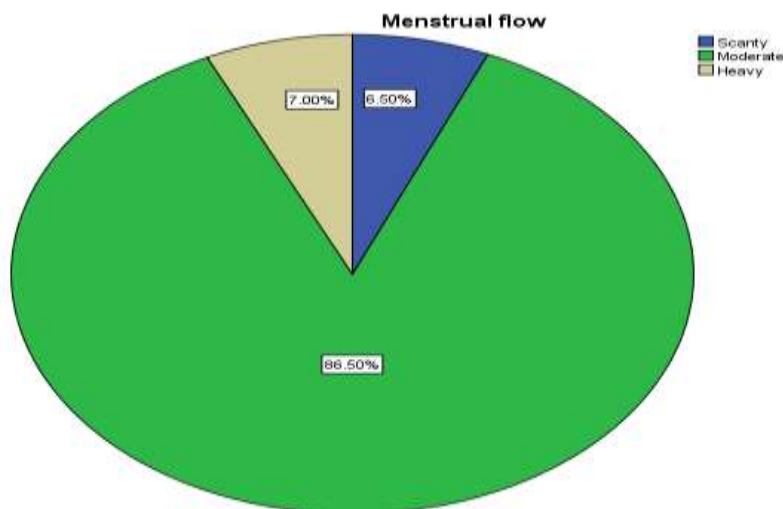


Fig 2: Menstrual Flow Pattern

**Prevalence of Dysmenorrhoea**

Among 200 girls, dysmenorrhoea was present in 63% (126) of girls and absent in 37% (74) of girls.

Among 126 girls who had dysmenorrhoea, 96 had spasmodic dysmenorrhoea and 30 had congestive dysmenorrhoea.

**Nature & Severity of Dysmenorrhoea**

**Severity of Dysmenorrhoea**

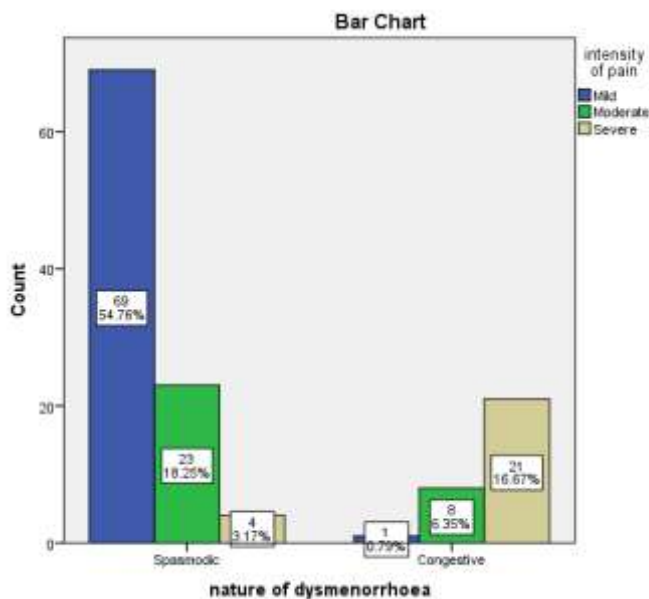


Fig 3: Bar diagram showing severity of dysmenorrhoea

Among 96 girls who had spasmodic dysmenorrhoea, 69 had mild, 23 had moderate and 4 had severe dysmenorrhoea. Among 30 girls who had congestive dysmenorrhoea, 1 had mild, 8 had moderate and 21 had severe dysmenorrhoea. Total number of girls having severe dysmenorrhoea was 25(12.5%).

**Menstrual Hygiene**

Menstrual hygiene was good in 87.50%, average in 9% and poor in 3.5% of girls.

**DISCUSSION**

In India where adolescent girls constitute an important sector of society, many studies have been conducted to estimate the frequency of problems related to menstruation among adolescent girls. But, very few studies have been reported from Kerala addressing menstruation related issues among the most vulnerable age group that is the adolescents. Adolescent Reproductive and Sexual Health (ARSH) has been adopted by Ministry Of Health and Family Welfare, Government of India as a key technical strategy under national RCH. Menstrual disorders form the commonest gynecological complaint (45-58%) among adolescents yet they often are overlooked [2].

Hence this study was undertaken to find the prevalence of these problems and an attempt was also made to provide friendly but confidential advice and health education to the adolescent girls with regard to physiology of menstruation, menstrual hygiene, sexually transmitted infections and importance of a balanced diet. This study as already discussed was undertaken in 1 urban and 1 rural school in Thiruvananthapuram district, Kerala. Adolescent girls studying in 7th, 8th and 9th standard participated in the study. All the girls participating in the study had attained menarche.

#### **Age**

In the present study, the age of the study participants from both urban and rural was from 13-15 years. The mean age of study population was 14.04 years

#### **Socio Economic Status**

SES was found out by Modified Kuppaswamy classification on the basis of data collected from school records. Majority of study participants (77%) were from middle socio economic strata of society.

#### **Age of Menarche**

The mean age of menarche among 200 adolescent girls was 11.9 years  $\pm$ 0.92 years with a minimum of 10 years and a maximum of 14 years. In the present study, the mean age of menarche among urban girls was 11.85 years and 12.08 years among rural girls. When urban-rural comparison was done with respect to mean age of menarche, the difference was not found to be statistically significant (p value-0.856).

A study that was conducted by Medical College, Uttarakhand, India among 450 girls (Dr Chandra Prakash, *et.al.*) concluded that the mean age of menarche was 13.6 years [3]. A study conducted in Delhi from 2006-2009 among 100 girls (Dahiya, *et.al.*)

concluded that the mean age of menarche was 14.7 years [4].

The median age of menarche among 4868 school going girls in Istanbul, Turkey in 2011 (Zeynep Atay, *et.al.*) was 12.74 years [5]. In a study conducted by Government Medical College, Nagpur on 387 adolescent girls in 2011 [11] reported the mean age of menarche to be 12.79 years. No differences were noted in age of menarche between urban and rural population [6].

#### **Regularity of menstrual cycles**

Majority of the girls in the study population (88.5%) had regular cycles and 11.50% had irregular cycles. A study conducted by Government Medical College, Nagpur [11] on 387 adolescent girls in 2011 reported irregular cycles in 15% of adolescents [6]. A study done in Thiruvananthapuram reported irregular cycles in 11.3% of adolescents [7]. Study done in Singapore, reported irregular cycles in 23.10% [8].

#### **Menstrual Flow Pattern**

Menstrual blood loss was normal in 86.50% girls, scanty in 6.50% and heavy in 7.00% girls.

#### **Dysmenorrhoea**

Prevalence of dysmenorrhoea was 63%. Among those 63% (126) girls having dysmenorrhoea, spasmodic dysmenorrhoea was present in 76.19% (96 girls) and congestive dysmenorrhoea was present in 23.8% (30 girls) Severe dysmenorrhoea was prevalent in 12.5% (25 girls)

A study done by Child Development Centre, Medical College, Thiruvananthapuram in 2012 on higher secondary school girls in age group of 15-19 years found out the incidence dysmenorrhoea to be 72.4% [7]. Study done in Nagpur (Subhash Thakre, *et.al.*) reported dysmenorrhoea in 61%. (13) A study done in Delhi (Sharma A, *et.al.*) found out the prevalence of dysmenorrhoea to be 67.2% [9].

Present study reports dysmenorrhoea in 63% of adolescent girls which is consistent with other studies. Severe dysmenorrhoea necessitating school absence is reported in 12.5% of girls. This emphasizes the need for designing a method to address dysmenorrhoea and other menstrual problems among adolescents. Also, easy access should be provided to adolescent friendly health centres.

### Menstrual Hygiene

In the study population 87.5% of girls had good menstrual hygiene practices. Menstrual hygiene was average in 9% and poor in 3.5% of girls. Good menstrual hygiene was practiced in most of the girls mainly because of the healthy hygienic practices taught by their mothers. In urban population, school teachers were also involved in educating them about good hygiene. This reflects the effect of higher female literacy in Kerala. A study conducted in Thiruvananthapuram reported that the menstrual hygiene was adequate in most of adolescent girls [7]. Another study done in Bangladesh (Syed Emadul Haque, et.al.) reported that 22.4% of adolescents were using clean sanitary napkins as menstrual absorbents [10].

### CONCLUSIONS

- The mean age of menarche among adolescent girls was found to be 11.9 years and there was no significant urban vs. rural differences observed with respect to age of menarche.
- The prevalence of irregular cycles among adolescent girls was found to be 11.5% with heavy menstrual bleeding in 7% and scanty flow in 6.5% of girls.
- The prevalence of dysmenorrhoea was found to be 63%. Severe dysmenorrhoea was present in 12.5% of girls.
- Menstrual hygiene was good in 87.50% of girls
- There was no statistical significance observed between the urban and rural population

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