

# Awareness of menstrual symptoms and related problems among school girls in Kandy Municipal area: A descriptive study

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## Abstract

**Introduction:** Menarche is the main milestone during puberty in girls and brings about important physical and psychological changes. Menstruation will be a novel experience for them and acclimatizing for it takes place during this age. Young adolescent girls could face several problems during this stage. Main objective of this research was to investigate some of the key problems in relation to menstruation.

**Methods:** Girls between the ages of 14-16 were selected as the study group from eight schools in the Kandy Municipality area. Data regarding problems, difficulties, help seeking behavior and their knowledge of menstruation was collected via a questionnaire and was analyzed.

**Results:** Response rate of the study was 88.6% (N=1064). 662 (62.2%) had irregular menstrual cycles, 255 (24%) regular cycles and 47 (13.8%) were not concerned. 435 (43.9%) had heavy menstrual flow and among them 72 (7%) had reported clots. 346 (37%) said that the school attendance was affected, while 344 (37.4%) and 541 (57.4%) responders mentioned that their academic performance and sports activities respectively, were affected. Increase of pimples was observed among 190 (19%) responders while a change in body hair and texture were observed by 130 (13%). 484 (50.1%) and 204 (20.8%) responders experienced anxiety and mood swings respectively. Impact on social activities was seen in 66 girls (6.7%). 890 (83.6%) had selected a friend as a discussant.

**Conclusion:** Since there is a considerable number with issues related to menstruation, improved health care programs regarding menstruation should be done often for adolescents.

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## Introduction

World Health Organization defines adolescence as the age from 10 to 19 years. Due to the rapid changes that occur in the body during this period of time, adolescents face diverse problems and come up with different needs<sup>1</sup>. Thus special attention is needed for their reproductive health and it is considered as a universal human right<sup>2</sup>. It has a special concern for women, especially during their adolescence since they have unique needs compared to their male counterparts<sup>3</sup>. Menarche is the experience of the first menstruation and it is considered the major event of female puberty. After the occurrence of menarchae, the transition to the adulthood begins and women experience cyclic menstruation until the menopause<sup>4</sup>. According to the previous research done, the age of menarche varies among countries and ethnicities<sup>5,6,7</sup>.

During the period of menstruation women experience pain, abdominal bloating, generalized body weakness and mood changes<sup>1</sup>. These difficulties as well as the economic hardships to buy sanitary products could compel women for social withdrawal<sup>8,9</sup>. This will lead to poor academic performances due to the difficulty of concentrating and school absenteeism<sup>10</sup>.

Good health of an adolescent girl defines not only her own health status, but also the health of the future population. An individual's knowledge regarding menstruation, menstrual hygiene, beliefs and attitude towards menstrual symptoms is a factor which determines her reproductive health<sup>11,12</sup>. Some studies have shown that there is a lack of knowledge on menstruation among women in the reproductive age<sup>13,14</sup>.

Sri Lanka being a middle income country, there is a scarcity of resources for the women to get information and solve their problems regarding menstruation when needed. Hence young girls in Sri Lanka suffer from such problems on a large scale which often go unnoticed. Due to the lack of such facilities, there is likelihood for the adolescents to follow misleading information present in the internet and the cultural norms, still such sources do not always provide accurate information. Also they could receive misinformation from their peers. To solve this problem, the existing knowledge on menstruation among adolescents should be identified to improve the basic infrastructure of the country and to open up discussions in educational institutes according to their needs.

Our study will lend a hand to fill the above mentioned void and will lead a clear path to fill the information gap in a structured way by providing a comprehensive education for the adolescent girls.

## Objectives

The main objective is to:

To describe the impact of menstruation on the day to day activities as perceived by school girls aged 14-16 in Kandy Municipal area.

The specific objectives of this research are:

- 1) To describe how school attendance, academic performance, engagement in sports, social relationships (activities) and recreational activities are affected due to menstruation and its symptoms.
- 2) To describe the help seeking behavior, sources of information and assistance available to these girls to overcome their challenges related to menstruation and its symptoms.

## Methods

### Study design

This is a cross sectional descriptive study. The study sample was selected from the girls of 14-16 year age group attending schools in Kandy district considering the mean age of menarche in Sri Lanka as 13 years, so that they would have experienced menstruation for a considerable time period<sup>16,17</sup>.

### Sample size

The required minimum sample was calculated using the sample size determination in health studies: a practical manual and it was 384 (precision 0.05, confidence level 95%)<sup>15</sup>. The formulae used for the sample size calculation is,

$$n = \frac{Z^2 P(1 - P)}{d^2}$$

Z – Statistic for a level of confidence

P – Expected prevalence

d – Precision

Since the sampling method was multi staged cluster sampling, the sample size was tripled to accommodate sampling error and it was further inflated by 4% for other contingencies. Final required sample size was

1192. Total number of participants for the study was 1200. A self-administered questioner was used which was pretested among grade 9, 10 and 11 students and evaluated.

Written information regarding the purpose and scope of the research was provided with verbal explanation to both parents and subjects and written consent taken from both groups.

Ethical clearance was taken from the Ethical Review Committee, Faculty of Medicine, University of Peradeniya (2016/EC/88).

**Sampling technique**

A multi stage random sampling method was used. Eight schools within the Kandy Municipal Council were listed according to the category (1AB,1C). The cluster size was 25. The categories of schools mentioned above have classes up to Advanced level and have a student population around 25 in a class. All the grade 9 classes from the selected schools were numbered and similarly numbering was done for grade 10 and 11 classes. Then from each grade, 16 classes were selected by using simple random sampling method to get a total of 48 classes.

**Results**

A total of 1200 school girls were recruited for the study. Completed questioners were received from 1064 participants giving a response rate of 88.66%. The mean age of the participants was 14.7±0.99 years.

Menstruation which occurs at intervals within 21 and 35 days was considered as regular and 662 girls (62.2%) reported to have regular menstrual cycles, while 255 (24%) had irregular cycles. The number of participants who had not attained menarchy was 25 (2.3%).

47 (4.4%) of the participants said that they were not concerned about their menstrual pattern. The rest of the 75 (7.0%) participants have not responded for any of the categories mentioned above.

**a) Participants perceptions on “heavy periods”**

435 (43.9%) said that they had a heavy menstrual flow on and off. 386 (36.3%) reported no clots that passed during heavy menstrual flows, 70 (6.6%) girls reported that they experience clots one or two days per cycle

and 2 girls had been experiencing clots in every menstrual flow.

**b) Impact on school attendance and academic performances as felt by the participants**

54 (5.8%) girls scored the impact on school attendance as moderate while 45 (4.8%) girls scored as severe amounting to a total of 99 (10.6%) girls. School attendance being expected on a daily basis and menstruation recurring monthly impact on this selected group imposes a considerable handicap.

However, 590 (63.0%) felt that menstruation did not affect school attendance with another 247 (26.4%) only a marginal impact.

Considering the academic performance, 75 (8.2%) girls felt that it was affected moderately during menstruation and with 51 girls (5.5%) felt that was severely affected, amounting a total of 126 (13.7%). These two findings show that while menstruation has minimal impact on the majority of students, a small but significant group are impacted adversely due this “physiological event”.

**Table 1. Interference of menstrual symptoms on school attendance and academic performance on a 0 - 10 numeric scale over the past 12 months (0 - no interference, 10 - maximum interference)**

Severity of the impact (scale)	Respondents for school attendance % (N)	Respondents for academic Performance % (N)
None (0)	63.0 (590)	62.6 (576)
Mild (1-3)	26.4 (247)	23.7 (218)
Moderate (4-6)	5.8 (54)	8.2 (75)
Severe (7-10)	4.8 (45)	5.5 (51)
Total	936*	920*

\*Out of 1064 participants, 936 and 920 have responded for the interference of school attendance section and academic performance section respectively.

**c) Impact on sports, exercise and other recreational activities**

541 (57.4%) of students felt that there was some impact on engaging in sports, exercise or other recreational activities. From these girls, 261 (48.2%) said that impact was minimal. However, 253 of them (46.7%) felt that impact was either moderate 121 (2.3%) or severe 132 (24.3%).

From the total student participants in the study, 399 (43.7%) felt that there was no impact at all.

Table 2 represents the effects of difficulties that arise from menstruation on sports and other recreational activities.

**Table 2. Interference of menstrual symptoms on sports, exercise and other recreational activities on 0 - 10 numeric score over the past 12 months (0 - no interference, 10 - maximum interference)**

Severity of the impact (scale)	Respondants % (N)
None (0)	43.7 (399)
Mild (1-3)	28.6 (261)
Moderate (4-6)	13.2 (121)
Severe (7-10)	14.4 (132)
Total	913*

\*Out of the 1064 participants, only 913 have responded.

**d) Impact on social activities and relationships**

66 (6.7%) of the study population felt that their social interaction and related activities were hindered during menstrual period leading to social withdrawal. Balance of the participants felt that there was no impact.

**e) Physical and psychological symptoms perceived by participants**

190 (19%) school girls in the study felt that there was an increase of pimples and a change in texture of the body hair and by 130 (13%) of the study group.

Most common psychological symptoms among the school girls were anxiety and mood swings. It was interesting to note that nearly half of the school girls,

484 (50.1%) experienced anxiety and 204 (20.8%) experienced mood swings.

**f) Help seeking behaviour**

Only 111 (10.4%) of the study population had received some form of education or awareness raising related to menstrual health issues.

All the participants had discussed their problems with at least one person. Participants declared that they had discussed with: a friend 890 (83.6%), a teacher or school counselor 145 (13.6%), parents 492 (46.2%) and a medical personnel 59 (5.5%).

Almost all of the study population had taken paracetamol (over the counter without proper consultation) to alleviate symptoms.

**Discussion**

The results of this study show that 37% (N=391) of the girls felt that their academic activities and the school attendance were affected and more than half of the study population's (57.4%, N=541) felt that their sports activities were affected by menstruation while a total of 10.6% girls felt that their school attendance was affected either severely (4.8%, N=45) or moderately (5.8%, N=99).

A similar study done among 5609 school girls in Hong Kong has recorded 12.1% absenteeism with 33.6% reduced daily activity comparable to this study<sup>18</sup>.

A study done among adolescents in India has recorded that 60% of them had their daily activities affected by menstruation in one or more ways<sup>19</sup>.

This study shows, school girls perceive that menstrual symptoms are having a considerable impact on them in different ways: 10.6% to 46.6% (school attendance and sports respectively) and they are seeking help mostly from informal sources, mainly their peers.

The study found that majority of Sri Lankan girls were relying on friends (83.6%) with only less number going to their parents (46.2%) with a few going to more than one source. In contrast to our study, the Hong Kong study found that majority revealed their problems to their parents (70.0%) while lesser number to a friend (40.7%)<sup>18</sup>. Similarly, in a study in India majority of the girls have chosen their mother (58.1%) to discuss their problems regarding menstruation while a friend was

selected by a small minority (5.1%)<sup>19</sup>. Cultural differences, urban rural divide and the gender attitudes in different countries may account for some of these differences.

It is noteworthy that formal mechanisms available to help students are utilized only sparingly: teacher or school counselor (13.6%) medical personnel (5.5%).

This shows that much space is there to build up awareness and trust on the available sources of assistance such as school counselors and medical personnel.

The proportion of girls who have sought help from medical professionals was quite similar in both studies. The value reported in Indian study was 4% and in our study it was 5.5%<sup>19</sup>. It is understandable as only 43.9% of the 1064 participants considered themselves having heavy periods: Severe (0.4%) moderate (6.7%).

School curriculum is expected to provide information on basic sexual and reproductive health issues including menstruation over different grades. The implementation appears to be challenging with only 10.4% of the study population had received some form of education or awareness raising related to reproductive health issues. This is a glaring need and awareness raising on menstruation as physiological event must be done to allay anxiety and promote a more positive attitude.

## Limitations

The study population of the present study was mostly an urban population from Kandy Municipal Council area. According to the population data, as 77.4% of the population in Sri Lanka is rural (20) findings may not be possible to be extrapolated to national level. There was no previous study on this subject in Sri Lanka available and our findings can be used for the future research.

## Conclusion

A significant number of the girls in the study experienced negative impacts related to menstruation. To support them to minimize the impact in their performances related to academics and sports, SRH education and awareness raising on the services and help available must be actively promoted and programs implemented. It is necessary for Health care providers

including Gynaecologists to advocate and assist in such programs targeting school children. We suggest a larger scale research with stratified sampling to validate the results for Sri Lanka and to plan and implement appropriate educational programs based on the results.

## Author Declarations

**Competing interests:** The authors declare that they have no competing interests.

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