

Menstrual Problems among Adolescent School Children at International Indian School, Buraidah

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Abstract

Background: Menstrual hygiene is an issue that is very important among adolescent females and mother is the best teacher and also school teachers play an important role in the menstrual hygiene practices and it is also important aspect of Millennium Development Goals (MDGs). **Objectives:** To identify the socio demographic profile factors and to know the menstrual problems among the study population. **Materials & Method:** A cross sectional institutional based study was conducted at International Indian School, Buraidah from January 2014 to May 2014 among the school children from 5th Class to 9th class. A total of 240 children data collected and classes selected randomly from the female sections. Data was entered in MS excel and necessary statistical tests were applied. **Results:** Out 240 adolescents, about 207 (86.2%) children are attained menarche. Out of 207 adolescent students, about 29% were attained menarche at 10 years of age group and 16.6% of female students at 13 years of age group. There was statistically significant association was found between literacy of the mother and menstruation in the female school children. Out of 207 adolescents, about 45.8% were having pre menstrual syndrome symptoms. about 73.4% (152/207) were having normal BMI and 26.6% were having abnormal BMI. **Conclusions:** The pre-menstrual symptoms and the menstrual problems were quite commonly prevailing in this age group and as it is Indian school and students from different geographical, socioeconomic background and different cultures and ethnic. Proper awareness programme has to be implemented periodically to address for the common menstrual problems which occurs in adolescent age group.

Keywords: Age, Adolescent girls, Menstrual problems, Pre menstrual syndrome, Body mass index.

Introduction

Menstrual hygiene management (MHM), practices related to menstrual hygiene during periods is a serious problem for adolescent girls in low and middle income countries (LMICs). The sustainable development goals (3,4,5,6) are influenced directly or indirectly by poor menstrual hygiene, the achievement of the same is indeed very crucial for the overall development of these young adolescents and the nation at large.¹ Human puberty is accompanied by major physical growth and substantial brain maturational changes, features that are unique in the animal world⁵. Beginning of menstruation which is called as menarche, marks the most important step in the pubertal growth of a female. The age of menarche is generally between 10-16 years; however it may vary depending on geographic variation, environmental

condition and nutritional status. To understand the health consequences and importance of menstrual hygiene practices among adolescent girls, it is important to study the current practices about the same so that future interventions can be planned accordingly⁵⁻⁷.

In India, MHM is a serious problem for school going adolescents due to limited or lack of access to products (absorbents) for sanitary hygiene, and lack of safe sanitary facilities. This leads to girls dropping out of school as there is a lack of these basic facilities provided which makes it difficult to manage their menstruation.² Some of the common traditional and unhygienic practices includes use of old clothes as pads after recycling and use of ash or straw endangering menstrual hygiene which has long term implications for their reproductive health. Maintaining good hygiene of women during

menstruation is of considerable importance, especially in terms of increased vulnerability to reproductive tract infection.

After menarche, common menstrual abnormalities that the female adolescent usually would encounter are dysmenorrhea, irregularities in menstrual blood flow and the premenstrual symptoms. More than 75% of the adolescent girls experience some problems associated with menstruation, which might indirectly have an impact in their academic excellence, sports activities and their self-esteem. Studies have suggested that menstrual disorder at the age of 15 or 16 act as a marker for hyperandrogenemia and hyperlipidemia in their later life³.

In today's world the life style changes particularly consumption of lot of junk foods and lack of physical activity and the amount of stress put up by the students in the school life were considered to be some of the major factors for menstrual disturbances in the adolescent girls. The awareness level about menstruation prior to menarche was found to be very much low among the rural adolescents in the developing countries like India. Better knowledge and practices on menstrual hygiene reduce the risk of acquiring reproductive tract infections.

In view of the above, to understand the consequences and importance of menstrual hygiene practices among adolescent girls between the age from 10-15 years individuals were included in the study, it is important to study the current practices about the same serves for the future interventions.

Objective:

To identify the demographic characters of adolescent girls and menstrual problems among Indian School in Buraidah, Saudi Arabia.

Materials & Method

A institutional based cross sectional study was undertaken among 240 adolescent girl students in the age group of 10 – 15 years who had attained menarche. In the Buraidah city only one international Indian school functioning under the administrative control of Indian Embassy and in coordination with Saudi Arabia Ministry of Education. There was about 2600 students are studying from 1st class to 12th standard at two different places. All the students in that school in the above said

age group were included in the study. It comprises of 240 girl students, among them 207 students attained menarche and their data collected from the students with direct interview with the help of class teachers and also with Head master and Principal for the administrative control. All the required classes were selected randomly and 10th class sections were exempted as they are involving in the busy class schedules and board examinations. Those who are willing to participate in the study, data collected and those were absent during the study period were excluded from the study. Finally 207 students had participated in the study. The study was conducted for a period of 5 months between Jan 2014 to May 2014. The study was carried out after getting the approval and clearance from the Principal. The student's data was collected by personal interviews by using a pre tested and a structured questionnaire. Data was entered in MS Excel and necessary statistical tests like simple proportions and chi square test were applied.

Results

Table: 1- Age wise distribution of study population (n-240):

Age	Number of students	Percentage
10	32	13.3%
11	38	15.9%
12	40	16.7%
13	56	23.3%
14	50	20.8%
15	24	10%
Total	240	100%

Out of 240 adolescent female children, majority from 13 years age group and accounts 23.3%. Very less proportion of children at 10 years of age. Out 240 adolescents, about 207 (86.2%) children are attained menarche.

Table: 2 - Age at menarche (n-207)

Age	Number of students	Percentage
10 yrs	60	29%
11 yrs	57	27.5%
12 yrs	50	24.1%
13 yrs	40	16.6%
Total	207	100%

Out of 207 adolescent students, about 29% were attained menarche at 10 years of age group and 16.6% of female students at 13 years of age group.

3. Literacy of the mother in relation to menstruation in study population (n-207):

Literacy of mother	Normal Menstruation	Abnormal menstruation	Total
Upto 5th Standard	22 (46.8%)	25 (53.2%)	47 (100%)
6th - 10th standard	52 (52.5%)	47 (47.5%)	99 (100%)
Upto Degree	28 (68.3%)	13 (31.7%)	41 (100%)
Post Graduation	18 (90%)	02 (10%)	20 (100%)
Total	120 (57.9%)	87 (42.1%)	207 (100%)

$X^2 - 13.8, 3df, P-0.003.$

In the study population, there was about 53.2% were having abnormal menstruation from 5th standard studied mothers. As this school in international and literacy of mothers was 100%. Only 10% of children were having abnormal menstruation problems from post graduation studied mothers family.

There was statistically significant association was found between low literacy of the mother and menstruation in the female school children ($P < 0.05$). This could be due to small sample and there will be some information bias from the students itself and hence we cannot generalise the findings to common population.

4. Pre menstrual status in study population (n-207):

Pre menstrual syndrome	Number of students	Percentage
Yes	95	45.8%
No	112	54.2%
Total	207	207 (100%)

Out of 240 school children, 86.2% (207/240) having regular menstruation and attained menarche and remaining yet to get menarche. Out of 207 adolescents, about 45.8% were having pre menstrual syndrome symptoms.

5. Menstrual problems in study population (n-207):

Type of Menstrual problem	Number of students	Percentage
Oligomenorrhoea	25	28.7%
Menorrhagia	62	71.3%
Total	87	100%

Out of 87 abnormal menstruation students, about 71.3% were having menorrhagia problems and 28.7% were having oligomenorrhoea.

6. Duration of Menstrual problems(n-207):

Menstrual problem duration	Number of students	Percentage
< or = 3 months	12	13.7%
3-6 months	22	25.3%
6-12 months	42	48.3%
> 1 year	13	14.7%
Total	87	100%

Out of 87 abnormal menstruation students, about 48.3% were having menstrual problems and suffering for the last 6-12 months. only 13.7% were having menstrual problems less than 3 months duration.

7. Body mass index (BMI) status versus Pre menstrual syndrome (n-207):

BMI	Premenstrual syndrome present	Premenstrual syndrome absent	Total
Normal BMI	61 (40.1%)	91 (59.9%)	152 (100%)
Abnormal BMI	34 (61.8%)	21 (38.2%)	55 (100%)
Total	95 (45.8%)	112 (54.2%)	207 (100%)

χ^2 - 7.65, 1df, P-0.008.

Out of 207 students, about 73.4% (152/207) were having normal BMI and 26.6% were having abnormal BMI. There was statistically significant association was found between body mass index and pre menstrual syndrome ($P < 0.05$).

Discussion

The present study was conducted to study the menstrual problems among the adolescent school children and to suggest remedial suggestions and measures to the required students. In the present study, out of 207 adolescent students, about 29% were attained menarche at 10 years of age group, at 11 years 27.5%, at 12 years 24.1% and 16.6% of female students at 13 years of age group. The mean age of menarche in the present study was 11.10 years. The results are almost in par with the study done by Singh M.M. et al⁸, in which he quoted that the mean age of menarche was 13.6 years and in another study done in rural Orissa, the mean age of menarche was found to be 12.97 years⁹. A study done by Zegeye DT et.al in Ethiopia had found the mean age of menarche was 14.7 years and this difference might be due to the varied geographic location and the very poor socio-economic status may affect there¹⁰. In a study conducted in Rajasthan in 2005¹¹ the mean age at menarche was found to be 13.2 years. Unfortunately, 58% girls were ignorant about menstruation before menarche in this study. But, each and every girl child should be aware about menstruation, ideally a mother should be the main informant at this tender age. In a study conducted among 664 schoolgirls aged 14-18 in Mansoura, Egypt by El-Gilany et al¹².

In the study population, there was about 53.2% were having abnormal menstruation from 5th standard studied mothers. As this school in international and literacy of mothers was 100%. Only 10% of children

were having abnormal menstruation problems from post graduation studied mothers family. In the current study revealed that out of 207 adolescents, about 45.8% were having pre menstrual syndrome symptoms. This can be due to information bias from the students as their not understood the real problem or may not reveal properly due to their age itself. This study has revealed that 46.52% girls complain of premenstrual syndrome. More or less similar observations were also reported by M. Kulkarni¹⁴ as 41.52% girls in their study have presented with premenstrual syndrome. In the present study, menorrhagia was found in 17.82% girls. M. Kulkarni¹⁴ and K. Jogdand¹³ have also observed similar findings as 16.07% and 15.96% girls with menorrhagia. Low level of blood hemoglobin concentration and nutritional status is often associated with irregularities of menstrual and reproductive problems among the women in reproductive age groups.

In the present study, out of 87 abnormal menstruation students, about 71.3% were having menorrhagia problems and 28.7% were having oligomenorrhoea. The results were similar to a study by Juyal R et al¹⁶ conducted in Dehradun in 2014 among unmarried adolescent girls in which 74.6% girls reported having an average flow of 3-5 days and around two third having normal bleeding. The present study highlighted the medical problems faced by adolescent girls during menstruation. It was observed that dysmenorrhea was experienced by 53.5% of the girls. But other studies have reported higher prevalence of dysmenorrhea among adolescent girls. In a study by Juyal R et al it was observed among 64.9% girls whereas 63.75% prevalence was reported in a study by Nair et al among rural unmarried adolescent girls in East Delhi.^{15,16} Out of 207 students, about 73.4% (152/207) were having normal BMI and 26.6% were having abnormal BMI. There was statistically significant association was found between body mass index and pre

menstrual syndrome. similar finding was observed with body mass index versus sanitary napkin. The factors for the same were significantly associated with the area of residence, geographic region, linguistic groups, educational attainment, wealth status, among Indian women. Various mechanisms have been explained like role of obesity among girls especially in urban areas which leads to altered levels of leptin, Insulin like Growth Factor-1, ghrelin and most importantly insulin which are related to energy availability and body size which have a permissive role in the initiation of puberty¹⁷.

Conclusions

The present study revealed that majority of the adolescent girls had attained the menarche at the early age that was 10 years (29%). The pre-menstrual symptoms and the menstrual problems were quite commonly prevailing in this age group, which make themselves feel weak and refrain them from doing their routine work. There was statistically significant association was found between low literacy of the mother, abnormal BMI with menstruation in the female school children. As the sample size is less and information collected from the adolescent school children may have some information bias as they are not majors in age and findings cannot be generalised to common population. Need large sample similar studies are required.

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