

A Study on Menstruation and Socio-Cultural Factor during Menstruation among Medical Students, Valsad, Gujarat

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Abstract

Background: In girls adolescence has been recognized as a special period marked with the onset of menarche. Even though menstruation is a natural process, it is associated with misconceptions, malpractices and challenges among girls in developing countries. Many adolescent girls having lack of appropriate and sufficient information regarding menstruation and menstrual hygiene. This may result in incorrect and unhealthy behaviour during their menstrual period So, educating the adolescent girls on menstruation is essential during menstruation. **Methods:** A cross sectional study conducted among undergraduate medical students of GMERS Medical College, Valsad. A total 203 girls of first, second and third MBBS medical students between age group of 16–22 years were participated in this study. Data was collected by using pre-designed, pre-tested Questionnaire. The data was entered and analyzed by using Microsoft excel 2010 and appropriate statistical test were applied. **Results:** Out of 203 Girls 84.24% girls had knowledge about menstruation before they experienced menarche and mother was found to be the main source of information. Mean age of menarche was 14.5 years. 59.61% of girls were experience mood disturbance during menstruation in addition to this most of the girls experience one or more kind of

associated symptom during their menstruation. 86.70% girls use sanitary napkins where as 13.3% girls use clothes and reuse them. 73.40% said that religious activities were restricted for them during menstrual periods Most of the girls said that sanitary napkin is an expensive and not being easily available at all places. **Conclusions:** Education on menstruation is vital aspect of health education for all adolescent girls as it related with health consequences and also strongly related with misconceptions and cultural restrictions. Significantly more number of girls in the urban area was using commercially available sanitary pads as compare to the rural girls. To improve the menstrual hygiene, adolescent girls should be educated regarding menstrual hygiene as well as sanitary napkins should be made universally available at affordable price.

Keywords: Menstruation; Menarche; Sanitary Napkin; Medical Student.

Introduction

According to WHO the term 'adolescents' refers to young people between the ages of 10 and 19 years [1]. There are 243 million adolescents comprise 20% of the total population of India which clearly shows that India is truly "young" [2]. Adolescent girls constitute a vulnerable group not only with respect to their social status but also in relation to their health. Adolescence is a stage of transition from child-hood to adulthood. During this stage youth undergoes rapid changes in body structure like pubertal development and sexual maturation mediated by sex hormones [3,4].

Adolescence in girls is a turbulent period of development which includes stressful

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events like menarche which is considered as landmark of female puberty [5]. Menarche is first menstruation and part of the maturation process, but it is often, culturally defined as the indicator of girl's maturity and readiness for marriage and sexual activity. Although menstruation is a natural process, it linked with several misconception and practices, which sometime result in adverse outcomes. If poorly managed, menstrual period may be accompanied by discomfort, reproductive tract infection, smelling and embarrassment among others [6]. Lack of menstrual and personal hygiene is an important factor which is associated with RTI, that are preventable and treatable

Most of the time adolescent girls are unprepared in terms of knowledge, skill and attitude for managing the menstrual cycle [7]. A study among adolescent, only about 60% girls had partial awareness about adolescent physical changes and menarche. They may also have unsaid anxieties and apprehensions and are subjected to social taboos and restraint during their periods [8].

People in India are still living in conservative society and Menstruation is still regarded as something unclean or dirty in Indian society and it is strongly related with misconceptions and cultural restrictions [9]. This concept is responsible for related taboos. Issues associated with menstruation are never discussed openly and this burden young girls by keeping them ignorant of this biological function [7].

Till now, the poor menstrual hygiene in developing countries has been an insufficiently acknowledged problem. Researches confirm that with safe menstrual hygienic practices adolescents girls were less vulnerable to reproductive tract infections (RTIs) [10].

Special health care needs and requirements of women during monthly cycle of menstruation are collectively given the term "Menstrual hygiene" [11]. Menstrual hygiene is an issue that every girl and woman has to deal with in her life time, but there is lack of awareness on the process of menstruation and menstrual hygiene [7]. So learning about hygiene during menstruation is a vital aspect of health education for adolescent girls as patterns that are developed in adolescence are likely to persist into adult life. Studies shows that women, having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences [12].

Several studies also documented that menstruation related problems, had affected more than a third of student's class concentration, participation, socializing with friends, test taking skills and homework task performance. Dysmenorrhea was significantly associated with school absenteeism and

decreased academic performance, sports participation, and socialization with peers [13,14].

As the majority of studies were conducted among the adolescent school girls of different population. So present study was conducted to find the awareness on menstruation among medical students.

Methods

A cross sectional study was conducted among undergraduate medical students of GMERS Medical College-Valsad from period of March-2016 to August-2016.

The purpose of the study was explained to the students and informed consent was obtained from the girls for participation in this study.

Complete information on individual background, knowledge, awareness, sources of information and practice regarding menstruation and menstrual hygiene were collected from 1st, 2nd and 3rd year of undergraduate medical students in predesigned, pretested performa with following exclusion criteria.

Exclusion Criteria

- Those Girls who were absent at the time of survey
- Those who were not willing to participated in this study or incompletely field questionnaire were excluded from the study
- Girls who don't have menarche or those having menarche related problems

Total 203 girls were participated in this study after exclusion criteria.

A study also followed by Questions and concerns of participants and education on menstrual hygiene conducted by female faculty of Obstetric and Gaynecology department at the end of session.

No follow up visit were planned to maintain confidentiality of questionnaire and truthfulness of response. Data was entered and analysed by using MS office 2010 and appropriate statistical test were applied.

Results

A total of 203 girls from 1st year (61), 2nd year (82) and 3rd year (60) MBBS of GMERS Medical College, Valsad were participated in these study and we noted the following observations.

Table 1 shows that out of 203 girls 93.10% were Hindu and 4.93% were Muslim. 86.70% are residing in urban area. All students those who participated in study were in age group 16-22 years of age and majority of girls were in 18-20 years of age (86.71%) and mean age of girls were 19 years. Majority students mother's education status were found to be graduation and above (70.44%). We also noted that relation between pre-menarche knowledge among

students and mother's education status is statistically non-significant.

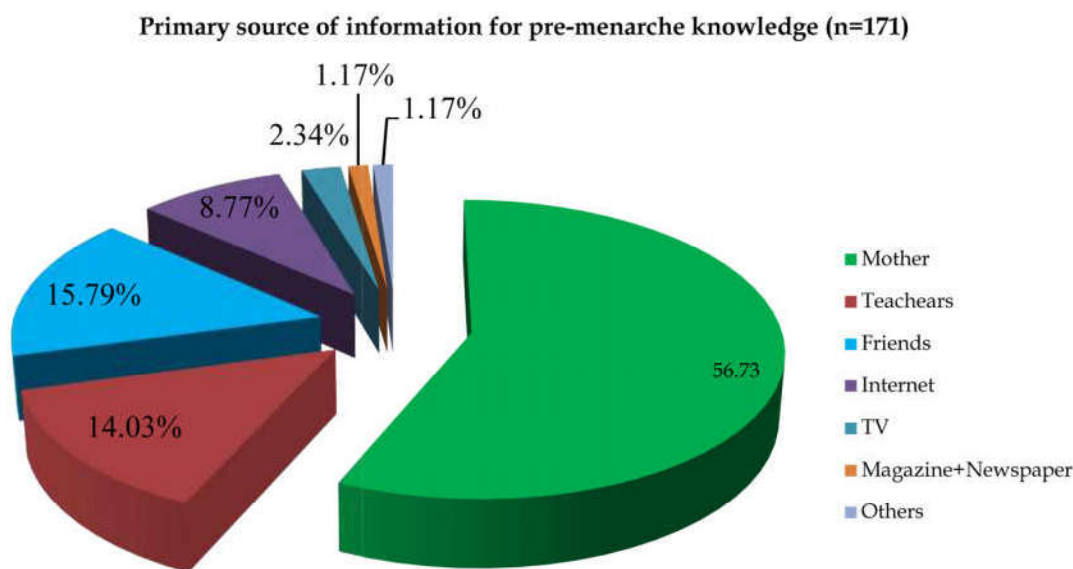
Out of 203 girls participated in study 171 (84.24%) had knowledge about menstruation before menarche. The primary source of information for menstruation knowledge was mother (56.73%) followed by Friends (15.79%), Teacher (14.03%), Internet (8.77%), Television (2.34%) and Magazine (2.34%) (Graph 1)

Table 1: A Demographic profile of participants

A. A distribution of students on the basis of religion		
Religion	Numbers	Percentage
Hindu	189	93.10
Muslim	10	04.93
Other	04	01.97

B. Age wise distributions of students		
Age of students (years)	Numbers	Percentage
16	01	00.49
17	09	04.43
18	53	26.11
19	68	33.50
20	55	27.10
21	13	06.40
22	04	01.97

C. A Distribution of students as per their mother's education		
Education of mother	Number	Percentage
Illiterate	01	00.49
Primary	11	05.42
Secondary	10	04.93
Higher secondary	38	18.72
Graduate	96	47.29
Post-graduate	47	23.15



Graph 1: A distribution of medical students on the basis of main source of information

Table 2 shows that out of 203 girls 175(86.21%) girls said that the source of menstrual bleeding is uterus whereas 12(5.91%) girls said vagina and 13(6.4%) did not know the source of bleeding. As per girl's the ideal absorbent is sanitary napkins 189(93.10%) during menstruation.

Table 3 shows that most of the girl's experiences mind disturbances during their menstrual period (59.61%). In addition to menstrual blood lose they experience the associated symptoms. Most common

associated symptoms are pain in abdomen 171(84.24%), followed by weakness 97(47.78%), headache 46(22.66%) nausea & vomiting 27 (13.30%), excessive bleeding (11.33%), itching at genitalia (8.37%) and breast pain (3.94%) 84(41.87%) girls take medicine or OTC pills for relief of these symptoms.

Table 4 shows the type of activities restricted for girls of different religious during their menstrual period we noted that out of 203 girls 73.40% said that religious activities were restricted for them during

Table 2: Girl's perception regarding menstruation (n=203)

Girl's perception regarding	Girl's Response	Frequency (%)
Source of menstrual blood	Uterus	175 (86.21)
	Vagina	12 (05.91)
	Urinary bladder	0 (00.00)
	Abdomen	0 (00.00)
	Kidney	0 (00.00)
	Don't know	13 (06.40)
	Not answered	3 (01.48)
Ideal absorbent	Sanitary napkin	189 (93.10)
	Old cloth	1 (00.50)
	New cloth	13 (06.40)

Table 3: Distribution of girl's on the basis of symptoms experienced during menstruation.

Characteristics	Girl's Response	Number (%)
Mind disturbances (mood swings, anger, irritation)	Yes	121 (59.61)
	No	76 (37.44)
	Not answered	6 (2.95)
Associated symptoms*	Pain in abdomen	171 (84.24)
	Headache	46 (22.66)
	Nausea, vomiting	27 (13.30)
	Weakness	97 (47.78)
	Excessive bleeding	23 (11.33)
	Breast pain	8 (3.94)
	Itching around genitalia	17 (8.37)
	Not answered	14 (6.90)
Relief measures*	Medicines, otc	85 (41.87)
	Hot water bag	22 (10.84)
	Exercise	5 (2.46)
	Others	23 (11.33)
	Not answered	80 (39.41)

*Multiple answers

Table 4: Relation between different religions and the type of restrictions during menstruation (n=203)

Religion	HINDU (n=189) No. (%)	MUSLIM (n=10) No. (%)	OTHERS (n=4) No. (%)	TOTAL (n=203) No. (%)
Household Chores	22 (11.64)	1 (10.0)	0 (00.00)	23 (11.33)
Religious activities	138 (73.0)	9 (90.0)	2 (50.0)	149 (73.40)
Attending marriage	08 (4.23)	1 (10.0)	0 (00.00)	18 (08.87)
Sleep separately	06 (3.17)	1 (10.0)	0 (00.00)	16 (07.88)
Certain food	13 (6.88)	0 (0.00)	0 (00.00)	13 (06.40)
No restrictions	36 (19.0)	1 (10.0)	2 (50.0)	39 (19.21)

*Multiple responses

menstrual periods, in Hindus it was 73% and Muslims 90%, while attending marriages, sleeping separately and eating certain food was not as much restricted. While only 19.21% of girls had no restriction for different types of activities during their menstruation. The relation between religions and the types of restrictions is not statistically significant. (p=0.734).

We also noted that age at menarche of these girls were ranges between 11-18 years of age, the maximum numbers of girls between 13-15 years (76.85%) of age group and mean age at menarche was 14.5 years.

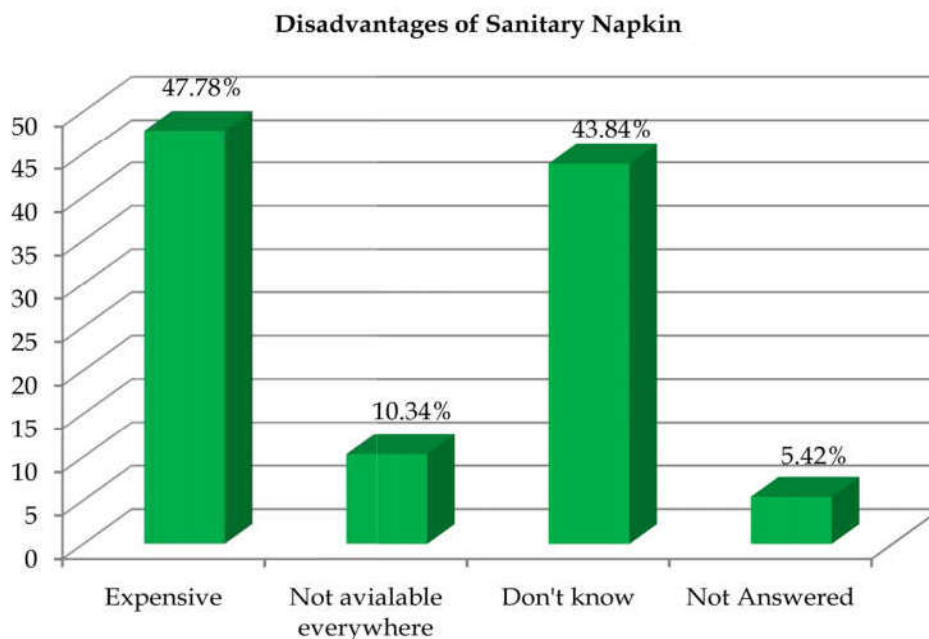
Out of 203 girls 77.83% girl's have regular menses,

86.70% were using sanitary napkin and 13.3% were using either cloth or both during their menstrual period. 71.94 % girls were dispose the used absorbent in Public dustbin followed by dispose with domestic refuse (14.29%) (Table 5, A,B,C)

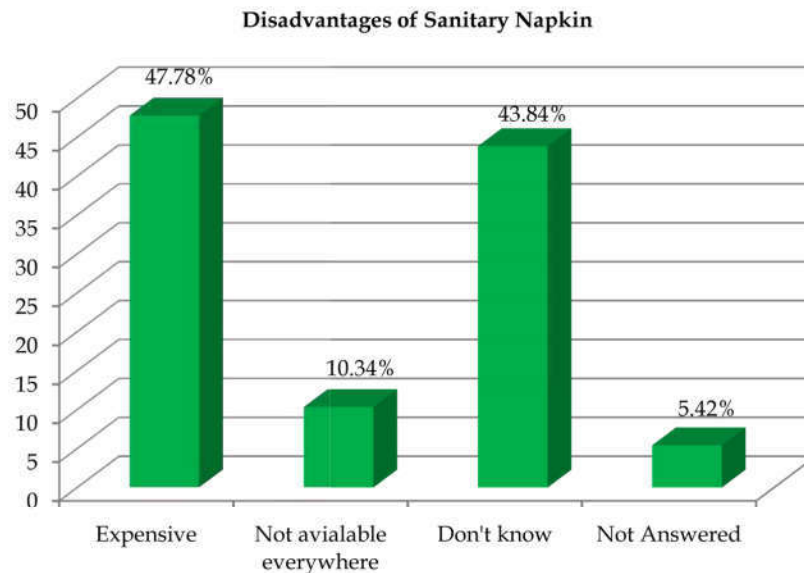
In present study we noted that the perception of girls regarding advantages and disadvantages of sanitary napkin and we found that 88.18% of girls said that sanitary napkin is comfortable, cause adequate absorption (66.50%), doesn't stain the cloths (49.26%), non itchy (29.56%) (Graph 2), while main disadvantages are expensive (47.78%), and not available at all places (10.34%) (Graph 3).

Table 5: Distribution of girl's on the basis of menstrual pattern and practice during menstruation

A. Distribution on the basis of menstrual bleeding		
Menstruation	Number	Percentage
Regular	158	77.83
Irregular	45	22.17
B. Distribution of students as per type of absorbent use during menstruation		
Type of Absorbent used	Number	Percentage
Sanitary Napkin	176	86.70
Cloth	07	03.45
Both	20	09.85
C. Distribution of students on the basis of method of disposal of absorbent		
Method of disposal	Number (n=196)	Percentage
Bathroom/Toilet	04	02.04
Bury in ground	11	05.61
Public dustbin	141	71.94
With domestic refuse	28	14.29
Other	07	03.57
Not answered	05	02.55



Graph 2: Perception of Girl's regarding advantages of sanitary napkin. (n=203)



Graph 3: Perception of Girl's regarding disadvantages of sanitary napkins (n=203)

Discussion

A lot of studies have been done on practices of menstruation, but most of them done on rural population or in school girls. There is paucity of this study in medical students to the best of author's knowledge. This study has tried to fill this gap.

In our study all students those who participated in study were in age group 16-22 years of age group of which 86.71% of girls were in 18-20 years of age and mean age of girls were 19 years. Majority students mother's education status were found to be graduation and above (70.44%), in contrast to our study the study conducted at Western Ethiopia showed a significant positive association between good knowledge of menstruation and educational status of mothers [15]. In a study conducted by Sharma N et al among medical students showed that all girls were in age range between 18-26 years, of this 50.56% girls were in the age group of 18-20 years followed by 34.65% in 21-23 years of age group [16]

In present study 84.24% girl's had knowledge about menstruation before menarche. While in other studies conducted by Sharma N et al among medical students of North India, Rupali Patel at Nagpur and Kalpana Katiyar et al at urban area of Meerut only 67.71%, 55.57% and 38.0% girls had premenarche knowledge respectively [16,17,18]. The higher percentage of knowledge in our study may be due to as they belong to upper socioeconomic class, they are in field of medicine and usage of advance technology.

In Present study the main source of information regarding menstrual knowledge was Mother

(56.73%) followed by Friends (15.79%), Teacher (14.03%), Internet (8.77%), Television (2.34%) and Magazine (2.34%) which is similar to study conducted by Sharma N et al and Juyal R et al, that source of information was Mother (35.22% and 31.2%), Friends (23.29% and 31.8%), Sister (22.15% and 28.1%), Internet (6.81%), Teachers (3.40% and 3.4%) respectively.^{16,7} Rupali Patel et al, in her study found that the main source of information was mother (33.95%), elder sister (25.62%), teacher (25.31%) and friend (15.12%).¹⁷ A study conducted in Bangladesh out of 96.0% of girls those who heard the about menstruation before their menarche the source of knowledge was mother (63.0%) and friends (41.0%).¹⁹

In present study 86.21% girls said that the source of menstrual bleeding is uterus whereas 5.91% girls said vagina and 16.4% did not know the source of bleeding. Similar finding was reported in study conducted at Western Ethiopia that (76.90%) girls respond that menstruation is physiological process due to hormonal changes (62.7%) and the source of menstrual bleeding is Uterus (60.9%) Vagina 226 (27.35%) Bladder 17 (2.15%) Abdomen 33 (4.05%) and Don't know 43 (5.2%).¹⁵

Study conducted among adolescent school girl at West Bengal showed 60.3% of girls in urban area and 54% girls in rural area mentioned menstruation to be a natural phenomenon. 1.5% in urban area and 9.2% in rural area said uterus to be the source of menstrual blood, while others marked urinary bladder, vagina or abdomen to be the sources of menstrual blood.²⁰ Similar findings reported from study conducted among adolescent girls of rural Nepal only 35.3% of girl said that uterus is source of bleeding

while remaining 64.7% were told the vagina, Bladder and fallopian tube is source of bleeding [21]. Surprisingly study conducted among adolescent girls of rural area of Kancheepuram district showed that majority of the respondents (72.60%) were unaware that the source of bleeding is the uterus [22].

In present study 59.61% of girl's responded they experiences mind disturbances during their menstrual period. With menstrual blood lose they also have associated symptoms like pain in abdomen (84.24%), followed by weakness (47.78%), headache (22.66%) nausea & vomiting (13.30%) , excessive bleeding (11.33%), itching at genitalia (8.37%) and breast pain (3.94%). 41.87% girls take medicine to get relief from these symptoms.

Adrija Datta et al in their study noted that majority of girls experienced some kind of symptoms associated with last menstrual periods. Pain in abdomen was the most common associated symptom among both urban (86.7%) and rural (90.9%) students, followed by weakness (46.7% in urban and 28.8% in rural area). Itching around genitalia, headache, nausea/vomiting and breast pain were the other associated symptoms [20].

In a study among medical students by Shrotriya Charu et al dysmenorrhoea is found to be highly prevalent and found as leading cause of absenteeism in medical colleges. Study also showed the positive association between dysmenorrhoea and the age of menarche, family history, both physical and psychological premenstrual symptoms. 86.90% of the participants who had dysmenorrhoea took treatment and most common mode of treatment was evaluated to be the application of heat in the form of hot water bag (91.0%), a large number of participants (73.4%) relied on easily available over the counter analgesics [23].

Dysmenorrhoea is found to have significant effect on day to day activities, limiting daily activities having negative effect on quality of life [24] leading to absenteeism in work place or taking medication to carry out daily activities [25,26].

In present study out of 203 girls 73.40% said that religious activities were restricted for them during menstrual periods, in Hindus it was 73% and Muslims 90%, while attending marriages, sleeping separately and eating certain food was not as much restricted. While only 19.21% of girls had no restriction for different types of activities during their menstruation.

In study conducted at West Bengal, 85.3% of urban girls 80.5% rural girls had some form of restriction imposed during menstruation. Most of the

participants in both urban (54.4%) and rural (76.1%) areas refrained from religious activities, followed by absenteeism from school (45.6%) and playing (40.4%) in urban area and absenteeism from school (33.8%), restriction of food (22.5%) and sleeping separately (22.5%) in rural area. Some others restricted doing household chores and attending marriages [20].

In study conducted at Bangladesh restraining from religious prayer was common for almost all. An average data said that, 95% of the respondents were abstaining from religious activities and followed by don t eat certain food (12%), don t preparing food (16%), don t play (29%). It was believed that, women were ritually impure or weird during menstruation period [19].

In present study the ages at menarche were range between 11-18 years and the mean age at menarche was 14.5 years. Shubhangi Nayak et al and Neelima et al in their study showed the age range between 10-16 years and 9-17 years with mean age at menarche was 13.13+1.046 and 13 years respectively [16,27]. A study among medical students of Mangalore city showed the average age of menarche was 12.67±1.10. Most of the participants, 84.2%, had started menstruating between 12-14 years of age [23].

In present study out of 203 girls, 77.83% girl's have regular menstrual period similar finding were reported from study in Kheda district (69.5%) [28]. The study among the medical students of Mangalore city out of 548 respondents the average duration of the menstrual cycle was 29.52±3.37 days (20-45 days). A large chunk of students had menstrual cycle duration of 28 to 35 days (97.2%), which is considered as normal. Since a very small number (2.8%) had cycle length <21 days and >35 days [23].

In present study 86.70% were using sanitary napkin and 13.3% were using either cloth or both during their menstrual period. 71.94% girls were disposing the used absorbent in Public dustbin followed by dispose with domestic refuse (14.29%). In study conducted by Venkatachalam J et al 89.4% of adolescent school girls use pad during menstruation of this 26.47% bury the pad, 51.84% burn the pad, 14.70% throw in the dustbin, 3.30% throw in the road and 3.30% throw in the latrine [22]. A comparative study conducted among urban and rural adolescent girls of West Bengal depicts that more number of girls in the urban area were using sanitary pads as compared to girls in the rural area and this difference is also highly statistically significant [29].

In present study we noted that 88.18% of girls said that sanitary napkin is comfortable, cause adequate absorption (66.50%) and doesn't stain the cloths (49.26%) but main disadvantages are expensive

(47.78%), and not available at all places (10.34%) Juyal R et al, in their study found that availability and affordability being key obstacles to more widespread use of sanitary napkin followed by lack of awareness and lack of disposal facilities [7]. Dhara Prajapati in her study noted that 46.40% of girls responded sanitary napkin is comfortable, cause adequate absorption (20.60%) and doesn't stain the cloths (33.00%). She also noted reason for non usage of sanitary pad and found that 38.80% of girls don't have knowledge regarding this, 34.0% found difficulty in disposal, 17.5% have Shyness and 9.7% due to costing [28].

Conclusion

Adolescent girls of medical college had improper knowledge on menstruation and menstrual hygiene even they are in field of medicine. Improper menstrual hygiene is important risk factor for reproductive tract infections sometime infection may transmit to the offspring of the pregnant mother, there for menstrual education is vital aspect of health education for adolescent Girls. If adolescent girls are made aware of menstruation, menstrual hygiene and reproductive health right from the early adolescent period through compulsory education in school curriculum, educational television programmes, and knowledgeable parents, the menarche will not shock for them and they will also be better equipped to cope up with the situation and lead to healthy life to them.

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Conflict of Interest:

None declared

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