Research Article

Menstruation: a cross-sectional study on knowledge, belief, and practices among adolescent girls of junior colleges, Kuppam, Andhra Pradesh

Aruna Marati Savanthe[1], Vrushabhendra Halevoor Nanjundappa[2]

[1]Department of Community Medicine,Kurnool Medical College, Kurnool, Andhra Pradesh, India.
[2]Department of Community Medicine, Sri Venkateshwara Medical College Hospital and Research Centre, Pondicherry, India.
Correspondence to: Aruna Marati Savanthe, E-mail: draruna.2010@rediffmail.com/radhika.aruna@gmail.com

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Abstract

Background: Awareness about reproductive health, inclusive of menstruation hygiene, is generally lacking in adolescent girls because of sociocultural barricades in which they grow up.

Objective: To study the knowledge, practices, and sources of data pertaining to menstruation and hygiene among adolescent girls in Kuppam, Andhra Pradesh, India.

Materials and Methods: A cross-sectional study was undertaken among 1,160 college-going adolescent girls aged 15–19 years. Data were collected using a pretested questionnaire and analyzed using SPSS, version 19.

Result: The study showed a response rate of 91.63%. The mean age of the study population was 17.13 ± 1.048 years, and the mean age at menarche was 13.83 years. Around 24.7% participants were aware about menstruation before menarche, 48% showed dysmenorrhea, and mothers were the main source of information. More than half of the students showed certain beliefs regarding menstruation and were also following restrictions. Overall, 78.9% of adolescent girls preferred sanitary napkins as menstrual absorbent, while 25.6% of the girls were using both cloth and sanitary napkins.

Conclusion: Knowledge pertaining to safe, clean practices is needed in adolescent girls to ensure a healthy reproductive life for them.

KEY WORDS: Adolescent girls, menarche, menstruation, hygiene, practices

Introduction

Adolescence (Latin, “Adolescere” = “to grow up”) is the stage of development of transition, i.e., bridge between childhood and adulthood, being defined as 10–19 years old by World Health Organization. This is a phase with physical, psychological, social, and cultural dimensions, alleged differently by different cultures. Behaviors developed during this period produce long-lasting effects for individual and public health and, in various ways, a nation’s future lies in the strength and objectives of its youth population.[1]

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Nearly, in 500 BC, Sushruta Samhita noted that Indian girls commenced to menstruate at the age of 12 years. The importance of menstruation and menarche can be gauged by writing in Mahabharata that, “Each time an unwedded maiden has her monthly course, her parents or guardians are guilty of heinous crime of slaying the embryo.” Therefore, the father tried to find a husband for his daughter as early as possible after the commencement of menstruation.[2]

The main physiological development that occurs in adolescent girls is the beginning of menarche. After that, many girls face problems of irregular menstruation, excessive bleeding, and dysmenorrhea, interrupting their educational and social lives.[3] Numerous psychological and social responses arise as a result of menarche and menstruation in them. More

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awareness about menstruation given from childhood may intensify safe practices and may aid in alleviating and suffering of millions of women from reproductive tract infections.[4]

Adolescent girls form a susceptible population, especially in India where female child is abandoned. Indian society still regards menstruation as something unclean or dirty. The response to menstruation is determined by the awareness and knowledge about the same. The manner in which a girl acquires knowledge about menstruation and its related changes affects her reaction to the event of menarche. Although Menstruation is a natural phenomenon; however, numerous misconceptions and practices linked to it leads to negative outcomes.[5]

Udgiri et al. found that mothers (47.4%) as the most important source of information regarding menstruation among the study subjects, followed by friends/peers (23.8%), teachers (4.9%), and mass media (4.8%).[4]

A large number of beliefs and taboos relating to menstruation exist in society. These are mainly related to movements of the individual, restrictions of food and food habits, avoidance of certain day-to-day rituals, and so on; however, they are becoming less commonly practiced. Many bans and sociocultural prohibitions are still noticed in menstruation and menstrual practices, which result in adolescent girls remaining unaware of the scientific realities and clean health practices, which lead to negative health outcomes.[6]

Considering these issues and need to educate adolescents on reproductive health for their healthy adulthood, we have taken up this study. As 15–19 years is the most vulnerable and important age group to assess their knowledge, belief, and practices regarding menstrual health, we selected our study population in junior colleges of Kuppam town.

Objective

1. To find out the knowledge and beliefs of adolescent girls regarding menstrual health.
2. To document menstrual practices and menstrual hygiene of the girls.

Materials and Methods

Study Population

This descriptive cross-sectional study was carried out in five intermediate colleges in Kuppam, Chittoor district, Andhra Pradesh, India, between January and March 2012. The study population comprised both first- and second-year intermediate and equivalent to intermediate students. The inclusion criteria were aged between 15 and 19 years and present in the college at the time of the study. Chronic absentees at the time of data collection were excluded.

Study Sample

It is a universal sample, i.e., all the intermediate students from all the five colleges during January 2012 to March 2012 were included. Total number of female students in these colleges was 1,266. Of the 1,266 students, 93 students were not available during the time of data collection after two attempts to trace and 13 students were aged older than 19 years and, hence, excluded. The total number of students enrolled at the end for the study was 1,160.

Pilot Study

A pilot study was conducted in similar setup on 60 students. After explaining them the purpose of study and confidentiality, a self-administered questionnaire was given to them. On the basis of the experience, certain modifications made, such as rephrasing some questions, making some questions open ended, permitting multiple responses to some questions, and so on, to suit our purpose.

Standardization of Questionnaire

Reliability of the questionnaire was tested by Cronbach's alpha. The result of reliability test was 0.72, which means it is in acceptable range.

Method of Data Collection

The study was undertaken according to the convenience of the students and concerned college management. The data were collected in small batches of 30 students. The students were explained about the purpose of the study and method of filling up the questionnaire. Informed consent was taken, and then, the data were collected with the pretested questionnaire. Students were given adequate time to fill up the questionnaire. The students were made to sit separately, and any doubts while filling the questionnaire was addressed at the same time. The pretested questionnaire collected information on the sociodemographic profile, menstrual history, weight, height, and knowledge, belief, and practices regarding menstrual health. After whole data collection, brief information was given to the students on reproductive health, reproductive illness, misconceptions surrounding menstrual health, and motivations to acquire healthy menstrual practices and positive health-seeking behavior.

Results

Sociodemographic Distribution of Study Population

Of the 1,266 adolescent girls in all the five junior colleges of Kuppam, 1,160 responded to our study with response rate of 91.63%. As shown in Table 1, majority [706 (60.9%)] were in the age group of 17–18 years. The mean age of the study population was 17.13 ± 1.048 years. Majority of the study population were Hindus (91.47%) and from nuclear family (66.8%) and medium family (65.86%). Most of their mothers were illiterates (35.3%), followed by those who have completed secondary schooling (27.8%), and most of the student's fathers completed secondary schooling (33.5%), followed by 23.5% of them being illiterate. Most of the study population belonged to middle class (50.5% includes both upper and lower middle classes), and only 9.8% students were from the lower class.

Table 1: Sociodemographic distribution of study population

	No. of students	%
Age groups (years)		
15–16	340	29.3
17–18	706	60.9
19	114	9.8
Religion		
Hindu	1,056	91
Muslim	81	7
Christian	23	2
Type of family		
Nuclear	775	66.8
Joint	385	33.2
Size of family		
Small	326	28.1
Medium	764	65.9
Large	70	6.0
Education status	Mother, *n* (%)	Father, *n* (%)
Illiterate	409 (35.3)	273 (23.5)
Primary school	281 (24.2)	200 (17.2)
Secondary school	323 (27.8)	389 (33.5)
Intermediate	64 (5.5)	97 (8.4)
Graduate	78 (6.7)	182 (15.7)
Postgraduate	5 (0.5)	19 (1.6)
SES (*n* = 1,120)		
Upper class	243	21.7
Upper middle	310	27.7
Lower middle	255	22.8
Upper lower	202	18.0
Lower class	110	9.8

Table 2: Distribution of study population depending on their pattern of menstrual cycle

Menstrual pattern	*N*	%
Menstrual cycle (*n* = 1,143)		
Regular	936	81.9
Irregular	207	18.1
Dysmenorrhea (*n* = 1,143)		
Present	549	48.0
Absent	594	51.9
Duration of cycle (*n* = 1,143)		
<21	37	3.2
21–35	951	83.2
>35	155	13.6
Duration of blood flow during menstruation (*n* = 1,143), days		
<3	410	35.9
3–5	642	56.2
>5	91	8.0

Menstrual History

In the study, majority (*n* = 1,143, 98.5%) have attained menarche [Table 2]. Mean age at menarche was 13.83 years and most (83.4%) of them reported of having menarche between 13 and 15 years; 936 (81.9%) students experienced regular cycles, 594 students (52%) experienced no pain during menstruation, whereas 549 students (48%) experienced pain, i.e., dysmenorrhea. Majority of the students (83.2%) revealed regular cycles, i.e., 21–35 days. Metrorrhagia was seen in 155 students(13.6%) and menorrhagia in 3.2% students; 56.2% showed normal days of flow, i.e., 3–5 days, followed by 410 students(35.9%) having less than 3 days of flow, i.e., oligomenorrhea. The average duration of menstrual flow in our study was 4.14 ± 1.2 days. According to Table 3, 50.6% of students experienced acne/pimples before their menstruation. Nearly equal number of students experienced irritability/mood swings (25.3%), sleep problems (both excess sleep and insomnia—24.3%), and headache (24.2%). Majority (53.2%) of the students experienced abdominal pain/cramps or dysmenorrhea, followed by backache (35.6%).

Table 4 shows the knowledge of study population regarding menstruation. In this study, 84%–85.9% of the study population showed correct knowledge regarding menstruation being a normal phenomenon; menstrual pattern, i.e., monthly once cycle; normal age at which girl starts menstruating; and no menstruation during pregnancy. Awareness of how menstruation occurs, about white discharge, and correct organ from which blood comes during menstruation was seen in 40%–50% of adolescents, while only 24.7% of students (*n* = 286) were aware of menstruation before menarche.

Table 3: Distribution of study population on the premenstrual and during menstruation symptoms

Premenstrual symptoms, *n* = 1,143	*N* (%)	During menstruation, *n* = 1,143	*N* (%)
Irritability/mood swings	293 (25.3)	Weakness	300 (25.9)
Headache	281 (24.2)	Backache	413 (35.6)
Anxiety/tension	247 (21.3)	Headache	195 (16.8)
Fullness and tenderness of breast	181 (15.6)	Abdominal pain/cramps	617 (53.2)
GIT upset/food craving	194 (16.7)	Pain in legs	321 (27.7)
Acne on face	587 (50.6)		
Sleep problems	282 (24.3)		

Total is not equal to 100% as there were multiple symptoms in the study population.

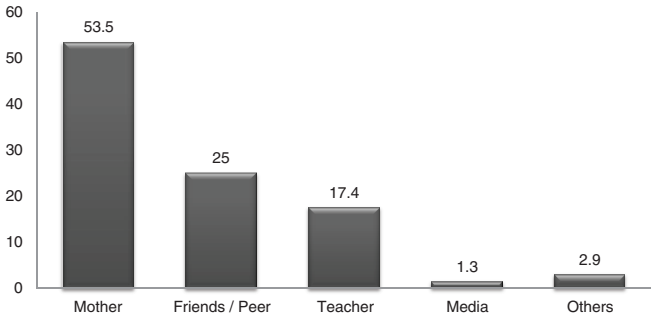

Figure 1: Source of information regarding menstruation.

Table 4: Knowledge of study population regarding menstruation

Knowledge	*N*	%
Menstruation is normal phenomenon	997	85.9
Aware of how menstruation occurs	567	48.9
From uterus blood comes during menstruation	471	40.6
Monthly once, menstrual cycle occurs	975	84.1
A girl normally start menstruating at 11–15 years	991	85.4
Blood flow days during menstruation normally lasts for 3–5 days	637	54.9
Menstruation does not occur during pregnancy	974	84.0
At least every time before changing material, a girl should desirably clean the perineal region during periods	800	69.0
Aware of menstruation before menarche	286	24.7
Aware of white discharge	468	40.3

Table 5: Beliefs prevailing in the study population regarding menstruation

Menstruation	N	%
Avoid curd	613	52.8
Avoid nonvegetarian foods	403	34.7
Never be alone	530	45.7
Avoid holy places, functions, poojas	975	84.1
Avoid new clothes	516	44.5
Isolation for 3 days of flow	629	54.2
Do not be intimate with boys	493	42.5

Table 6: Practice during menstruation

	N (*n* = 1,143)	%
Restrictions followed during menstruation		
Not entering into kitchen, pooja room	903	77.8
Should not touch anyone	240	20.7
Avoid certain food items	204	17.6
Do not have any restrictions	126	10.9
Measures taken		
Cloth (old/new)	241	21.1
Sanitary pad	902	78.9
Disposal of sanitary pad/cloth		
Wash and reuse	184	16.1
Burn	467	40.9
Wash and flush off	255	22.3
Throw in dustbin	237	20.7

Source of Information Regarding Reproductive Health

As per Figure 1, the major source of information for the students was mothers (53.5%), followed by friends and peer groups (25%). Other sources included books, library, and journals, which was utilized by only 2.9%. Least used source was media, which included TV, newspaper, and Internet as the study population included rural area where accessibility to these is comparatively less.

Belief Regarding Menstruation

Table 5 shows the beliefs prevailing in the study population regarding menstruation. Majority of them (84.1%) believed that, during menstruation, one should avoid holy places such as temples, pilgrims, poojas, and functions. Nearly half of them believed that one should avoid curd, new clothes, never go alone outside, isolation for 3 days of flow, and never be intimate to boys during menstruation. Less than half of the study population believed in avoiding nonvegetarian food as it causes foul smelling of bleeding during menstruation.

Practice Regarding Reproductive Health

Among the 1,143 students who have attained menarche, majority (77.8%) followed restriction of not entering into kitchen and pooja room; 20.7% did not touch anyone; 17.6% avoided certain food items; 10.9% did not follow any restrictions; and 89.1% practiced one or the other restriction during menstruation [Table 6]. Majority (78.9%) of them used sanitary pads and only 21.1% cloth. Majority (40.9%) of them used to burn their sanitary pad/cloth as they believe that if disposed in other ways can cause curse. About 22.3% wash and flush off and 20.7% threw in dustbin and 16.1%, usually who were using cloth, use to wash and reuse it. About 37%–38% changed the sanitary pad/cloth used during menstruation two to three times in a day.

Discussion

Majority (*n* = 706, 60.9%) of the study population was in the age group of 17–18 years. The mean age of the study population was 17.13 ± 1.048 years. The results were near similar to study by Nagar and Aimol,[7] where the average age was 16.2–16.86 years,[7] and in the study by Kamath et al.[8] and Thakre et al., it was 13.98 years.[9]

Majority (52.0%) of student's mothers have studied only till tenth. In contrast to the results of this study, the study done by Nagar and Aimol[7] and Thakre et al.[9] showed that majority of mothers (41.8%–50%) have completed secondary schooling. Most of the study population belonged to middle class (50.5% included both upper and lower middle classes), followed by upper class (21.7%) and upper lower class (18%); only 9.8% were from lower class. In the study

by Majumdar and Ganguli,[10] only two girls (0.83%) belonged to upper class, 81 (33.33%) belonged to upper middle class, the majority belonged to lower middle class [120 (49.38%)], and the rest [40 (16.46%)] were in the lower social class, which was little similar to our results.[10] Contrary to our study result where 27.8% were from lower socioeconomic class, the study done by Udgiri et al.[4] showed that 51.75% were from lower socioeconomic status classes IV and V. These differences observed were because of the different study setup.

Similar to other studies, most (83.4%) of the students in our study reported of having attained menarche between 13 and 15 years, with mean age at menarche being 13.83 years.[8,9] But, according to the study conducted in Jammu, 71 (54.2%) reported having reached their menarche between the age of 10 and 12 years.[11] While 50.6% of students experience acne/pimples before their menstruation, nearly equal number of students experienced irritability/mood swings (25.3%), sleep problems (both excess sleep and insomnia—24.3%), and headache (24.2%). The study done in Maharashtra showed that 166 girls (68.3%) complained of pain in abdomen, headache, and giddiness as symptoms before the onset of menstruation.[10] Majority, 53.2%, of the students experienced abdominal pain/cramps or dysmenorrhea (48%), followed by backache (35.6%). This study results were similar to those of other studies where the commonest problem was found to be dysmenorrhea, ranging from 60% to 83% with 76% people having disturbed daily routine.[12,13]

In this study, only 24.7% of students ($n = 286$) were aware of menstruation before menarche. Similarly, about 36.95%, 33.27% in urban area and 35.82% in rural area, were aware before menarche in other studies.[8,9] Contrary to our study, other studies said nearly 60%–70% of them were aware of menstruation before menarche.[4,12,13] The difference in the results may be because of the variation in the study settings.

In this study, 84%–85.9% of study population revealed correct knowledge regarding menstruation being normal phenomenon, menstrual pattern, i.e., monthly one cycle, normal age at which girl starts menstruating, and no menstruation during pregnancy. Contrary to our study, only 57% were aware of normal age for starting menstruation and 30% of its monthly process in another study.[7] Similar to this study, 67.2% and 72.2% in urban and 38.9% in rural areas, perceived it to be a normal process[8,12] while only 39.3%, 18.35% in other studies perceived it so which is contrary to our study.[9,14] In our study, 40%–50% of adolescents were aware of how menstruation occurs and about white discharge and correct organ from which blood comes during menstruation, while in another study,[5] 67.5% were aware of how menstruation occurs; few other studies with 19.3% urban and 21.8% rural people, 24%–50% of them were aware about the source of blood during menstruation.[8,9,14] Overall, correct knowledge regarding menstruation was present in 80% of the population, which was less in another study.[15]

In this study, major source of information for the students were their mothers (53.5%), followed by friends and peer groups (25%). Our study results were similar to other studies.[4,6,8,9] Contrary to our study results, in another study, the source of information was radio for 80.4%, television for 73%, and school teachers for 71.8% of the respondents.[16] Similarly, in the studies by Dhingra et al.[11] and others, it was found that 83% of the respondents received information from friends, followed by TV (3%), mothers (5%), magazines (5%), movies (10%), and relatives (6.5%).[7]

Majority of them (84.1%) believed that, during menstruation, one should avoid holy places such as temples, pilgrims, poojas, and functions. Nearly half of them believe that one should avoid curd, new clothes, never stay alone outside, isolation for 3 days of flow, never to be intimate to boys during menstruation. Less than half of the study population believed in avoiding nonvegetarian food as it causes foul smelling of bleeding during menstruation. In other studies, 12% and 40%–56% adolescents were seen having one or the other belief.[12,13] About 77.8% followed restriction of not entering into kitchen and pooja room; 20.7% did not touch anyone; 17.6% avoided certain food items; 10.9% did not follow any restrictions; and 89.1% practiced one or the other restriction during menstruation. Similar to our study was seen in the results of the study by Thakre et al.,[5,9] while 19.7%–34% of people in other studies followed restrictions.[12,13]

Majority (78.9%) of the study population used sanitary pads and only 21.1% cloth, which is similar to many studies.[8,9,12,13] Contrary to our study, other studies showed usage of cloth is more prevalent in community than sanitary pad.[5,10,14] Majority (40.9%) of them used to burn their sanitary pad/cloth as they believe that if disposed in other ways can cause curse; 22.3% washed and flushed off and 20.7% threw in dustbin; and 16.1%, usually who were using cloth, used to wash and reuse it, which were similar to other studies.[9,12,14] Contrary to that, 70%–90% reuse cloth and buried the cloth used during menstruation.[5,11] Majority (37%–38%) of them were changing the sanitary pad/cloth used during menstruation two to three times in a day, while 70% changed more than two times according to Nagar and Aimol.[7]

Responding to a question regarding persons intended for seeking advice on having reproductive health problems, parents were preferred by 49.2%, doctors by 44.6%, 14.6% friends, and 3.1% faith healers according to Singh et al.,[17] and just over the quarter of respondents (15, 26.2%) said problems subsided by maintaining personal hygiene. Similar proportion (26.2%) seeked health services in a study in Nepal,[12] while, in our study, doctors were preferred by 55.2%, followed by home remedy (26.2%), while 18.6% did not wish to consult anyone for their problems.

Conclusions

This study showed that, among the adolescent school girls, the knowledge on menstruation is poor, preoccupied with various misconceptions and myths, and the practices

are often not too optimal for proper hygiene. Considering these, this study highlights the need for educating girls about adolescent health and reproductive health problems through schools, colleges, and parents by the health professionals with active support and coordination by the school authority. Targeting girls at the time of adolescence is an appropriate strategy as it is the time when most of them feel curious to know about their bodily changes and most active learning phase takes place. An important component of school health program must be including topics on normal physiological aspects, its implications, the facts of menstruation, development of secondary sexual characteristics, selection of a sanitary menstrual absorbent, and its proper disposal in health education sessions, which need to be conducted by the health professionals. In addition, educative sessions for parents also need to be conducted so that they can be trained to give adequate knowledge on reproductive health problems to their children so that she does not develop psychological upset. The gained knowledge would indirectly eradicate the age old myths and make her to feel free to discuss menstrual matters without any inhibitions. The production of sanitary napkin can be taken up by women self-help groups as a part of their income generation program; besides, women/adolescent girls should be made aware to use old cloth hygienically. This essentially will contribute to the attainment of some MDG, particularly 2, 3, and 7.

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