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Original Research Article

Knowledge, attitude, and practices assessment of menstrual cycle and management of menstrual hygiene among adolescent girls

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ABSTRACT

Background: Menstruation is a phenomenon which is cyclic shedding of endometrium and is the most important physical change that occurs among girls during adolescence. In India, lack of safe sanitary facilities and narrow approach to products of sanitary hygiene lead to increase in adopting unhygienic practices in managing menstruation. The objectives of this study were: to enumerate the common menstrual morbidities among girls; to study the knowledge and attitude toward menstruation among adolescent girls; to elicit their health‐seeking behavior regarding menstrual health; and to study the practices of menstrual hygiene among adolescent girls.
Methods: A cross-sectional study was conducted in a tertiary care hospital, located in Vijaywada, June 2019 to April 2020 by interviewing 417 adolescent school girls in using a semi‐structured questionnaire.
Results: The mean age and standard deviation of girls included in the study were 14.7±2.69 years. 62.6% girls had the right perception about menstruation as a normal physiological process. Only 33.6% of girls knew about menstruation before menarche. 32% of girls answered that they were scared when they attained first menarche. 50.6% girls knew that infection would occur if they do not clean their vagina regularly during menstruation.78% of girls used sanitary pads during menstruation. Dysmenorrhea, 58% is the common menstrual morbidity. Only 11% girls said that they had no restrictions during menstruation.
Conclusions: The girls interviewed, are of unsatisfactory knowledge and markable good practices regarding menstrual health.

Keywords: Adolescent girl, Attitude and practices, Knowledge, Menstrual health

INTRODUCTION

Adolescence is a intermediate stage of development and growth between puberty to maturity, that isn't just a physical phenomenon but includes psychological and emotional. As stated by World Health Organization (WHO), an individual between the ages of 10 and 19 years are adolescent. India has the largest adolescent population in the world, 253 million, and every fifth person is between 10 to 19 years.[1]

The onset of menstruation, which is cyclic shedding of endometrium, is the most important physical change that occurs among girls during adolescence. This shedding of the inner lining o the uterus, is under the control of hormones of the hypothalamopituitary axis.[2]

Most of the girls have minimal knowledge until faced their first experience because menstruation is not frequently addressed in homes.[3] The issue of menstrual hygiene is inadequately acknowledged and has not received proper

attention, it is crucial to have a better understanding of the good menstrual hygiene for the health, and dignity of girls and women. Adequate washing of the genital areas and use of sanitary pads are good hygienic practices, which are essential during menstruation period.[4]

Globally approximately 10% of women are exposed to genital infections including urinary tract infections and bacterial vaginosis and 75% of women have a history of a genital infection. Poor hygiene (both perineal and menstrual hygiene) and pregnancy are the common risk factors for vaginal infections.[5]

Practices of good menstrual hygiene reduce the prevalence of reproductive tract infection (RTI), which have become a silent outbreak that distress women's lives and is closely related to poor menstrual hygiene. As the consequences of RTIs are severe and may also result in considerable negative impact on woman's health including dysmenorrhea (painful periods), chronic pelvic pain, and cases of infertility, these conditions are to emphasized.[6,7]

A broad information gap exists among adolescent girls regarding prior awareness about menstruation and menstrual hygiene which do have an impact on the practices during menstruation and the associated gynaecological problems.[3]

Thus, the present study was done to estimate the level of understanding and awareness of gynecological morbidities and also to find out the relation between the knowledge, attitude, and practices (KAP) about menstruation.

METHODS

Study design

This was a cross-sectional study.

Study area

This study was conducted in a Urban Tertiary Care Hospital in Vijayawada.

Study population

The study consisted of adolescent girls of age 10–19 years.

Inclusion criteria

Adolescent girls, who attained and who did not attain menarche and whose verbal consent of them and their their parents was taken for interviewing them on menstrual health were included in the study.

Exclusion criteria

Girls and women of age above 19 years were excluded.

Study period

The duration of the study was from June 2019 to April 2020 and August 2018 to January 2019 in a tertiary care hospital.

Sampling method

Purposive sampling was used as the sampling method.

Sample size

Of 417 girls of the age group 10–19 years (148 who didnot attain menarche and 269 who attained menarche) enrolled, whose gave the consent for the interview based on the questionnaire.

Method of collection of data

All adolescent girl patients, of the age group 10–19 years irrespective of their place of residence were included in the study. Data collection was started after obtaining clearance from the ethical committee and verbal consent from them and their parents and were interviewed using a semistructured questionnaire which contains questions regarding knowledge, attitude towards menstruation and practices in menstruation, morbidities and health seeking behaviours.

Statistical analysis

Data was expressed as frequencies (%), means, and, standard deviation (SD) using Microsoft office excel 2010 15.0.

RESULTS

Most of the adolescent girls were in the age group of 13–16 years (40%) followed by 16–19 years (32%) and 10–13 years (28%). The youngest age in the study was 10 and oldest age was 19. The mean age and standard deviation of girls included in the study were 14.7±2.69 years. Two hundred and sixty–nine girls of 417 attained their menarche before interview, whereas 148 girls did not.

Six girls in the age group of 16–19 years had not attained menarche and 23% (27 of 117) girls of 10–13 years attained menarche. The mean age at menarche was 12.02 years and standard deviation was 1.75. Youngest age of attaining menarche was 10 years, median and mode was 12 years, 10 years respectively.

Knowledge

Table 1 notes that 73.8% of girls knew that menstruation occurs only in females. Only 33.6% of girls knew about menstruation before menarche. It was observed that 50.6% girls knew that infection would occur if they do not clean their vagina regularly during menstruation. Maximum, i.e. 87.9% (137 of 156) of girls who did not attain menarche

responded as "don't know" for their perception regarding menstruation.

Table 1: Distribution of adolescent girls according to knowledge and attitude toward menstruation and its management.

Knowledge	Aware (%)	Unaware (%)
Perception about menstruation	261 (62.6)	156 (37.4)
Right age at menarche	221 (52.9)	196 (47.1)
Occur only in females	308 (73.8)	109 (26.2)
Duration of normal menstrual period	157 (37.6)	260 (62.4)
How frequently should they occur	271 (65)	146 (35)
What happens when you do not clean your vagina frequently	211 (50.6)	206 (49.4)
Awareness before menarche	140 (33.6)	277 (66.4)
χ2, df, P	183.71, 6, 0.0001	

Table 2: Distribution of girls according to their attitude towards menstruation (n=269).

Attitude	No. of girls (%)
Celebration at menarche (n=269)	
Reaction at menarche (n=269)	191 (71)
Cried	46 (17)
Scared	87 (32)
Casual	82 (31)
Irritated	49 (18)
Others (worry)	5 (2)
Restrictions during menstruation (n=317)	
Do not play/physical work/ exercise	61 (19)
Do not go to school	43 (14)
Do not talk to boys	9 (3)
Do not enter the kitchen	59 (18)
Do not visit others' homes	35 (11)
Do not attend family functions	69 (22)
Segregated in the house	7 (2)
No restrictions	34 (11)
Attitude toward restrictions (n=269)	
By your own wish	61 (23)
By the force of family members	174 (65)
No restrictions	34 (12)
Restrictions of food (n=269)	
Yes	71 (26)
No	198 (74)

In this study, only 50 girls said that there was health education regarding menstruation in school. Other factors include lower socioeconomic status and education of the mother. This depicts that educating the girls regarding menstruation is lacking which is failure in bringing awareness about menstrual hygiene. It was observed in this study that 49.45% of girls, who were aware about menstruation before menarche, were informed by their mother. Friends as informants were 32.09% followed by sister, 18.46%.

Practices

According to Table 3, majority of the girls (78%) used sanitary pads during menstruation. 17% used cloth pieces and 4% used both. Out of the girls who used cloth pieces, 75% reused them, and of those, 37% washed the cloth pieces and dried it in the sun. Maximum, i.e. 53%, of school girls changed their material of protection 2–3 times daily. 9% of girls changed pads or cloth pieces <2 times/day. Best practice is to change the pad more than or equal to 4 times a day, which was observed in 38% girls. 91% girls took bath daily during menstruation. Cleaning of external genitalia <2 times/day was found in 45% girls. In this study, 43% girls put a track on the date of menstruation, which is important so that the adolescent school girls take the responsibility of their periods and manage them hygienically and be prepared. Eighty-seven girls had reported being absent from school during menstruation, which was associated with heavy flow and severe pain in the abdomen. Majority of the girls (62%) discarded the pad or cloth pieces by throwing it into the dustbin. 12% flush the pads in the toilet, which can lead to blocking of the sewage system. Burning the material is the best option which was practiced by 24% girls.

Table 3: Distribution of girls according to practices of menstruation and its hygienic management (n=269).

Practice	n (%)
Record the date of periods	116 (43)
Number of cloth pieces or pads changed per day	
≥4	103 (38)
2-3	141 (53)
<2	25 (9)
Being absent from school during menstruation	87 (32)
Material used for protection	
Pads	211 (78)
Cloth pieces	47 (17)
Both	11 (4)
Reuse cloth pieces (n=47)	30 (75)
Wash and dry cloth in sun (n=30)	11 (37)
How the pad or cloth piece is discarded? (n=269)	
Dustbin	166 (62)
Flush in the toilet	32 (12)
Burn them	66 (24)
Others	5 (2)
Number taking bath daily during periods (n=269)	245 (91)
Frequency of cleaning vagina per day (n=269)	
≤2	121 (45)
>2	148 (55)

Attitude

It was noted that 71% girls had celebrations at home when they first attained menarche. Table 2 shows that majority of the girls (32%) reported that they were scared when they first attained menarche. 31% girls responded that they were casual when they attained menarche. Only 12% girls said that they had no restrictions during menstruation. Seven girls were segregated from home during periods. 65% girls reported that they were forced by their family members to follow restrictions. 26% of girls had restriction of food during menstruation.

Generally the foods avoided were curd, buttermilk, spicy and salty food, non-vegetarian, papaya, pickles. 51.2% adolescent girls who practiced restrictions by the force of family were 13–16 years of age and 48.8% girls were in the age group of 16–19 years. It was found that younger girls followed restrictions by force as compared to old age group.

Menstrual problems

Maximum, i.e. 72%, girls responded for dysmenorrhoea in the present study. Majority of these responses were in the age group of 13–15 years. 44 (16%) girls suffered from irregular cycles, with 5 of them in the age group of 10–12 years. Premenstrual syndrome was found in 4 responses aged 16–18 years.

Menorrhagia was reported by 13% responses, maximum in the age group of 16–18 years. Spotting which indicates polycystic ovary syndrome (PCOS) or infection was a menstrual problem in 13–15 years of age girls. 10% of girls suffered from premenstrual syndrome. Table 3 depicts that the association between menstrual morbidities and age-wise distribution is found to be highly significant.

Table 4: Distribution of girls according to menstrual morbidities and age.

Menstrual morbidity	Age			Total
	10-12 (%)	13-15 (%)	16-18 (%)	
Menorrhagia	5 (18.5)	11 (9.7)	18 (14)	34 (13)
Dysmenorrhea	11 (41)	81 (72)	64 (50)	156 (58)
Premenstrual syndrome	4 (15)	6 (5.3)	17 (13)	27 (10)
Irregular cycles	5 (18.5)	10 (9)	29 (22.4)	44 (16)
Spotting through qout the month	2 (7.4)	5 (4.4)	1 (0.7)	8 (3)
Total	27 (10)	113 (42)	129 (48)	269 (100)

Chi square –23.75, 0.002

Health seeking behaviour

According to Table 5, most of the girls responded that they take mother's help for problems during menstruation, followed by friends and sister. 58% responded that they do not take any treatment because of no need and fear of side effects. 16% responded for home remedies such as drinking lime juice and hot water, drinking coconut water, avoiding spicy food. 17% took doctor prescribed medicines, and of them, majority opted for treatment in private hospitals (55%) and preferred females as their doctors (94%). 9% took over the counter drugs such as paracetamol, ibuprofen and diclofenac gel, and some girls (3 girls, i.e. 12%) were not aware what they take for treatment.

Table 5: Distribution of girls according to health seeking behaviour.

Health-seeking behaviour	n (%)
First consultation during a problem (n=269)	
Mother	235 (87)
Friend	17 (6)
Sister	11 (4)
Relative	4 (2)
Neighbor	2 (1)
Type of treatment (n=269)	
Home remedies	43 (16)
Doctor prescribed medicines	47 (17)
Over the counter drugs	25 (9)
No treatment taken	154 (58)
If doctor where do they approach (n=47)	
Urban health training center	4 (9)
District hospital	3 (6)
Private	26 (55)
Others (homeopathy, Ayurveda)	14 (30)
Preference of the doctor (n=47)	
Male	3 (6)
Female	44 (94)

DISCUSSION

According to Dambhare et al 48.1% (519 out of 1080) girls did not attain menarche, where as in this study 35% (148 of 417) did not attain menarche.[8] The mean age at menarche was 12.02 years with the standard deviation as 1.75, in this study. Dipali et al in their study observed that the mean age at menarche was 13.32 years; likewise, study conducted by Shanbag et al, the mean age at menarche was found to be 13.4 years with standard deviation as 1.013.[9,10]

Knowledge

Shanbag et al in their study concluded that 73.7% girls perceived menstruation as a normal phenomenon was a slight higher percentage in comparison to this study.[10] 73.8% were aware that menstruation occurs only in females whereas in a study by Shanbag et al the awareness

about menstruation as a process unique to females was 89.1%.[10] In the study conducted by Abhay et al mother was the informant (40.67%) followed by friends which was 19% whereas the percentage is higher in this study where mother is first informant (87%) succeeded by friends which was 6%.[11]

Practices

In the study conducted by Shanbag et al it was found that during menstruation, 44.1% used sanitary pad, 34.7% of the study population used cloth and 21.2% used both cloth and sanitary pad, where as in this study it was seen that 78%, 17%, 4% of the study population used pads, cloth and both respectively and the percentage of girls using the sanitary pads is higher in present study.[10] According to Shanbag et al the frequency of changing sanitary pad during the time of menstruation was shown 21.7% once a day and 39.8% changed sanitary pad or cloth twice a day, 29.5% three times a day.[10] In the present study this observation was as follows, 38% changed more than 4 times a day, 53% changed 2-3 times a day. As per a study by Shanbag et al 53.8% cleaned their external genitalia after voiding every time which was 55% in this study.[10] In a related study conducted by Abhay et al only 1% of the girls burned the material for protection during menstruation.[11] Maximum (55.67%) threw the material in the dustbin. In this study 62% throw the sanitary material in the bin and 24% burnt the material. Throwing the material in dustbin would be a safe practice if discarding and burning of the used material is properly done.

Attitude

In this study, special functions held on attaining menarche was 71% but in the study by Shanbag et al it was 45.6%, and in the same study the food taboos were common during menstruation and 42.6% avoided certain food items, common ones being sweets (21.6%), spicy food (3.9%), curd and milk products (9.1%).[10]

Menstrual problems

Dysmenorrhea was the most common problem of adolescent girls (67.2%) in a study conducted by Sharma et al which was in accordance to the present study.[11]

The observations in the current study were in accordance with the study of Abhay et al, abdominal pain (67%) was found to be the common complaint during menstruation followed by headache/irritation (25.67%), loss of appetite (12.67%), and leg cramps (10.33%).[10]

Health-seeking behavior

Sharma et al noted that only 4% girls went to doctor for treatment and 14.7% went to a physician or a gynecologist. The severities of symptoms were not related to their health-seeking behavior.[12]

Limitations

As this was not a comparative study between urban and rural areas, limits to analyze the status of menstrual health among adolescent girls. Not all the patients interviewed stay in the urban area, the results cannot be assumed to the total adolescent girls.

CONCLUSION

The knowledge about menstruation and menstrual hygiene of girl patients was found to be unsatisfactory but the practices were known to be good. Most restrictions were by the force of the family showing a poor attitude in management of menstruation. As schools were not drawn to relay on health education concerning periods and unfortunate attitude of society towardconstructing the adolescent girls for menstrual management. Healthcare‑seeking behavior was average. Majority of girls felt no need for seeking help where some followed home remedies.

Recommendations

Must of health education in the schools on the subject of menstrual hygiene. Peer educators, are authentic way to amplify knowledge and awareness by acknowledging young in the community in an informed manner and discuss about sensitive issues. Adequate and affordable supply on menstruation essentials.

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