

Original Research Article

Understanding menstrual health and related health-seeking behavior in adolescent girls at a tribal welfare school in Vikarabad: a cross-sectional analysis

Shravya Lakkakula, Nirupama A. Y., Yashaswini Kumar, Srinivas Rao Imandi*

Department of Public Health, Indian Institute of Public Health, Hyderabad, Telangana, India

Received: 08 March 2023

Revised: 10 June 2023

Accepted: 10 September 2023

*Correspondence:

Dr. Srinivas Rao Imandi,

E-mail: srinivas.mph2021@iiphph.org

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Adolescent girls often lack adequate knowledge and comfort when accessing reproductive health care and information. A woman's health at different stages in her life is interconnected, such that the state of her menstrual health at present can influence her reproductive, sexual, and maternal health in the future. Therefore, possessing adequate understanding and awareness regarding menstruation and recognizing the significance of seeking healthcare will help in managing menstruation hygienically and with dignity.

Methods: A school-based cross-sectional study was conducted in a tribal welfare residential school in a rural setting among female adolescent girls in classes 6th, 7th, 8th, 9th, 10th, during September 2022 for 10 days, with objectives to assess knowledge about menstruation and to determine the health-seeking behaviour for menstrual health among them.

Results: In our study of 73 adolescent tribal girls (mean age: 13.86±1.33), 73.9% had a high knowledge level about menstruation. Self-medication was reported by 26%, while only 9.6% consulted a doctor. Higher menstrual pain was linked to a 3.25 times higher likelihood of consulting a doctor and a 5.5 times higher likelihood of self-medication.

Conclusions: While a majority of tribal adolescent girls demonstrated a good level of knowledge regarding menstruation, only 9.6% of them sought medical consultation from a doctor. A comprehensive approach that combines health education, challenging cultural taboos, and improving access to healthcare services is necessary to promote better healthcare-seeking behaviour among adolescent girls regarding menstruation.

Keywords: Adolescent tribal girls, Health-seeking behaviour, Knowledge, Menstruation

INTRODUCTION

The period of life between the ages of 10-19 is defined as adolescence, which is characterized by changes in health, cognition, emotions, and social interactions. It is also the period when specific health concerns and issues emerge, and the risk of ill health increases making them vulnerable.¹ Thus, healthcare knowledge gleaned from various sources can be especially beneficial for adolescents to make healthy decisions.²

Adolescent girls, constitute approximately one-fifth of the global population and account for nearly 47 percent of India's population, form a vulnerable group, especially within Indian society where the female child remains persistently neglected. One of the most crucial aspects of a girl's reproductive health in the early years of adolescence is menstruation and menstrual health.³⁻⁵ Despite menstruation being a biological and natural occurrence, it is still subject to social, cultural, and religious taboos and constraints. Adolescent girls often hesitate to discuss menstruation and associated concerns

openly due to the stigma attached to it. The key priority for women and girls is to have the knowledge, facilities, and cultural environment to manage menstruation properly and with dignity.⁶

Menstrual health and hygiene are vital for girls and women's rights, aligning with SDGs 3, 4, 5, and 12. Insufficient knowledge about puberty and menstruation leads to early pregnancies, mental health issues, and infections (goal 3- good health and wellbeing). Menstruation-related challenges, such as inadequate WASH facilities, and school community support contribute to absenteeism, and dropout and hinder overall girls' education (goal 4- universal primary education). Taboos and myths surrounding menstruation limit gender equality (goal 5- gender equality). Irresponsible disposal of menstrual products harms the environment, necessitating responsible consumption (goal 12- responsible consumption and production). Comprehensive menstrual health management empowers girls, promoting health, education, equality, and sustainability, fostering a better future.⁷

The various stages of a woman's life are interconnected, such that the state of her menstrual health at present can have a significant impact on her reproductive, sexual, and maternal health in the future.⁸ Therefore, possessing adequate understanding and awareness regarding menstruation and recognizing the significance of seeking healthcare for menstrual health issues among adolescent females is imperative. Existing literature predominantly focuses on assessing the knowledge and practices related to menstrual health among urban populations. However, limited research has been conducted to investigate the same in tribal populations.

With this background, the present study focused on: i) to assess knowledge and practice about menstruation among adolescent girls of a tribal hostel, ii) to determine the health-seeking behavior for menstrual health among adolescent girls in a tribal welfare residential school.

METHODS

Study design

An analytical cross-sectional study carried out in September 2022 at the tribal welfare girls' residential school in Tandur, Vikarabad district, spanning for a period of 10 days and was approved by the Institutional Ethics Committee (IIPHH/TRCIEC/317/2022) at Indian Institute of Public Health, Hyderabad.

Inclusion criteria

Adolescent girls aged 11-17 years of the tribal welfare girls' residential school. Students enrolled in classes 6th to 10th at the tribal welfare girls' residential school. Willingness to participate and provide informed consent.

Exclusion criteria

Adolescent girls who were on leave during the study period within the grades 6th to 10th.

The study was at the tribal welfare girls' residential school in Tandur, Vikarabad district. Before interacting with the study participants, permissions were obtained from the district tribal development officer (DTDO) and the school's principal ensuring compliance with ethical considerations. Informed consent, both verbal and written, was obtained from each participant before their inclusion in the study. A pre-tested, semi-structured questionnaire was then self-administered to the participants after obtaining their consent. The school teachers were informed about the study, and confidentiality regarding the participants' involvement was assured. The questionnaire was initially created in English and later translated into the regional language, Telugu. To ensure accuracy, the Telugu version of the questionnaire was back-translated into English. The questionnaire consisted of several sections, including a socio-demographic profile, knowledge about menstruation, and health-seeking behavior for menstrual health. In the section related to knowledge, which consisted of six items, each correct response was awarded a score of 100, while an incorrect answer received a score of 0. The total scores for 100 were then grouped into three categories based on the number of correct responses: (a) good knowledge (100-80), (b) moderate knowledge (79-60), and (c) poor knowledge (<60).

Data analysis

The data analysis for this paper was generated using SPSS (statistical package for social sciences, version 26). The demographic and questions on knowledge and health-seeking behavior of menstruation of 73 participants were initially subjected to a descriptive analysis before the data analysis was conducted. By computing pairwise correlations, collinearity among independent variables was evaluated to assess the independence of factors assumptions of the logistic regression analysis. A multinomial logistic regression model was developed to determine the associations between the variables age, age of menarche, pain during menstruation, and Mother's employment status on the likelihood of participants seeking healthcare. This analysis yielded odds ratios [Exp (B)] and associated 95% confidence intervals (CIs).

RESULTS

Our study sample consisted of 73 adolescent girls aged between 11-17 years, with a mean age of 13.86±1.33. The age of menarche, on average, was 12.34±1.08. Nearly 98.6% of the girls had employed fathers and 64.4% had employed mothers (Table 1).

Table 1: Sociodemographic characteristics of participants (n=73).

Variables	N	%
Father's employment status		
Employed	72	98.6
Unemployed	1	1.4
Mother's employment status		
Employed	47	64.4
Unemployed	26	35.6
Age of menarche		
10-12	46	63.0
12-15	27	37.0
Current age		
11-14	53	72.6
14-17	20	27.4

Of the 6 questions mapping the knowledge about menstruation among the tribal girls, the following responses were obtained. 82.2% knew that menstruation is cyclic uterine bleeding and 86.3% attributed it to hormonal change. 64.4% of girls had their cycle for 22-35 days with 67.7% having it for 5 days. Only 23.3% knew that the source of menstruation is uterus. Mother was the source of information regarding menstruation in 95.9% of the participants (Table 2).

A logistic regression was performed to ascertain the effects of age, age of menarche, pain during menstruation, and mother's employment status on the likelihood of participants seeking healthcare. The model explained 24.9% (Nagelkerke R^2) of the variance in healthcare-seeking behavior. An increase in pain during menstruation was associated with an increased likelihood of consulting a doctor by 3.14 times ($p=0.02$) and self-medication by 5.07 times ($p=0.001$) (Table 3).

Table 2: Knowledge regarding menstruation (n=72).

Variables	N	%
What is menstruation?		
White discharge	1	1.4
Cyclic Uterine Bleeding	60	82.2
Bleeding from the stomach	8	11.0
Don't know	4	5.5
Reason for menstruation		
Physiological change	63	86.3
Social change	2	2.7
God's curse	4	5.5
Don't know	4	5.5
Duration of menstrual cycle		
>22 days	6	8.2
22-35 days	47	64.4
>35 days	15	20.5
Don't know	5	6.8
Average menstrual flow		
>3 days	5	6.8
3 days	6	8.2
5 days	49	67.1
7 days	12	16.4
>7 days	1	1.4
Source of menstrual flow		
Uterus	17	23.3
Urethra	24	32.9
Vagina	1	1.4
Ovaries	26	35.6
Don't know	5	6.8
Source of information about menstruation		
Mother	70	95.9
Friends	3	4.1

Table 3: Regression model on healthcare-seeking behavior of adolescent girls.

Dependent variable (categories)	Label	B (CI)	Std. error	P value
Home remedies	Intercept	6.21	3.13	0.05
	Mother's employment status	0.14 (-1.86-2.15)	1.02	0.89
	Pain during menstruation	3.32 (2.81-7.32)	1.28	0.08
	Age of menarche	0.75 (-1.4-2.9)	1.10	0.49
	Age	0.76 (-1.75-3.27)	1.28	0.55
Consults a doctor	Intercept	3.95	3.42	0.25
	Mother's employment status	0.74 (-2.8-1.41)	1.10	0.50
	Pain during menstruation	3.14 (0.58-5.71)	1.31	0.02*
	Age of menarche	0.75 (-1.53-3.03)	1.16	0.52
	Age	0.41 (-2.27-3.1)	1.37	0.76
Self-medication	Intercept	8.13	3.37	0.01
	Mother's employment status	1.41 (0.76-3.58)	1.11	0.20
	Pain during menstruation	5.07 (2.71-7.62)	1.30	0.00*
	Age of menarche	0.27 (-1.97-2.51)	1.14	0.81
	Age	0.33 (-2.25-2.91)	1.32	0.80

Based on the categorization detailed in the methodology section, the findings revealed that a significant majority of adolescent girls, accounting for 73.9%, exhibited a high level of knowledge regarding menstruation. Furthermore, 20.54% of the participants demonstrated a moderate level of knowledge, while a smaller percentage of 5.48% displayed a low level of understanding regarding menstruation.

DISCUSSION

The current study aimed to evaluate the understanding of menstruation and healthcare-seeking patterns among adolescent girls residing in a tribal hostel. Menstruation represents a significant milestone in a woman's life, encompassing various physical, and physiological transformations.

In the current study, the mean age of menarche among adolescent girls was found to be 12.34 ± 1.08 years, which closely relates to the findings of a previous study conducted by Varman et al, where the mean age was reported as 12.2 ± 1.01 years.⁹ Moreover, our results indicate a lower mean age at menarche compared to the study conducted by Kapoor et al., where they reported a mean age of 13.439 ± 0.83 years.¹⁰ The observed variation in the mean age of menarche could be attributed to factors such as genetic influences, educational background, and socioeconomic status.

Mothers were identified as the primary source of information regarding menstrual hygiene management among adolescent girls, which aligns with the findings reported in studies conducted by RaviVarman et al. and Gitanjali Kapoor et al.^{9,10}

In this study, a significant majority (82.2%) of the students demonstrated good knowledge about menstruation. The majority (86.3%) of the girls correctly identified menstruation as a physiological process, while only a small percentage (5.5%) believed it to be a curse from God. These findings surpass the results of previous studies conducted in Ethiopia, Nigeria, and Nepal, which reported knowledge levels of 76.9%, 4.0%, and 40.6% respectively.¹¹⁻¹³ The variation in knowledge levels could potentially be attributed to limited communication within families regarding menstruation and menstrual hygiene matters. However, it is noteworthy that a study conducted in Amhara, northern Ethiopia, reported a higher knowledge level (90.7%), possibly due to the provision of information about menstruation and menstrual hygiene by schools and families.¹⁴

In this study, 58.8% of adolescent girls correctly identified the uterus as the source of menstrual flow, while 6.8% of participants were unaware of the source of menstruation. Our findings are similar to a study by Upashe et al where 60.9% of respondents knew the origin of menstrual blood to be the uterus while 5.3% did not know the source.¹¹ Furthermore, in our study, we found

that 32.9% of participants identified the source of menstruation as the urethra. This percentage is lower compared to a study by Belayneh et al, where 41.8% of participants identified the urethra as the source of menstruation. These findings highlight a concerning trend where basic anatomical knowledge about menstruation seems to be lacking, despite being covered in the school curriculum.¹⁵

In our study, 82.1% of girls reported a menstrual blood flow duration of 5 days or less, which is similar to the findings of a study conducted by Verma et al in Gujarat.¹² The most commonly observed menstrual pattern in our study was 29/3-5 days, which is similar to the findings reported by Lawan et al.¹⁶ On average, adolescent females menstruate for 3-5 days each month until menopause, with a minimum duration of 3 days and a maximum of 7 days. Furthermore, Balasubramanian also reported that 84% of girls had a menstrual blood flow lasting 3-5 days.¹⁷

In a multivariate analysis, we examined the relationship between menstrual pain and healthcare-seeking behaviour. Results showed that increased pain during menstruation was associated with a 3.25 times higher likelihood of consulting a doctor and a 5.5 times higher likelihood of self-medication. Self-medication was reported by 26% of girls, while 9.6% consulted a doctor. These percentages differ from Chaurasia et al study, where self-medication was observed in 35.20% and only 4.70% took prescribed medicines.¹⁸ These differences in percentages suggest potential variations in cultural or demographic factors influencing healthcare-seeking behaviours for menstrual pain. Further research is needed to understand these differences and develop targeted interventions for menstrual pain and healthcare-seeking behaviours.

The study had a relatively small sample size, and was conducted in a specific tribal welfare residential school, potentially limiting the generalizability of findings to a broader population. The study employed a self-administered questionnaire as the primary data collection method. However, the potential for response bias or issues related to comprehension and interpretation of questions could not be ruled out. The study did not extensively delve into the socioeconomic factors that might influence knowledge and health-seeking behaviours, which could provide a more comprehensive understanding of the subject matter. The study's cross-sectional design restricts the ability to establish causality or observe changes over time.

CONCLUSION

Among the 73 adolescent girls surveyed, 73.9% demonstrated good knowledge about menstruation. However, only 9.6% sought treatment at healthcare facilities for menstrual pain, while 26% resorted to self-medication. This low healthcare-seeking behavior can be

attributed to limited awareness, cultural taboos, and restricted access to healthcare facilities.

Recommendations

A comprehensive approach that combines health education, challenging cultural taboos, and improving access to healthcare services is necessary to promote better healthcare-seeking behavior among adolescent girls regarding menstruation. Empowering girls with knowledge, breaking down barriers, and providing adequate support that can enhance their accessibility, affordability, and availability of healthcare services will help create an environment where girls feel more comfortable seeking healthcare when needed.

ACKNOWLEDGEMENTS

We thank all the study participants who have spared time in participating in this study. We would like to thank Mitravinda Kakarla for her invaluable contribution.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee IIPHH/TRCIEC/317/2022

REFERENCES

- Kolbe LJ, Collins J, Cortese P. Building the capacity of schools to improve the health of the nation: A call for assistance from psychologists. *Am Psychol.* 1997;52:256-65.
- Varina T. Menstrual Hygiene: a neglected condition for the achievement of several millennium development goals. *Zoetermeer.* 2007;10.
- Verma P, Ahmed S, Srivasava RK. Knowledge and practice about menstruation among higher secondary school girls. *Indian J Community Health.* 2013 ;25(3):265-71.
- Deshpande TN, Patil SS, Gharai SB, Patil SR, Durgawale PM. Menstrual hygiene among adolescent girls - A study from urban slum area. *J Family Med Prim Care.* 2018;7(6):1439-45.
- Omidvar S, Amiri FN, Bakhtiari A, Begum K. A study on menstruation of Indian adolescent girls in an urban area of South India. *J Family Med Prim Care.* 2018;7(4):698-702.
- Agarwal V, Fancy MJ, Shah H, Agarwal AS, Shah JH, Singh S. Menstrual hygiene: knowledge and practice among adolescent girls of rural Sabarkantha district. *Nat J Community Med.* 2017;8(10):597-601.
- Guidance on Menstrual health and hygiene, UNICEF. 2019. Available from: <https://www.unicef.org/media/91341/file/UNICEF-Guidance-menstrual-health-hygiene-2019.pdf>. Accessed on 4 December 2022.
- The Global Strategy for Women's, Children's and Adolescent's health. 2016. Available at: <https://platform.who.int/data/maternalnewbornchild-adolescent-ageing/global-strategy-data>. Accessed on 23 April 2019.
- Ravivarman G, Gupta MS, Nirupama AY. Cross-sectional study on prevalence of early menarche and knowledge about menstrual hygiene practices among adolescent girls in rural Tamil Nadu. *Int J Dent Med Sci Res.* 2020;2(3):34-9.
- Kapoor G, Kumar D. Menstrual hygiene: knowledge and practice among adolescent school girls in rural settings. *Int J Reprod Contracept Obstet Gynecol.* 2017;6(3):959-62.
- Upashe SP, Tekelab T, Mekonnen J. (2015). Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. *BMC Women's Health.* 2015;15:84.
- Verma BP, Pandya DC, Ramanuj DV, Singh DM. (2011). Menstrual pattern of adolescent school girls of Bhavnagar (Gujarat): menstrual pattern of adolescent school girls. *Nat J Integr Res Med.* 2011;2(1):39-41.
- Adhikari P. Knowledge and practice regarding menstrual hygiene in rural adolescent girls of Nepal. *Kathmandu Univ Med J.* 2007;5(19):382-6.
- Teklemariam G. Practice of menstrual hygiene and associated factors among female Mehalmeda high school students in Amhara Regional State, Ethiopia. *Sci J Public Health.* 2014;2(3):189-95.
- Belayneh Z, Mekuriaw B. Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. *BMC Public Health.* 2019;19:1595.
- Lawan UM, Yusuf NW, Musa AB. Menstruation and menstrual hygiene amongst adolescent school girls in Kano, Northwestern Nigeria. *Afr J Reprod Health.* 2010;14(3):201-7.
- Balasubramanian P. Health needs of poor unmarried adolescent girls- a community based study in rural Tamil Nadu. *Indian J Popul Educ.* 2005;18:33.
- Chaurasi, L, Shah L, Paudel G, Sarraf DP, Shah P, Singh JK. Self-medication practice in primary dysmenorrhea among nursing students: a cross sectional study. *MedS Alliance J Med Med Sci.* 2021;1(1):67-75.

Cite this article as: Lakkakula S, Nirupama AY, Kumar Y, Imandi SR. Understanding menstrual health and related health-seeking behavior in adolescent girls at a tribal welfare school in Vikarabad: a cross-sectional analysis. *Int J Community Med Public Health* 2023;10:4153-7.