

Original Research Article

A study of menstrual health perceptions, practices and prevalence of premenstrual symptoms in school-going adolescent girls in Chandigarh

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ABSTRACT

Background: Menstruation is a universal physiological process, yet it remains shrouded in cultural taboos and misinformation, particularly in low- and middle-income countries like India. These barriers contribute to poor menstrual health awareness and suboptimal hygiene practices, impacting adolescent girls' physical and psychosocial well-being. This study aimed to assess menstrual health perceptions, practices, and the prevalence of premenstrual symptoms (PMS) among adolescent girls in government schools of urban Chandigarh.

Methods: A descriptive cross-sectional study was conducted among 100 adolescent girls (aged 15-18 years) attending two purposively selected government schools in urban sectors of Chandigarh. Data were collected using a structured questionnaire and analyzed using descriptive statistics and chi-square/Fisher's exact test to explore associations.

Results: The mean age of participants was 15.4 years. Premenarche awareness was reported by 63%, with mothers and sisters as the primary information sources (64%). Only 19% had good perception scores, and 34% reported good menstrual hygiene practices. While 94% used sanitary pads and 63% changed pads at school, 66% reported food restrictions and hesitance to discuss menstruation with male family members. PMS were common: 67% reported headaches, 62% breast pain, and 59% experienced anxiety or tension. Poor maternal education was significantly associated with poor perception among daughters ($p=0.040$).

Conclusions: Despite good access to sanitary products and school-based hygiene facilities, substantial gaps persist in menstrual perception and practices. Cultural stigma, dietary restrictions, and limited awareness of PMS are prevalent. Targeted health education and supportive school environments are vital to improving menstrual health outcomes among adolescents.

Keywords: Menstrual perception, Menstrual hygiene, Premenstrual symptoms, Menstrual practices

INTRODUCTION

Menstruation is a normal physiological process marking the onset of reproductive maturity in adolescent girls. However, despite being a universal experience, it remains surrounded by cultural taboos, misinformation, and social stigma, especially in low- and middle-income countries like India.¹ These barriers contribute to poor awareness,

unhygienic practices, and negative psychosocial outcomes during menstruation. Adolescents often begin menstruating with little prior knowledge, resulting in fear, anxiety, and inappropriate practices that can impact physical and emotional well-being.

In India, several studies have highlighted significant gaps in menstrual health education, with many adolescent girls

lacking accurate information prior to menarche.^{2,3} School-going girls, particularly in government schools, may face added challenges such as limited access to menstrual hygiene products, inadequate facilities for changing and cleaning, and restrictive cultural norms that discourage open discussion. The influence of maternal literacy, family environment, and school-based education further shapes girls' knowledge, perceptions, and practices related to menstruation.

In addition to hygiene concerns, PMS-including both physical discomfort and emotional distress-are highly prevalent but under-recognized. While girls may experience symptoms such as irritability, anxiety, breast tenderness, or headaches, awareness about PMS and its management remains limited. Addressing these gaps through integrated health education and enabling school environments is crucial for improving adolescent menstrual health outcomes.

This study aims to assess the perceptions and practices related to menstruation and determine the prevalence of PMS among adolescent girls in government schools of urban Chandigarh. By identifying patterns and associations with socio-demographic factors, the findings seek to inform evidence-based strategies to improve menstrual health education and for informed policy recommendations.

METHODS

Study type

A descriptive, cross-sectional study was conducted to assess menstrual perceptions, practices, and PMS among school-going adolescent girls in government schools of urban Chandigarh.

Study setting and population

The study was carried out in selected government schools located in urban areas of Chandigarh. The study population included adolescent girls (aged 15-18 years) who have attained menarche and are currently enrolled in these schools.

Sample size

Taking the prevalence (p) of poor menstrual hygiene practices as 58% from the study by Singh et al with 95% confidence level ($Z=1.96$) and 10% absolute precision (d), the minimum required sample size was 94.⁴ To account for non-response and facilitate analysis, the final sample size was rounded to 100 participants.

Sampling technique

According to the 2021-22 data from the Chandigarh education department there are 111 government schools (comprising 54 high schools) and 7 aided schools in

Chandigarh, with a combined enrollment of approximately 8,352 girls in classes IX and X.^{5,6}

To ensure socio-demographic representation, a stratified sampling approach was adopted. Two sectors were purposively selected to reflect distinct socio-economic settings: sector 50: An urban area characterized by well organised housing societies and sector 13 (Manimajra): A peri-urban area encompassing urban slums. From each sector, one government school was chosen: Govt high school, sector 50, and Govt. high school, sector 13. Within each selected school, classes IX and X were purposively selected to focus on adolescent girls. Subsequently, a simple random sampling technique was employed to select 50 eligible students from each school, ensuring that every student had an equal chance of selection.

Inclusion criteria

The study will include adolescent girls aged between 10 and 19 years who are currently attending government schools in urban areas of Chandigarh. Only those who have attained menarche and are willing to participate will be considered eligible. Participation will be contingent upon providing informed assent or consent, along with parental consent where applicable.

Exclusion criteria

Girls who have not yet attained menarche will be excluded from the study. Additionally, those experiencing amenorrhea for more than three months or those who are unwilling to participate will not be included.

Data collection tool

Data was collected using a pre-designed, pre-tested, and validated self-administered questionnaire. The tool included: Socio-demographic details, Questions on menstrual knowledge, perceptions, and practices, Items on menstrual stigma and PMS.

Data collection procedure

Ethical clearance and school authority's permissions were obtained prior to the study. Written informed consent from parents/guardians and assent from students were secured. Data were collected confidentially and privacy ensured, with participants given adequate time and researcher support to complete the questionnaire.

Data analysis

Perception scores (0-8) and practice scores (0-5) were calculated by summing responses to related items, with scores $\geq 80\%$ classified as good perception/practice using modified Bloom's cutoff. Data were entered in excel and analyzed using: IBM SPSS software version 20. Frequencies and percentages were calculated for

qualitative variables, and chi-square and Fisher's exact tests were applied wherever necessary.

Ethical considerations

Confidentiality and anonymity of participants ensured throughout study. Participation was entirely voluntary, ethical committee no: IEC-INT/2024/SPL-1304.

RESULTS

Of the 100 adolescent girls studied, 88% were aged 15-16 years, and the majority (85%) were Hindu. Most participants belonged to nuclear families (70%), and 47% of mothers and 62% of fathers had at least secondary education (Table 1). In household with more than 4 people, 68.2% were associated with overall wrong practices. ($p=0.040$).

Premenarche knowledge was present in 63% of girls, with mothers or sisters being the most common source of information (64%). Among mothers with no formal education, 96.6% of daughters had poor perception. Among students with good perception, 63.2% had mothers with secondary education or beyond ($p=0.040$). Among those with right practices, 61.8% has mothers with at least secondary education ($p=0.049$).

Nearly all participants recognized menstruation as a natural phenomenon (98%) and unique to females (97%). However, only 27% had heard of PMS (Table 2).

Menarche occurred between the ages of 12-14 in 59% of girls. Most had regular cycles (54% reported cycles every 21-35 days), and 65% reported bleeding lasting 1-5 days. Abdominal pain during menstruation was reported by 75% of participants (Table 3).

Additionally, 92.7% of those experiencing headache, irritability, or breast tenderness during menstruation were associated with poor perception. Among those with poor perception, 63% reported these symptoms ($p=0.003$).

Regarding menstrual practices, 94% used sanitary pads, and 63% changed pads while at school. Daily bathing during menstruation was reported by 91%, and 62% used soap and water for perineal hygiene (Table 4).

Stigma and psychological factors were notable: 66% hesitated to discuss menstruation with male family members, 47% experienced fear or anxiety during menstruation, and 25% considered themselves impure during menstruation (Table 5). Assessment of perception scores revealed that only 19% had good perception, while 81% had poor perception regarding menstruation. Also, only 34% demonstrated good menstrual practices, while 66% had poor (Table 6).

PMS were common, with 67% reporting headaches, 62% breast pain, and 44% increased acne (Table 7). Emotional symptoms such as anxiety/tension (59%), anger/irritability (78%), and tearfulness (55%) were also frequently reported (Table 8).

Table 1: Socio demographic profile of study population, (n=100).

Variables	N
Age (in years)	
15-16	88
17-18	12
Religion	
Hindu	85
Sikh	10
Muslim	4
Christian	1
BPL card	
Yes	16
No	84
Household size	
Upto 4	39
4 or more	61
Type of family	
Joint	30
Nuclear	70
Comorbidities	
Nil	96
Thyroid disorder	4
Mothers educational status	
No formal education	29
Primary	24
Atleast secondary	47

Continued.

Variables	N
Fathers educational status	
No formal education	10
Primary	28
At least secondary	62

Table 2: Menstrual knowledge in study population, (n=100).

Variables	N
Premenarche knowledge	
Yes	63
No	37
Source of information	
Mother/sister	64
Friend/school	14
TV/internet/magazine	13
Others	9
Is menstruation a natural phenomenon?	
yes	98
No	2
Is menstruation unique to females?	
Yes	97
No	3
Is menstruation a lifelong process?	
Yes	4
No	96
What do you think is the length of a normal menstrual cycle?	
3 weekly	12
4 weekly	73
5 weekly	15
Have you heard of pre menstrual syndrome?	
Yes	27
No	73

Table 3: History regarding menstrual cycle, (n=100).

Variables	N
What is the age at which you got your periods?	
10-12	33
12-14	59
≥14	8
How often do you get periods?	
<21 days	26
21-35 days	54
>35 days	20
How many days does bleeding last?	
1-5 days	65
>5 days	35
Have you experienced any physical changes with your 1st menses (height, weight changes, breast development, pubic hair etc.,)?	
Yes	93
No	7
Do you experience abdominal pain during menstruation?	
Yes	75
No	25
Do you experience headache, irritability or pain on touching breast during menstruation?	
Yes	55
No	45

Continued.

Variables	N
Have you ever consulted doctor for menstrual problem?	
Yes	21
No	79

Table 4: Practices during menstruation, (n=100).

Variables	N
What do you use during periods?	
Pads	94
Cloth	3
Both	3
Frequency of changing pad/cloth in first two days	
1	4
2	21
3	37
4	28
>4	10
Do you change pads/cloths while in school?	
Yes	63
No	37
Do you use soap and water to clean your private parts?	
Yes	62
No	38
How often do you bath during periods?	
Everyday	91
2-4 th day of periods	7
7 th day and later	2
Is there any prohibition in eating a particular type of food?	
Yes	66
No	34

Table 5: Perceptions during menstruation, (n=100).

Variables	N
Experience fear/anxiety during menstruation	
Yes	47
No	53
Consider oneself as impure during menstruation	
Yes	25
No	75
Feel burdened physically during menstruation	
Yes	72
No	28
Feel alienated during menstruation	
Yes	44
No	56
Excluded from social gatherings in the name of menstruation	
Yes	31
No	69
Consider this as an inconvenience and wish often to get rid of it.	
Yes	52
No	48
Hesitate to talk about this in front of your father/brother?	
Yes	66
No	34
Have you ever withheld from sports or dance because of menstruation?	
Yes	29
No	71

Table 6: Perception score and practice score, (n=100).

Variables	N
Perception	Good
	19
Practice	Poor
	81
Practice	Right
	34
Practice	Wrong
	66

Table 7: PMS, (n=100).

Symptoms	N
Breast pain	62
Abdominal distension	32
Headache	67
Swelling of limbs	4
Confusion	41
Increase in acne	44

Table 8: PMS, (n=100).

Variables	Not at all	Mild	Moderate	Severe
Anxiety/tension	41	29	19	11
Anger/irritability	22	33	27	18
Tearfulness	45	19	12	24
Depressed mood	38	30	16	16
Decreased interest in academic work	31	31	16	31
Decreased interest in home related activities	31	22	31	16
Decreased interest in social activities	40	28	12	20
Difficulty in concentrating	27	34	16	23
Fatigue/lack of energy	25	25	26	24
Over-eating/food craving	35	35	15	15
Insomnia	58	16	18	8
Hypersomnia	55	23	14	8
Feeling overwhelmed	51	21	13	15
Physical symptoms (Breast tenderness/swelling, headache, joint/muscle pain, bloating, weight gain)	34	39	16	11

DISCUSSION

This study assessed menstrual health perceptions, hygiene practices, and PMS among adolescent girls in government schools in Chandigarh. Findings highlight persistent gaps in awareness, stigmatizing beliefs, and inadequate hygiene practices, consistent with trends across India.

In our study, 63% of participants were aware of menstruation before its onset. Similar awareness levels were found in a Maharashtra urban slum (63.4%) and Kerala (62.1%).^{2,7} Studies done in Jaipur and Telangana showed a higher proportion i. e., almost 80% of girls had prior knowledge.^{3,8} In contrast, a multi-state survey showed only 36% of schoolgirls had pre-menarche awareness.⁹ In West Bengal, just 37.5% were aware, with even lower rates in rural areas.¹⁰

Other studies showed still lower awareness-24% in Maharashtra slum and 29.4% in Varanasi, where sisters were often main source of information.^{11,12} These findings

underscore need for structured menstrual education in schools.

In our study, 64% of participants identified mothers or sisters as their primary source of menstrual information, consistent with findings from Varanasi (55% sisters), Jaipur (67.7% mothers), and Patna (50% mothers).^{3,12,13} In Ludhiana, 34% of urban and 44% of rural girls learned from parents, with friends and teachers filling the gap where communication was limited.¹⁴ Similar patterns were noted in Telangana.¹⁵

In contrast, in Delhi, 85.7% received menstrual information through structured school-based sessions by teachers/health workers, improving hygiene and reducing absenteeism.¹⁶ In Uttarakhand, 31.8% learned from friends.¹⁷

While mothers remain a key source, their impact is influenced by their own literacy levels. In our study, poor maternal education was significantly associated with poor menstrual perception-96.6% of girls whose mothers had

no formal education showed poor perception ($p=0.040$). Rural Haryana showed similar associations, with girls of illiterate mothers over three times more likely to follow poor hygiene ($aOR=3.13$; 95% $CI=1.71-5.70$).¹⁸ In Varanasi, maternal literacy significantly reduced poor hygiene practices ($aOR=0.41$; 95% $CI=0.23-0.74$).¹²

With 29% of mothers in our study being illiterate, this raises concern. Among girls with good practices, 61.8% had mothers with secondary education or higher ($p=0.049$), echoing findings from rural West Bengal, where maternal education improved hygiene practices ($aOR=2.3$; 95% $CI=1.06-5.01$).¹⁹

In the present study, most participants attained menarche between the ages of 12 and 14 years (59%), which is comparable to the mean age of menarche reported in Jodhpur (13.41 ± 1.07 years).²⁰ Regular menstrual cycles, defined as occurring every 21-35 days, were reported by 54% of girls, and 65% experienced bleeding lasting between 1-5 days. These findings are similar to those of a study conducted in Patna, where 91% of participants reported regular cycles and 72.5% had bleeding durations of 3-5 days.¹³ Likewise, a study conducted in Mangalore, Karnataka found that 68.75% of students had regular cycles, and in Pondicherry, 66.39% of participants reported a menstrual flow lasting 1-5 days.^{21,22}

Menstrual discomfort prevalent in our study, with 75% reporting abdominal pain and 55% experiencing symptoms like headache, irritability and breast tenderness. Despite this, only 21% consulted a doctor. Similar findings reported in Maharashtra (67.2% pain), Chennai (61.6%), and Patna, where girls experienced pain, nausea, headache, palpitations and leg cramps.^{12,13,23}

These symptoms often led to school absenteeism. Pain and fear of staining widely recognized causes of missed school during menstruation. In Madhya Pradesh, 39.9% of girls reported absenteeism due to abdominal pain.²⁴

In our study, only 38% of participants changed sanitary pads four or more times per day-similar to findings from Jaipur (34.53%) and Patna (40%).^{3,13} Additionally, 63% reported changing pads at school, suggesting improved facility access. In contrast, only 25% did so in Jodhpur.²⁰ A multi-state survey found just 35% of girls could access toilets anytime and only 51% could always wash during menstruation.²⁵

Hygiene practices were better in our cohort, with 91% bathing daily and 62% using soap and water for perineal hygiene. Similar trends were reported in Jaipur (96% bathed daily) and Pondicherry (100% daily bathing; 43% soap use).^{3,22} In Bhopal, despite 94% daily bathing, only 27% used soap.²⁶

However, cultural taboos persist. In Jammu and Kashmir, 98% of tribal girls avoided bathing during menstruation and strictly followed traditional restrictions.²⁷

The overall prevalence of menstrual hygiene practices in our study was suboptimal. While the use of sanitary pads was high, with 94% of participants reporting their use, only 34% of girls demonstrated appropriate hygiene practices. This discrepancy may be attributed to factors such as infrequent pad changes, inadequate perineal hygiene, and adherence to food restrictions during menstruation. Similar patterns were reported in a study from Delhi, where 71% of girls used sanitary napkins, but knowledge regarding menstrual physiology and hygiene remained limited.²⁸

In urban Patna, despite high awareness, only 16% of girls disposed of pads in dustbins, highlighting critical gaps in practical hygiene management.¹³ These findings are consistent with studies conducted in Jaipur and Jodhpur, where 68% and 43.3% of participants, respectively, reported using sanitary pads. However, both studies noted deficiencies in daily hygiene routines and disposal methods.^{3,20}

In contrast, a study conducted in Bhopal highlighted the influence of economic limitations and lack of awareness, which led many girls to prefer cloth over sanitary pads for menstrual management.²⁹

Food-related restrictions during menstruation were reported by 66% of participants in our study. This finding aligns with a study from Ambala, where 68% of girls avoided certain foods, such as sour or spicy items, with the intent of reducing menstrual pain-despite the lack of scientific basis for such practices.³⁰ Similarly, a study conducted among unmarried girls in Chandigarh reported that many participants consciously avoided or consumed less of foods like pickles, sour items, and spicy foods during menstruation.³¹

Such dietary taboos are also seen in traditional communities across India and Southeast Asia. Among Temiar women in Malaysia, menstruating women avoided salt, oils, and animal products to prevent excessive bleeding or ill-health.³² These practices highlight the need for culturally sensitive, evidence-based interventions.

Physical activity was also affected; 29% of our participants refrained from sports or dance during menstruation, similar to findings from Tamil Nadu, where 53.9% restricted the physical activities during their period.³³

In our study, most participants showed basic awareness about menstruation-98% saw it as natural, 97% recognized it as female-specific, and 96% knew it is not lifelong. Yet, only 19% had good overall perception scores. This gap between factual knowledge and comprehensive understanding mirrors findings from Ambala (62.5%) and Bangalore (62.4%), where menstruation was seen as a normal physiological process.^{30,34}

Despite awareness, negative beliefs remained: 25% felt impure, 66% were uncomfortable discussing menstruation with male family members, and 44% faced isolation. Similar views were noted in Pondicherry (42% saw it as impure) and Rohtak, where 7% saw menstruation as a curse and 16% as disease.^{23,35}

Cultural silence and lack of school-based education contribute to stigma, as highlighted.³⁶ These social perceptions have tangible psychosocial consequences. This was reflected in our study, where 47% reported fear or anxiety during menstruation. In Delhi, 92% of girls faced religious restrictions and 66% reported social discomfort.¹ These findings underline the sociocultural burden surrounding menstruation and the need for open dialogue and health education to address stigma and improve perception.

PMS were highly prevalent in our study, with irritability (78%) and anxiety (59%) being the most common. Similar findings were reported in Wardha, where 56% of girls experienced PMS and 26.7% reported headaches.³⁷

In a Maharashtra urban slum, 51.5% reported PMS, including headache (50%), depression (47.8%), tension (36.9%), cramps (35.5%), irritability (33.3%), and moodiness (30.4%).² Another study from the region noted headache (69%), depression (66%), and tension (51%) as most frequent symptoms.³⁸ In Chennai, 55% reported PMS symptoms.²³

Despite this, only 27% of our participants had heard of PMS, indicating a major awareness gap-also seen in Jaikhani's study, where just 31.2% sought medical help despite symptom burden.²

These findings highlight the need for menstrual health programs that go beyond hygiene to include education on PMS, symptom management, and timely healthcare seeking to improve adolescent menstrual wellbeing.

CONCLUSION

Despite good access to hygiene facilities and sanitary pads, most adolescent girls in Chandigarh's government schools have poor menstrual perception and continue to experience stigma and restrictive practices. Notably, girls whose mothers lacked formal education were significantly more likely to have poor menstrual perceptions. These findings highlight the urgent need to strengthen school based targeted menstrual health education for both students, their mothers and to improve teachers sensitization and training to break the cycle of misinformation.

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REFERENCES

- Garg S, Marimuthu Y, Bhatnagar N, Singh MM, Borle A, Basu S, et al. Development and validation of a menstruation-related activity restriction questionnaire among adolescent girls in urban resettlement colonies of Delhi. *Indian J Comm Med*. 2021;46(1):57-61.
- Jaikhani SM, Naik JD, Thakur MS, Langre SD, Pandey VO. Patterns and problems of menstruation amongst the adolescent girls residing in the urban slum. *Sch J App Med Sci*. 2014;2(2A):529-34.
- Sharma N, Shekhawat R, Gaur K, Meena KK, Meena GL, Rathore M, et al. Assessment of knowledge and practice regarding menstrual hygiene among school going adolescent girls of Jaipur city. *J Med Sci Clin Res*. 2019;7(7):2808-15.
- Singh A, Chakrabarty M, Singh S, Chandra R, Chowdhury S, Singh A. Menstrual hygiene practices among adolescent women in rural India: a cross-sectional study. *BMC Public Health*. 2022;22(1):2126.
- Department of Education, Chandigarh Administration. List of Government and Aided Colleges. Chandigarh: Chandigarh Administration. Available at: https://www.chdeducation.gov.in/?page_id=41. Accessed on 10 June 2025.
- IndiaStat Chandigarh. Enrolment in senior secondary education in Chandigarh. New Delhi: Datanet India Pvt. Ltd. Available at: <https://www.indiastatchandigarh.com/Chandigarh-state/data/education/enrolment-senior-secondary-education>. Accessed on 10 June 2025.
- Mohan M, Sunilkumar M, Thambi MS, Nizar MN, Ali M, Gopakumar S, et al. Knowledge, Attitude and Practices of Menstrual Hygiene among High School Girls in Government Medical College Higher Secondary School, Thiruvananthapuram. *Kerala Med J*. 2024;17(2):67-74.
- Amgoth D, Reddy RG. Study on menstruation and hygiene practices among adolescent girls in urban community. *J Krishi Vigyan*. 2019;7(2):234-8.
- Sivakami M, van Eijk AM, Thakur H, Kakade N, Patil C, Shinde S, et al. Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: surveys in government schools in three states in India, 2015. *J Global Health*. 2018;9(1):010408.
- Paria B, Bhattacharyya A, Das S. A comparative study on menstrual hygiene among urban and rural adolescent girls of West Bengal. *J Family Med Prim Care*. 2014;3(4):413-7.
- 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.
- Kansal S, Singh S, Kumar A. Menstrual hygiene practices in context of schooling: A community study among rural adolescent girls in Varanasi. *Indian J Comm Med*. 2016;41(1):39-44.
- Yasmeen T, Kumar S, Sinha S, Haque MA. Perceptions regarding menstruation and practices during menstrual cycles among school going adolescent girls in urban field practice area of Igims, Patna India. *Int J Med Sci Diagn Res*. 2019;3:15-22.

14. Dharni I, Sood AK. Menstrual Hygiene Practices Among Adolescent Girls of Urban and Rural Schools of Ludhiana, Punjab. *Nursing Journal of India*. 2018;109:178-83.
15. Kiran VK, Yashoda K. Menstrual hygiene management among rural adolescent girls of agrarian families. *Int J Curr Microbiol App Sci*. 2020;9(01):891-9.
16. Vashisht A, Pathak R, Agarwalla R, Patavegar BN, Panda M. School absenteeism during menstruation amongst adolescent girls in Delhi, India. *J Family Comm Med*. 2018;25(3):163-8.
17. Juyal R, Kandpal SD, Semwal J, Negi KS. Practices of menstrual hygiene among adolescent girls in a district of Uttarakhand. *Indian J Comm Health*. 2012;24(2):124-8.
18. Surana A, Rajesh DR, Tank R, Singh A, Gupta V, Agrawal D, et al. Social determinants of menstrual hygiene among school-going girls in a rural area of Southern Haryana, India. *Asian J Social Health Behav*. 2020;3(3):117-23.
19. Sarkar I, Dobe M, Dasgupta A, Basu R, Shahbabu B. Determinants of menstrual hygiene among school going adolescent girls in a rural area of West Bengal. *J Family Med Prim Care*. 2017;6(3):583-8.
20. Choudhary N, Gupta MK. A comparative study of perception and practices regarding menstrual hygiene among adolescent girls in urban and rural areas of Jodhpur district, Rajasthan. *J Family Med Primary Care*. 2019;8(3):875-80.
21. Senapathi P, Kumar H. A comparative study of menstrual hygiene management among rural and urban adolescent girls in Mangaluru, Karnataka. *Int J Community Med Public Health*. 2018;5(6):2548-56.
22. Boratne AV, Datta SS, Karthiga V, Singh Z, Dongre AR, Mail ID. Perception and practices regarding menstruation among adolescent school girls in Pondicherry. *Health*. 2014;2(4):114-9.
23. Sundari T, George AJ, Sinu E. Psychosocial problems of adolescent girls during menstruation. *J Mental Health Educat*. 2022;3(2):47.
24. Bali S, Sembiah S, Yadav K, Burman J. Poor management of menstrual hygiene: a leading cause of school absenteeism among adolescent girls in the urban slum of Madhya Pradesh. *Int J Reproduct Contracept Obstet Gynecol*. 2020;9(10):4103.
25. Sivakami M, van Eijk AM, Thakur H, Kakade N, Patil C, Shinde S, et al. Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: surveys in government schools in three states in India, 2015. *J Global Health*. 2018;9(1):010408.
26. Shipra Singh SS, Rituja Kaushal RK, Saxena DM. Indigenous research study to elucidate the barriers of menstrual hygiene in adolescent school girls of Kolar area in Bhopal city. *Natl J Community Med* 2019;10(4):197-202.
27. Dhingra R, Kumar A, Kour M. Knowledge and practices related to menstruation among tribal (Gujjar) adolescent girls. *Studies Ethno-Med*. 2009;3(1):43-8.
28. Khatuja R, Mehta S, Dinani B, Chawla D. Menstrual health management: Knowledge and practices among adolescent girls. *Trop J Obstet Gynaecol*. 2019;36(2):283-6.
29. Sultan S, Sahu DS. Knowledge, attitude and practices about menstruation and related problems in adolescent girls. *Int J Reprod Contracept Obstet Gynecol*. 2017;6(12):5235-40.
30. Kalyan G, Walia AK, Kaur M, Kaler A, Bajwa AK, Kaur A, et al. A study to assess the knowledge and practices related to menstruation and menstrual hygiene among adolescent girls of selected school of District Ambala, Haryana. *IP Int J Med Paediatr Oncol*. 2021;7:145-54.
31. Kumar D, Goel NK, Puri S, Gupta N. Dietary practices during menstruation among unmarried girls in Chandigarh. *Int J Med Sci Clin Invent*. 2015;2(4):860-5.
32. Syed Abdullah SZ. Menstrual food restrictions and taboos: A qualitative study on rural, resettlement and urban indigenous Temiar of Malaysia. *Plos one*. 2022;17(12):e0279629.
33. 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.
34. Kailasraj KH, Basavaraju V, Kumar J, Manjunatha S. A study of knowledge and practice of menstrual hygiene among adolescent school girls in rural and urban field practice area of RajaRajeswari Medical College and Hospital, Bangalore, India. *Int J Community Med Public Health*. 2020;7(2):665.
35. Goel MK, Kundan M. Psycho-social behaviour of urban Indian adolescent girls during menstruation. *Aust Med J*. 2011;4(1):49.
36. Jalan A, Baweja H, Bhandari M, Kahmei S, Grover A. A sociological study of the stigma and silences around menstruation. *Vantage: J Thematic Analysis*. 2020;1(1):47-65.
37. Damhare DG, Wagh SV, Dudhe JY. Age at menarche and menstrual cycle pattern among school adolescent girls in Central India. *Global J Heal Sci*. 2012;4(1):105.
38. Singh S, Kaushal R, Saxena DM. Indigenous research study to elucidate the barriers of menstrual hygiene in adolescent school girls of Kolar area in Bhopal city. *Age*. 2019;13(37):12-33.

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