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Health Literacy and Menstrual Hygiene Practices among Adolescent Girls

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Abstract

Adolescent girls must have the knowledge, skills, and confidence to get proper information about sanitation, safe hygiene practices and mensturation for better reproductive health. This study aims to investigate the menstrual hygiene and health literacy of adolescents studying in community-run secondary schools of Chandragiri Municipality. The study followed a quantitative descriptive research design. Purposive sampling was used to choose one hundred adolescents as participants studying in 11th and 12th grade, who had at least an experience of their first menstrual cycle. The data were analyzed using percentile. Primary data was collected by using the structured questionnaire. The demographic characteristics show that about 92 % participants were found between the age group of (16-17), a majority 57% demonstrated a basic level of health literacy while 18% of respondents remained below the basic level of understanding. As it is seen in the results, for 72% adolescents, their family members were the main source of knowledge. Only 58% found using sanitary pads. A transformation was observed as a majority (88%) continued to attend school despite their periods and 82% adolescent felt alone because of various restrictions (cultural/ religious/family/ etc.), particularily in the Hindu community. About 92% of the girls stated that the biggest problems were physical discomforts during menstural period. Finally, the adolescent's menstrual literacy was found from moderate to high due to the changing cultural context and fostering educational awarness. So, it can be inferred that health education must be integrated not in form but in substance in school curriculum with cultural sensitivity and practical efficiency. Initiatives to improve menstrual hygiene and health knowledge is desirable to the families, communities, and schools.

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Introduction

Adolescents make up a sizable section of the world's population, with over half of all people under the age of 21 (WHO/UNFPA/UNICEF, 1999). Adolescence is a critical time when young people build their own identities and undergo physical and psychological development. Similarly, the brain automatically produces the hormonal changes that lead to menstruation and other pubertal processes (Roche & Morgan, 2007).

In different developmental phases, girls must pass across the different transitional phases in their lives. Hence, girls' development phases from adolescence to adulthood signify a major transition from childhood to adulthood for teenage girls. A study by Dingra and Kumar's (2009) shows that menstruation actually represents an ordinary biological occurrence that is usually compounded by family and societal customs regarding menstruation during this time. Similarly, although menstruation is a normal aspect of growing up, research indicates (e.g., Chandra-Mouli et al., 2015) it can be made even more difficult by a variety of everyday activity restrictions as well as strong cultural norms regarding periods and menstruation.

Health literacy significantly influences their ability to understand and control menstruation. Nutbeam (2008) argues that it essentially comprises the attitudes, abilities, and information required to sustain a normal cycle of menstruation. Adolescents who are knowledgeable about menstruation are more likely to use sanitary items carefully, practice better cleanliness, and feel more at ease asking for support when something doesn't feel right (Chandra-Mouli et al., 2015). Effective management of menstrual hygiene is complicated by elements, such as cultural limitations, restricted social mobility, and low levels of education.

Lack of access to proper facilities for period hygiene causes many schoolgirls to skip class or drop out. According to reports (MoHP, status report 2025), over two million female students in Nepal lack access to menstrual hygiene services. Policies encouraged gender-neutral restrooms in schools, yet they are ineffective, and unhealthy practices are followed in rural areas (Mukherjee et al., 2020). Campaigns for awareness and proper reproductive health and comprehensive sexual health education are necessary to improve this problem. These programs can assist in balancing cultural standards with appropriate menstrual hygiene and encourage healthier routines. Since many women from remote locations are unaware of their reproductive health, poor hygiene practices raise the risk of infections and cervical cancer. In rural areas, 82% of the approximately 2,90,000 Nepali women who menstruate daily use unhygienic methods (Mukherjee et al., 2020). Focused

awareness and education campaigns are necessary to address this issue. These programs can help balance cultural expectations with proper menstrual hygiene and promote improved behaviors.

Adolescence is a pivotal period characterized by rapid physical and emotional changes, and menstruation is an important turning point in a young woman's reproductive life. However, many young girls experience menstrual health problems because of poor hygiene practices and insufficient health literacy (Mukherjee et al., 2020). It is common for girls attending school to face very difficulties due to poor menstrual hygiene, which can lead to health issues like infections and other reproductive issues. The absence of water, sanitary, private restrooms, and menstrual protection alternatives increases their poor hygiene practices. Girls' health and education are affected by the fact that many of them miss school during their periods (Fernandes, 2009).

Low health literacy regarding menstruation causes misconceptions, embarrassment, and dangerous behaviors like wearing soiled clothing, which can lead to vaginitis, UTIs, and other serious illnesses. These health problems may impede gender equality and educational goals, as well as lead to social isolation and absenteeism from school. Cultural taboos and ignorance often prevent menstrual health from being openly discussed, leaving many girls ignorant and powerless. Lack of supportive school infrastructure and community understanding exacerbates these issues, violating girls' rights to health, education, and privacy (Gautam, 2010).

Cultural views, social status, and the availability of information all significantly influence menstrual hygiene practices (Hennegan et al., 2019). According to Jadhao et al. (2020, p. 9), health education can spread misconceptions and hinder better hygiene. Improving the health awareness of adolescent girls directly affects their menstrual hygiene. This study examines the menstrual hygiene practices and knowledge of girls in Chandragiri Municipality's Grades 11 and 12, as well as the variables that affect these behaviours. The findings will lay the groundwork for improving infrastructure, regulation, and health education. This approach can be applied in similar contexts and locations, and adolescent girls can benefit by promoting gender equality and reproductive health in the study area. Though several studies have been undretaken on menstural practices and health literacy, the studeis on knowledge and practices of mensturation along with cultural practices and literacy status still remains unexplored. In this regard, the present research aims to identify the level of health literacy and menstrual hygiene practice among adolescent girls.

Theoretical Frameworks

To understand health behaviors related to menstruation hygiene, the Health Belief Model (HBM) and Social Cognitive Theory (SCT) are commonly employed. These models specify that individuals perceive a negative health outcome to be severe or harmful and perceive themselves to be susceptible to the harm or effects. On the other hand, both of the theories perceive the benefits of behaviour that reduces the likelihood of that outcome as better health and sound behaviour, which they also perceive the barriers to be low. In this context, Rosenstock (1974) stated that HBM influences behavior change by emphasizing perceived susceptibility and benefits. SCT emphasizes self-efficacy and observational learning as the foundations of health practices (Bandura, 1986). According to these theories, enhancing health literacy can enhance self-efficacy and encourage healthy behaviors connected to menstrual hygiene. Hence, the constructs of these theories are used to accomplish the objective of the study.

Methods

This study followed a descriptive design. The primary data were collected through a questionnaire technique and are quantitative in nature. All the adolescent girls studying in grades 11 and 12 in four community run-secondary schools of Chandragiri Municipality comprised the population for the study. However, this study was confined to adolescent girls who were above the age of 16 and had menarche. The sample size consisted of 100 adolescent girls propertionally selected from four schools. Purposive samplig strategy was used for the study because adolescent girls who were absent and not willing to participate in the study were excluded. The schedule for data collection was determined after discussion with teachers. The study was conducted within 12 weeks (three months). Data were collected through a self-administered questionnaire, where clear verbal instructions was given before distributing the questionnaire. A simple statistical method, such as percentage was applied in the process of data analysis and interpretation.

Consent was taken before distributing data questinnaire and voluntary participation was ensured for the ethical consideration. Besides, confidentiality of the participants was assured.

Results and Discussion

The discussion section of the study is subsumed under the following sub-sections.

Socio-demographic Characteristics of the Respondents

Socio-demographic characteristics is important in literacy-based research as it gives basic information about the participants. In the study Socio-demographic characteristics was sought to have better understanding of respondents' menstrual literacy, important biological, emotional, and cognitive changes occur during the adolescent period of our lives, which influence behaviour and knowledge of cleanliness. The position of developmental maturity with health education demands is ensured by comparing menstrual health views within a specific age period.

Reproductive awareness, identity, and self-regulation actually develop during the adolescent period. People of this age group normally have similar social learning environments, peer influences, media exposure, and school curriculum, according to SCT. Health literacy often corelates with and age and caste. The data indicate that the significant majority of the responders (92%) were between the ages of 16 and 17. Table 1 reveals the respondents' caste composition

Table 1. *Caste distribution of respondents*

Caste	K.S.S.	M.S.S.	P.S.S.	B. S.S.S.	Total	%
Newar	13	6	11	9	39	39
Chhetri	5	5	7	11	28	28
Tamang	4	3	5	4	16	16
Brahmin	0	9	2	1	12	12
Rai	2	0	0	0	2	2
Dalit	1	0	0	0	1	1
Others	0	2	0	0	2	2
Total	25	25	25	25	100	100

Table 1 shows that the mojority of the respondets by caste belong to Newar (39%), followed by Chhetri (28%), Tamang 16% and Brahmin, and minority of them belong to Dalit and Rai. SCT explains that caste norms strongly affect menstrual behavior through cultural modeling, ritual boundaries, purity beliefs, and taboos learned from elders. Foremost cultural groups influence suitable menstrual practices, often preserving restrictive traditions. Minority respondents may approve hybrid practices shaped by exposure to both traditional and modern influences. Hence, caste distribution underlines how community values regulate adolescents' menstrual hygiene behaviors, self-efficacy, and access to precise information related to reproductive health. Quite unexpected result has been seen in terms of religious structure. About 96% of respondents are identified as Hindu, and the group's cultural background is strangely consistent. Hindu menstrual trends stress the concepts of purity and pollution, and they frequently prohibit eating at

the same table together with family members, visiting temples, and interacting with others while menstruating.

Awareness and Practice of Menstrual Hygiene

Regarding the awareness and practice of menstrual hygiene, the constructs of the health belief model comprise: perceived susceptibility, severity, and benefits of menstrual hygiene and reproductive health. Awareness and practice of menstrual hygiene has been studied in order to assess the health literacy of adolescent girls, which is further examined with reference to menstrual hygiene, the first pubertal transition, reproductive maturity, menstrual hygiene, menstruation-related factors, and menstrual hygiene information sources.

Assessing the consciousness level of the respondents discloses their reproductive literacy, demonstrating how well they distinguish between cultural myths and biological facts. It also shows how early awareness of physical changes influences a person's ability to manage menstrual hygiene and develop healthy habits. Table 2 presents respondents' knowledge of puberty's first signs.

Table 2. *Knowledge of the first sign of pubertal change*

Statement	Number	%
Breasts development	54	54
Underarms/pubic hair grow	16	16
Menstruation starts	30	30
Total	100	100

Data in table 2 shows that 30% of the respondents chose menstruation as the earliest signal of puberty, while more than half of them (54%) recognized breast development as the sign of puberty and only a few of them (16%) identified public hair grow as the sign. This result shows the significance of early, open reproductive education for enhancing perceived self-efficacy and informed menstrual management. It also shows that school health education was somewhat successful.

Respondents' perception regarding the necessity of cleanliness in preventing illnesses was also examined. The data indicate that the significant majority of respondents (93%) who correlated hygiene to the avoidance of contaminants have a high level of awareness. On the other hand, only 6% of them appeared confused or unable to understand. Even though respondents clearly recognise these basic concepts, it is important to provide appropriate facilities and emotional support to maintain excellent menstrual hygiene.

Regarding the causes of menstruation, 60% of respondents identified heredity, and 33% of them recognized nutrition. This advocates that teenagers are becoming well-informed about the science of human anatomy. Their thoughtfulness of nutritional and genetic impacts reveals that they might have paid more attention in class. Hence, it is argued that reproductive education is required, with a particular emphasis on the environmental aspect and a link to biology, lifestyle, and the environment.

Similarly, only 19% of the respondents learnt about menstruation hygiene from textbooks whereas a large majority (72%) learnt from their mothers and elder sisters. Thus, it has been noted that family-based, informal learning is the main source of respondents' learning about menstrual hygiene. Girls learnt the attitudes and actions just by observing the elderly members of their family. Besides, age difference has been studied which helps to link physiological development with menstrual knowledge, hygiene habits, and exposure to health education. For instance, most of the girls (60%) had their first period (menarche) when they were 13 or 14, with the average being 14.12 years. Similarly, a large majority of the respondents (88%) regularly attended school even during their menstrual period.

Cultural Practices, Challenges, and the Problems Related to Menstruation

Socio-cultural norms and behaviours in Nepalese society are a result of deeply ingrained Hindu taboos around purity. Women experienced behaviours like separation and untouchability during their menstrual cycle due to old cultural customs. The respondents' situation on the practice of separation and untouchability during menstruation is given in the table below.

Table 3. *Separation as untouchable*

Practice	Number	%
Yes	82	82
No	18	18
Total	100	100%
Period of Separation	Number	%
Four days	69	84.14
Six days	9	10.98
Nine days	2	2.43
Total	82	100%

Data in table 3 reveal that about 84.14% of girls faced isolation and untouchability during menstruation, mainly for four days and only 2.43% of them faced for nine days. These cultural trends for purity taboos are deeply rooted in Hindu traditions. The HBM views these norms as perceived social barriers, leading to close usual communication and self-

care. Even with growing literacy, these customs continue. Thus, social traditionalism becomes a barrier and often creates humiliations. Community education and cultural dialogue is required to avoid such humulation, rather than just having individual awareness.

HBM directly impedes healthy habits by taking away of the comfort and regularity and suggest that the programs that promote inclusive behaviors and family talking are necessary to enhance psychological well-being and strengthen health education creativity.

Problems Faced During Menstruation

To identify and determine common problems and challenges due to menstruation among adolescent girls, respondents were asked to report in the questionnaire. The responses regarding the difficulties are presented in the table below:

Table 4. *Problems faced by the respondents during menstruation*

Problems	Number	%
Physical pain and cramps	92	92
Discomfort due to insufficient materials	98	98
Emotional suffering due to isolation	50	50
Restricted movement and participation	50	50

Note: Multiple response percent exceeds 100.

Table 4 presents the main problems that teenage girls face during their periods. Physical pain and cramps were the most common physiological problems, reported by 92% of the respondents. About 98%, percent of the respondents reported uneasiness from insufficiency of safe required materials. this shows that lack of access to suitable menstrual products remains a significant problem for respondents. Besides, half of the respondents said that feeling alone caused them emotional and social suffering. They also exposed that their periods limited their ability to move around and participate in regular activities. Girls frequently deal with a combination of social, emotional, and physical problems every month as a result of these diverse experiences. The difficulties stem from both societal and physical reasons. In addition to physical discomfort and lack of resources, half of the respondents also face social rejection and activity restrictions in society.

Relationship Between Literacy, Practice, and Cultural Barriers

Literature about cultural practices and barriers explains how educational experience, social customs, and cultural barriers form adolescents' menstrual knowledge and practices. The data in this concern shows the distribution of adolescent girls' literacy levels associated with menstrual hygiene in the selected four schools. By classifying

literacy as *Below Basic, Basic, Intermediate,* and *Proficient*, the table 5 highlights how awareness and behavior are interrelated within different socio-cultural settings.

Table 5. *Level of health literacy status regarding menstrual hygiene*

Religion	K.S.S.	M.S.S.	R.R.S.S.	P.H.S.S.	Total	%
Below Basic	3	4	5	6	18	18
Basic	17	14	13	13	57	57
Intermediate	2	5	4	5	16	16
Profecient	3	2	3	1	9	9
Total	25	25	25	25	100	100

As presented in the table, the majority (57%) had a basic degree of menstrual hygiene health literacy. Only 16% of respondents had an intermediate level of health literacy, and only 9% had proficient level. In contrast, 18% of respondents had literacy level below basic, showing a poor knowledge of menstruation health concepts and hygiene behaviours. Thus, it is concluded that girls with higher literacy levels are motivated to practice better menstrual hygiene and face fewer restrictions, confirming that education raises value and behavior. The results indicate that teenage girls' menstrual literacy is still developing as most of them responded that they are learning fundamentals of hygiene on their own and lack deeper behavioral application. So, it is important to integrate the knowledge, positive role models, and cultural understanding into health education programs.

Discussion

Generally, in Nepalese society, girls are always confined by social rules, which constrain their freedom and adversely affect their emotional well-being. Menstrual rules, privacy beliefs, and taboos related to purity are a few examples of these norms. Due to a lack of resources and feelings of shame about their periods, women are observed to leave school and participate in fewer social activities worldwide (Hennegan et al., 2019; World Bank, 2025). Even though 98% of girls in the study continued to regularly attend school throughout their periods and 58% of them used sanitary pads, many of them are unable to fully adopt safe hygiene practices due to things like prevailing stigma, wrong information, and financial challenges. Lack of sufficient water, sanitation, and hygiene facilities, as well as financial constraints create challenges in managing menstruation properly (Adane et al., 2024).

In line with HBM, the results show that girls perceive the benefits of keeping things clean and completing school, which encourages enhanced behaviour. However, perceived barriers such as social isolation or a lack of resources create barriers to maintain them

regularly (Ayele et al., 2025). In a similar vein, SCT explains how girls' views and actions around menstruation are changed by watching and learning from peers, teachers, and mothers (Nalugya et al., 2020). In order to better connect cultural and societal norms with healthy habits during periods, we need to promote health and menstrual literacy. For this, it is essential to formulate and implement intensive education and awareness programs from the basic level.

Conclusion

The results from survey depict that teenage girls attending schools in the research site have a moderate to high level of menstrual knowledge. It suggests that discussions with family members and educational programs have a positive impact on reproductive health awareness. The demographic characteristics demonstrate that most of the participants were similar in age (16–17 years). However, by religion 96% of them are Hindu and it has made easy to assess menstrual literacy across cultural and developmental phases. Persistent social taboos, such as rigid norms about privacy and purity continue to limit girls' behavioural choices and mental health. Due to economic constraints, wrong information, and rigidly shaped beliefs, many of adolescent girls are still unable to regularly practice good hygiene, although over half (58%) of the participants used sanitary pads. School participation has remained high (98%) throughout menstruation.

From a theoretical point of view, HBM suggests that although young people think menstruation is manageable, barriers, including stigma and a lack of resources, keep them away from taking common action. Similar to this, SCT focuses on how girls' perceptions of menstruation and their sense of self are influenced by role models, especially mothers, sisters, teachers, and friends. The results indicate that while knowledge is growing, more cultural norms and support are needed for genuine behavioural change. Finally, it is argued that better access, cultural changes, and education are necessary to accomplish long-term menstrual hygiene. The educational institutions must work together to promote menstrual dignity, eradicate stigma, and raise teenage girls' health knowledge.

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