MENSTRUAL HYGIENE MANAGEMENT

(A Study Based on Adolescence Students of Selected Community School in Kirtipur Municipality)

A THESIS

SUBMITTED TO

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PHILOSOPHY IN POPULATION STUDIES

BY

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DECLARATION

Except where otherwise acknowledged in the text, the analysis in this thesis represents my own original research.

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28 January 2025

RECOMMENDATION

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(A study based on Adolescence students of selected community school in Kirtipur Municipality)

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Find that the thesis is an independent work of the student written according to the prescribed format. We accept the thesis as the partial fulfillment of the requirements for Master of Philosophy (M.Phil.) in Population Studies.

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ABSTRACT

Menstrual hygiene management is key indicators to reducing the vulnerability of girls and women to reproductive tract infections (RTIs). The main aim of this study is to examine the menstrual hygiene practices, and management. This study is based on a quantitative research design with census method, utilizing a self-administered, closed-ended questionnaire among adolescent girls from eight selected community schools in Kirtipur Municipality of Kathmandu district. The sample size was determined based on the availability of all eligible girls from selected community schools of grades six to ten. Univariate, bivariate, and multivariate linear regression analyses were used to determine the factors associated with menstrual knowledge, practices, and management.

The study revealed that nearly half (49%) of the respondents had correct understanding about menstruation. while 51 percent held misconceptions. In terms of menstrual hygiene practices, 98 percent of the respondents reported frequently changing pads during their periods, indicating good hygiene habits. Additionally, 87 percent stated that their schools provided a supportive environment for menstrual hygiene, offering free sanitary pads and other essential facilities. However, despite these supportive measures, more than half (51%) of the respondents reported an inadequate supply of clean water in their schools, highlighting a critical gap in menstrual hygiene management.

The study of multiple linear regression explored that, the relationship between menstrual knowledge and various demographic and social. The findings explored that age of respondents has a significant positive effect on both menstrual knowledge ($B = 0.02$, $p < 0.007$) and school attendance ($B = 0.014$, $p < 0.05$). Respondents of Dalit/Madhesi have significantly higher menstrual knowledge ($B = 0.103$, $p = 0.001$) then other group but lower attendance ($B = -0.066$, $p < 0.01$) compared to other groups. Similarly, Janajati respondents also presented slightly lower attendance ($B = -0.036$, $p = 0.059$). Other factors, such as family type and living conditions, had no significant impact. Analysis explained 47 percent of the variation in school attendance.

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ACRONYMS AND ABBREVIATIONS

CDPS	Central Department of Population Studies
HBM	The Health Belief Model
MHM	Menstrual Hygiene Management
RTIs	reproductive tract infections
SPSS	Statistical Package for the Social Sciences
TB	Tuberculosis
TU	Tribhuvan University
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water Sanitation and Hygiene
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

Menstruation is a biological and natural process experienced by menstruates of their reproductive age, which It starts beginning of the adolescence and end after menopause. The period of adolescence is considered to be from 10 to 19 years and menopause is considered to occur after the age of 49 (Shah et al., 2023). The World Health Organization (WHO) stated that Menstrual health refers to a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in relation to the menstrual cycle (UN-Water, 2022).

Menstrual hygiene encompasses the necessary practices and fundamentals girls and women should follow to during their monthly menstrual cycle. These include using clean, soft absorbents such as sanitary pads, thoroughly cleansing their genital cleanliness appropriately disposing of used absorbents, and addressing other specific healthcare needs. Menstruation and menstrual hygiene practices still face many challenges due to social, cultural, and religious restrictions which are a big barrier in the path of menstrual hygiene management. Menstrual hygiene management (MHM) is a largely overlooked issue in the water, sanitation and hygiene (WASH) sector. Every day, millions of menstruating girls and women in low-income countries struggle to find clean water for washing, private places for changing and adequate blood absorbing materials (Crofts, 2019). Despite advancements in healthcare and awareness, many societies continue to stigmatize menstruation, leading to limited access to essential menstrual products, inadequate sanitation facilities, and social isolation of those who are menstruating. These regressive attitudes and practices not only jeopardize the health and well-being of menstruates but also hinder their participation in various aspects of public and personal life. Addressing these deep-rooted challenges is crucial to ensuring comprehensive menstrual hygiene management and empowering individuals to manage their menstrual cycles with dignity and confidence (Kaur et al., 2018).

Knowledge about proper menstrual hygiene management is key to reducing the vulnerability of women to reproductive tract infections (RTIs) and related health problems. When women have access to accurate information and effective menstrual hygiene practices from an early age, they are better equipped to adopt safer methods

during their periods. This increased knowledge and adoption of hygienic menstrual care can significantly alleviate the suffering experienced by millions of women worldwide who lack awareness or resources for effective menstrual hygiene. Empowering women with comprehensive education about menstrual health management is therefore crucial to safeguarding their reproductive well-being and mitigating the consequences of poor menstrual hygiene. Having better knowledge about menstrual hygiene and safe practices makes women less vulnerable to reproductive tract infections (RTIs) and their consequences. Therefore, increasing knowledge about menstruation from a young age can lead to the adoption of safer practices, which can help mitigate the suffering of millions of women. Educating girls and women about menstrual health is crucial, as it can empower them to take better care of their reproductive well-being and reduce the burden of menstruation-related health issues Charan (2017); (Dasgupta & Sarkar, 2008) explored that maintaining good personal hygiene during menstruation is essential for women's health. Similarly Heramo and Mathewos (2021) stated that using sterile pads during the initial heavy flow, bathing daily for comfort and freshness, ensuring cleanliness from front to back in the perinatal area, and selecting for cotton underwear are key practices. Good menstrual hygiene practices, like using sanitary pads and thoroughly genital cleanliness are crucial during menstruation. Women and girls of reproductive age must have access to clean, soft, and absorbent sanitary products. Menstruators need the requirements of separate, private, and safe workplace toilets with running regular water, soap, menstrual products, and proper waste disposal (Paudel, 2023). This ensures their health and well-being in the long term. Girls and women who understand menstrual hygiene and practice it safely are less likely to face reproductive tract infections (RTIs) and their consequences. Therefore, prioritizing proper hygiene during menstruation is vital for overall well-being (Thakre et al., 2011). Poor menstruation hygiene management (MHM) is a big health issue. Neglecting menstrual hygiene can lead to an increased risk of reproductive tract infections (RTIs), highlighting the crucial connection between hygiene practices and health. Poor menstrual hygiene practices can lead to various health issues like reproductive tract infections, infertility, miscarriages, toxic shock syndrome, and cancer (Vidhi & Shashwat, 2022).

If menstruating women and adolescent girls cannot access safe and private places for managing menstrual hygiene, it is against their dignity (Choudhary, 2022). Socio-cultural taboos and traditional beliefs consider it an inappropriate topic of discussion, leading to a

lack of correct and recent information on menstrual hygiene. As a consequence, women end up harboring microorganisms that increase susceptibility to urinary, perinatal, vaginal, and pelvic infections. If these infections are left untreated, they may lead to several consequences, including infertility, ectopic pregnancy, fetal wastage, prenatal infection, low birth weight babies, and toxic shock syndrome (Rajbhandari et al., 2018). Menstruation hygiene Management is fundamental and essential parts of life however it is difficult due to social-cultural beliefs and available girl's friendly environment in school, campus and work place. Some people feel humiliated to talk about it, which makes it difficult to learn accurate knowledge about stay clean during menstruation. Knowledge sharing and educating the adolescence girls about menstruation hygiene management play important role to help their menstrual hygiene management. Many girls and women face difficulties managing their periods because they don't have access to basic necessities like water, bathrooms, and proper disposal options. This can sometimes stop them from going to school. To help them, it's crucial to create menstruation-friendly spaces that are safe, suitable, and long-lasting, both at school and in public places (Roeckel, 2019). The menstrual hygiene management play central role to prevent so many health-related issues among school level girl's students. Still shame and stigma attached to menstruation impact women and girls in many ways. It hampers them from being treated equally, accessing healthcare, finding safe housing, getting clean water and toilets, going to school, practicing their religion freely, working in safe places, and joining cultural or public events without facing discrimination. These stereotypes make it hard for them to get what they need and to be treated fairly. The stigma and discriminatory practices, have negative consequences for the health, mobility, and dignity of women, girls and all menstruates (Choudhary, 2022). It's fundamental to provide them with the necessary support during menstruation, such as access to sanitary products and clean bathrooms. UNESCO have summarized the following systematic factors for Menstrual hygiene management such as accurate and timely knowledge, informed and comfortable professionals, sanitation and washing facilities, safe and hygienic disposal, available, safe and affordable materials, referral and access to health services, positive social norms, and advocacy and policy. Lack of proper knowledge, traditional way of thinking as a male dominant world, gender inequality, discriminatory social norms, misconception, cultural taboos, poverty and lack of basic services often cause unmet needs for girls' and women's menstrual health and hygiene (Pandey, 2020). In many developing countries, girls still face challenges because of social taboos, supernatural beliefs, misconceptions, and

harmful practices surrounding menstruation. These societal, cultural, and religious restrictions make it difficult for girls to manage their menstrual hygiene effectively, posing a significant limitation (Bhusal, 2020).

1.2 Statement of the Problem

Based on the context discussed above, it is argued that most of the adolescent girls have lack of appropriate and sufficient information about the menstrual hygiene management and lack the basic facilities of WASH (water, sanitation, and hygiene), proper information, a suitable environment, which ultimately, affects their health and personal and professional carrier. The main problem is that women are still bound by such myths and taboos that restrict them from getting accurate knowledge about menstrual hygiene (Choudhary, 2022). Numerous studies have revealed that insufficient knowledge and awareness about menstruation builds harmful practices and, thus, it can cause pelvic infections, cervical cancer, school dropouts, poor academic outcomes, and low standards of living (Evans & Alvarez, 2018; Rajbhandari et al., 2018; Sapkota et al., 2013; Sultan & Sahu, 2017; Thérèse & Maria, 2010). The awareness of practices and access to facilities needed to maintain good hygiene during menstruation were generally found to be lacking.

As my experience as a campus coordinator, in Surkhet multiple campus many girls' students remain hesitation and feel shame to openly discuss their menstrual needs or demand better facilities from campus administration. The distribution of free sanitary pads by government in campus and schools is an important advantage to support girls' education and attendance, however, the underlying cultural taboos and shame around menstruation can still prevent girls from fully utilizing these resources. Kaur et al. (2018) believed that menstruation is a silent issue in girls' lives, which is further affected by teachers' attitudes, school environments, and available infrastructure. Because of this, many girls remain absent from schools during this time. The challenges girls face around menstruation, including lack of access to proper sanitary products, inadequate school facilities, and stigma or shame, can lead to increased absenteeism and negatively impact their health and education. Various gynecological problems can be seen in the reproductive life of girls due to poor personal hygiene (Tripathi, 2022). Addressing these issues through improved education, resources, and supportive school policies is crucial to ensuring girls can fully participate in their schooling without interruption during their menstrual cycles.

There are many studies on menstruation hygiene management in community-based cross-sectional observational studies (Anant & Kamiya, 2011; Dasgupta & Sarkar, 2008; Heramo & Mathewos, 2021; Thakre et al., 2011; Vidhi & Shashwat, 2022). There few researches using quantitative research designs and involving a small number of respondents (Rajbhandari et al., 2018). So, there is a methodological gap in this area of study. Similarly, many research studies (Adhikari, 2024; Adhikari & Adhikari, 2023; Gautam, 2020; Khanal & Devkota, 2021) have been carried out in rural areas and focusing among campus-level girl students, but there are few research studies conducted with school-level girls in urban areas revealing a geographical gap in the existing research. Therefore, this research aims to study menstrual hygiene management among adolescent school girls in Kirtipur municipality area. This research attempts to fulfill the research gap discussed above.

1.3 Research Questions

Following are the research questions of this study:

i. To what extent are the girl students at the selected schools of Kirtipur Municipality knowledgeable about menstrual hygiene?

ii. Are the existing menstrual hygiene management practiced by the selected girl students enough to meet the required standard?

iii. Why does the menstrual hygiene management system affect the girls' education?

1.4 Research Objectives

i. To examine the factors associated with knowledge of menstrual hygiene among the girl students at the selected schools of Kirtipur Municipality,

ii. To identify the factors associated with current menstrual hygiene practices among the girl students at the selected schools of Kirtipur Municipality.

iii. To assess the factors associated with menstrual hygiene management that impact these girls' education at the selected schools of Kirtipur Municipality.

1.5 Formulation of Hypotheses

A hypothesis is an educated guess that predicts how different factors or variables might be related. It's often tested through research or experiments to see if the prediction holds

true. Scholar like Dayanand (2020) claimed that a hypothesis is a statement of the researcher's expectation or prediction about the relationship among study.

1.5.1 Menstrual Knowledge and Hygiene Management

Menstrual hygiene education in schools is vital for equipping students with accurate knowledge about managing their menstrual health. This education helps dispel myths, promotes proper hygiene practices, and fosters a culture of openness and support, empowering students to take charge of their well-being. Scholar like (Heramo & Mathewos, 2021; Paudel et al., 2020) claimed that educating girls students about menstrual hygiene in schools equips them with accurate knowledge to manage their hygiene effectively, promoting better health and regular school attendance, thereby reducing menstrual-related absenteeism. Research indicates that as individuals age, their understanding of menstrual health typically improves, facilitating more informed decision-making regarding hygiene practices (Bharadwaj & Patkar, 2020). This enhanced awareness promotes the use of appropriate menstrual products, encourages regular genital cleanliness, and helps individuals identify irregularities that may require medical attention (Dawood et al., 2021). Consequently, individuals equipped with comprehensive menstrual knowledge are more likely to engage in effective hygiene management, thereby promoting their overall health and well-being. This underscores the importance of educational initiatives aimed at enhancing menstrual knowledge, particularly among younger populations, to foster healthier practices and improve health outcomes (Hennegan et al., 2021). Therefore, it is hypothesized that:

i. *The higher the age of respondents, tend to have better knowledge, leading to improved menstrual hygiene management.*

1.5.2 Sanitary Facilities in Schools and Menstruation Hygiene Management

Sanitary facilities in schools are crucial for effective menstruation hygiene management, providing students with the privacy and resources needed to maintain proper hygiene during their menstrual cycles. Access to clean restrooms, menstrual products, and education about menstruation fosters a supportive environment that encourages students to manage their periods confidently and without shame. Based on literature (Gautam, 2020; Johnson, 2019; Thérèse & Maria, 2010; Wilbur et al., 2021) access to safe water, private sanitation, and a clean environment free from harmful waste are fundamental necessities for health and human dignity the basic hypothesis would be:

ii. *Higher the level of school's facilities the higher the menstruation hygiene management*

1.5.3 Access to Sanitary Products and Regularity in School

Access to sanitary products in schools is essential for ensuring that students can manage their menstrual health effectively and without interruption. By providing these products regularly, schools can help reduce absenteeism and promote a supportive environment for all students during their menstrual cycles. Scholars like (Adhikari & Adhikari, 2023; Sommer et al., 2021) stated that lack of access to sanitary products negatively impacts on regularity of students which negatively effect on their academic performance the basic hypothesis would be:

iii. *Access to sanitary products in school is positively associated with the regular attendance of girl students*

1.6 Significance of the Study

This study provides a comprehensive understanding of the barriers that adolescent girls face in accessing safe and affordable menstrual products and adequate sanitation facilities, which is crucial for developing targeted interventions and policies. By examining knowledge, attitudes, and practices related to menstrual hygiene, the study highlights gaps in menstrual health education, guiding the creation of effective programs to reduce stigma and empower girls. It also examines the impact of poor menstrual hygiene management on girls' education, emphasizing the need for policies that support their full participation in school.

1.6.1 Methodological Contribution

This study based on quantitative research design with census method. The respondents of this study were 565 menstruating girls' students of grade six to ten. Data were collected using a structured, closed-ended questionnaire to ensure consistency and accuracy. The use of census method improves the study's reliability by selecting groups of students from different schools, making the findings more representative. The study also applies statistical analysis to identify key patterns and relationships in menstrual hygiene management. This approach ensures systematic data collection and enhances the accuracy of results, contributing to research on menstrual hygiene in Nepal.

1.6.2 Policy Implications

Short-Term: The findings can quickly help create programs that improve access to menstrual products and sanitation in schools and educate about menstrual health.

Long-Term: The study can influence national policies to make menstrual hygiene management a key part of public health and education plans, ensuring ongoing support for girls.

National/Specific Impact: The study can shape national policies to improve school conditions and access to menstrual products.

Impact on Individuals and Communities: By linking menstrual hygiene to education, the study encourages parents, teachers, and community groups to support girls' health and education.

1.7 Delimitation of the Study

Structural delimitations: This study examined the menstrual hygiene management among adolescence girl's students. grades VI to X in the selected community schools of Kirtipur municipality.

Sampling limitations: This study is based on quantitative research design with census method. The respondents of this study were menstruating girl's students of grade VI to grade X.

Coverage limitations: This study covers on 10 community school of Kirtipur municipality.

1.8 Organization of the Study

The proposal is divided into three chapters. The first chapter includes an introduction of study that provides the background of the study, statement of problem, research questions, and research objectives, significance of the study, limitations and organization of the study.

The second chapter includes a literature review of past studies and relevant theories on menstrual hygiene management.

Third chapter includes the methodology which ontology, epistemology, methodology, study population, source of data, research design and sample design.

1.9 Summary of Chapter One

Menstruation is a natural biological process experienced by menstruates during their reproductive years, typically starting at adolescence (ages 10-19) and ending at menopause (around age 49). According to the World Health Organization (WHO), menstrual health encompasses complete physical, mental, and social well-being in relation to the menstrual cycle. Half of the global population, including girls, women, trans-men, and queer individuals, menstruate. Proper menstrual hygiene involves using clean, absorbent materials, maintaining genital cleanliness, and appropriately disposing of used products. However, menstrual hygiene management faces significant challenges due to social, cultural, and religious taboos, leading to limited access to essential products and facilities, and perpetuating stigma and discrimination. Poor menstrual hygiene can result in serious health issues like reproductive tract infections (RTIs), infertility, and toxic shock syndrome. Education about menstrual hygiene from an early age is crucial for reducing these risks and empowering menstruates. Despite efforts to improve menstrual health management, many girls still struggle with inadequate resources and support, affecting their education and daily lives. Addressing these barriers requires creating menstruation-friendly environments and promoting accurate information and positive social norms. The study aims to assess menstrual hygiene knowledge and practices among school girls in Kirtipur Municipality and identify barriers impacting their education, ultimately informing targeted interventions to improve menstrual health and educational participation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

Water, sanitation, and hygiene (WASH) facilities in school, inadequate puberty education and lack of Menstrual Hygiene Management (MHM) items (absorbents) cause girls to experience menstruation as shameful and uncomfortable (Van Eijk et al., 2016). The causes of poor menstrual hygiene are illiteracy, superstitions, poor sanitation, and limited access to hygienic menstrual products. These situations weaken the education and health opportunities as well as the overall socio-economic status of women and girls around the world. As a result, millions of girls and women are lagging in their potential better first theoretical literature than empirical literature.

In certain religious and spiritual traditions, menstruation has been linked to notions of impurity, uncleanness, or the divine feminine. Anant and Kamiya (2011) stated that Hindu girls often limit their participation in religious practices during menstruation. Similarly, Muslim girls, followers of Islam, reported refraining from activities such as touching religious books, reading "Namaz," or visiting the "Mazaar" (shrine). In contrast, Christian girls reported feeling free to worship and attend church during their menstrual periods, and they are able to touch and read the holy Bible. Many cultures subordinate menstruation with both spiritual and physical impurity (Farage et al., 2014). Throughout history, numerous cultures have deemed menstruation a taboo subject, contributing to the social stigmatization of menstruating individuals. Consequently, those experiencing menstruation face marginalization, encounter activity restrictions, and contend with the perpetuation of myths and misconceptions. Moreover, hygiene practices vary depending on cultural norms, parental guidance, individual choices, and socioeconomic factors (Farage et al., 2014).

The Health Belief Model (HBM) was developed in the 1950s by U.S. Public Health Service behavioral scientists. It remains a widely used framework in health education and psychology. The model emerged when medical tools like chest X-rays for tuberculosis (TB) screening were underused, as many people did not recognize TB symptoms and ignored them as a simple cough

The health Belief Model is widely used framework for understanding and promoting healthy behaviour. This model motivates people to adopt positive actions and avoid negative behaviours. The model is based on six key concepts, including perceived susceptibility, severity, barriers, and benefits, which influence health decisions. The Health Belief Model was originally based on four cognitive constructs (Green et al., 2022).

Health Belief Model is based on four cognitive constructs with six key concepts, including perceived susceptibility, perceived severity, perceived barriers, perceived benefits, cues to action, and self-efficiency.

Girls' awareness of the potential health risks associated with poor menstrual hygiene (e.g., infections, reproductive health issues) determines their willingness to adopt hygienic practices (Das et al., 2021).

Among the six key concepts of HBM perceived susceptibility, perceived severity, perceived barriers, perceived benefits, cues to action, and self-efficacy. This study focuses, only three key concepts such as perceived susceptibility, perceived severity and self-efficiency. In the context of menstrual hygiene management, HBM provides a useful lens to understand how adolescent girls make decisions about their hygiene practices. Among the six key concepts of.

i. **Perceived susceptibility**: Girls' awareness of the health risks associated with poor menstrual hygiene (such as infections and reproductive health issues) affects their motivation to adopt hygienic practices.
ii. **Perceived severity**: If girls believe that poor hygiene can lead to serious health consequences, they are more likely to follow safe menstrual practices.
iii. **Self-efficacy**: Confidence in their ability to manage menstruation properly, including access to sanitary products and hygiene facilities, influences their behavior.

2.2 Empirical Literature Review

Menstrual hygiene practices depend on cultural norms, parental influence, personal preferences, and socioeconomic pressures. However, in Nepal, menstruation is considered as a religiously impure and culturally shameful occurrence. Socio-cultural taboos and traditional beliefs consider it an inappropriate topic of discussion, leading to a lack of correct and recent information on menstrual hygiene. Menstruation is associated with

human civilization and customs and has a long history. Customs are deeply rooted in any society. For instance, a society considers menstruation a period of impurity and dirt, and the girls are isolated (Farage et al., 2014). Menstruation is surrounded by countless myths and mysteries. The most common social and cultural practices and restrictions concerning menstruation among young girls and women are not entering the puja room. These taboos, which are still prevalent, are not only threats but are also serious considerations for the professionals in the health sector. The social and cultural practices are further augmenting the problem. Although many social and cultural practices are justified scientifically, there is a need to challenge and discourage those practices that adversely affect the health of individuals, especially girls. Most of these taboos actually revolve around the question of a girl being pure or impure during menstruation. There are serious concerns about female adolescent health in Nepal (Anant & Kamiya, 2011). Similarly Evans and Alvarez (2018) stated that in Nepal, millions of women and adolescent girls grapple with significant challenges in managing menstruation hygienically due to deep-rooted cultural and religious beliefs and a lack of essential infrastructure in school, campus and workplace. To address this, a multifaceted approach is imperative: comprehensive menstrual health education to dismantle stigmas and misconceptions, investment in community-level infrastructure for clean and private sanitation facilities, and ensuring access to affordable and sustainable menstrual hygiene products. Empowering women and girls in decision-making processes regarding menstrual health is pivotal for implementing culturally sensitive solutions that foster dignity, security, and confidence in managing menstruation. Collaboration among governments, NGOs, and community organizations is essential to enact these solutions effectively and sustainably.

The understanding of girls about menstruation and their practices to MHM closely links her academic performance and school attendance. Due to girls' lack of awareness and knowledge about menstruation, they are often forced to skip their classes during menstruation in schools. The inadequate school WASH facilities with menstrual materials disturb their attendance and performance.

The unavailability of menstrual materials in school brings inconvenience and compels them to use harmful materials. The influence of socio-culture does not comprise school attendance. Instead, their physical discomfort, inappropriate MHM materials and WASH infrastructure with privacy do. At the end of the study, three significant improvements were noted in the study area. First of all, MHM and user-friendly WASH facilities such as

disposal systems, provision of adequate soap, appropriate changing spaces within toilets and other MHM materials need to be operated and maintained. Second, teachers must be well-trained and re-educated to create a good and supportive environment for girls. Third, teachers should encourage girls to practice hygienic and safe habits at school and home. The primary reason for all these problems is illiteracy. Therefore, to overcome all the mentioned issues, education is a must (Sharma et al., 2019).

Girls and women's health is crucial, and their roles in families and society are undeniable. Ensuring sexual and reproductive health rights, like menstrual health and hygiene, is essential for women to fully enjoy their rights. However, in many places worldwide, women still struggle to access their rights to health, particularly regarding menstruation (Valipour et al., 2023).

Providing a supportive environment for girls and women during menstruation is crucial. Schools, workplaces, and communities should work to stigmatize menstruation and ensure access to necessary resources like sanitary products, clean water, and private spaces. Education on menstrual health should be widely available to dispel myths and misconceptions. Healthcare services should be affordable and responsive to the unique needs of menstruating individuals. Ultimately, creating an open, informed, and empathetic culture around menstruation can greatly improve the physical and mental wellbeing of girls and women.

Supportive environment during menstruation, help to girls and women stay healthy and respected, it's important that they can handle their periods well. This means having access to clean water, bathrooms, and hygiene products like pads or cloths. They need a place to clean these cloths and pads and somewhere private to change them. It's also crucial they know about their menstrual cycle and how to manage their periods hygienically. Alongside meeting these practical needs, it's also vital to teach both women and men about menstruation to overcome the embarrassment and cultural beliefs that can harm women and girls, reinforcing unfair treatment based on gender Thérèse and Maria (2010) .

Menstrual Health and Hygiene (MHH) policies are crucial for breaking menstruation taboos and promoting open discussions. Integrating MHH into national programs, including education and health initiatives, can normalize conversations and reduce stigma. Robust monitoring and evaluation methods ensure effective MHH programs that

present menstruation as natural and foster public discussions without embarrassment. Collaborative efforts involving governments, NGOs, and research institutions are key to implementing nationwide MHH practices and ensuring access to necessary facilities and affordable products. Partnerships like the WHO-UNICEF Joint Monitoring Program make global MHH advocacy more effective, ultimately improving the well-being of women and girls worldwide (Wardana, 2020).

Women and girls worldwide face challenges in managing their periods, especially in environments lacking proper menstrual hygiene management (MHM). According to WHO, UNICEF, and scholars, adequate MHM involves: (i) awareness, information, and self-confidence in menstrual hygiene; (ii) access to safe and hygienic products; (iii) access to clean facilities with water and soap; and (iv) a supportive environment free from stigma or embarrassment (USAID, 2019).

2.3 Research Gap

Knowledge about Menstrual Hygiene Management (MHM) is crucial for promoting the health, dignity, and well-being of menstruating girls and women, ensuring access to proper resources and facilities, and breaking stigma surrounding menstruation. Accurate information about MHM empowers individuals to make informed decisions about their menstrual health, fostering gender equality and societal progress. Still teenage girls find discussing menstruation uncooperative, thus they don't have access to enough accurate knowledge about MHM because of social and cultural taboo, myth and misconception in society. According to Tripathi (2022) found that Inadequate knowledge and comprehension of menstruation can result in unsanitary practices that raise the risk of reproductive and genital tract infections, cervical cancer, school neglect, hamper academic achievement, and a general decline in quality of life. Similarly Vidhi and Shashwat (2022) also claimed that inadequate knowledge about menstrual hygiene management, which raises the risk of cancer, toxic shock syndrome, miscarriages, infections of the reproductive system, and infertility. So, there is still gap in knowledge of menstrual hygiene management in school level girl’s students. In Nepal, many studies exist on menstrual hygiene management regarding higher-level girl’s students, but there are few researches found in knowledge of menstrual hygiene management in school level girls' students. So, I am curious to study focusing the school level girl’s students. So, this research plays important role to bridge up the existing research gap.

2.4 Conceptual Framework

Based on the mentioned objectives and reviewed literature, the study's conceptual framework has been formed and is shown in the following schematic diagram.

Figure 2.1: Conceptual Framework of the Study

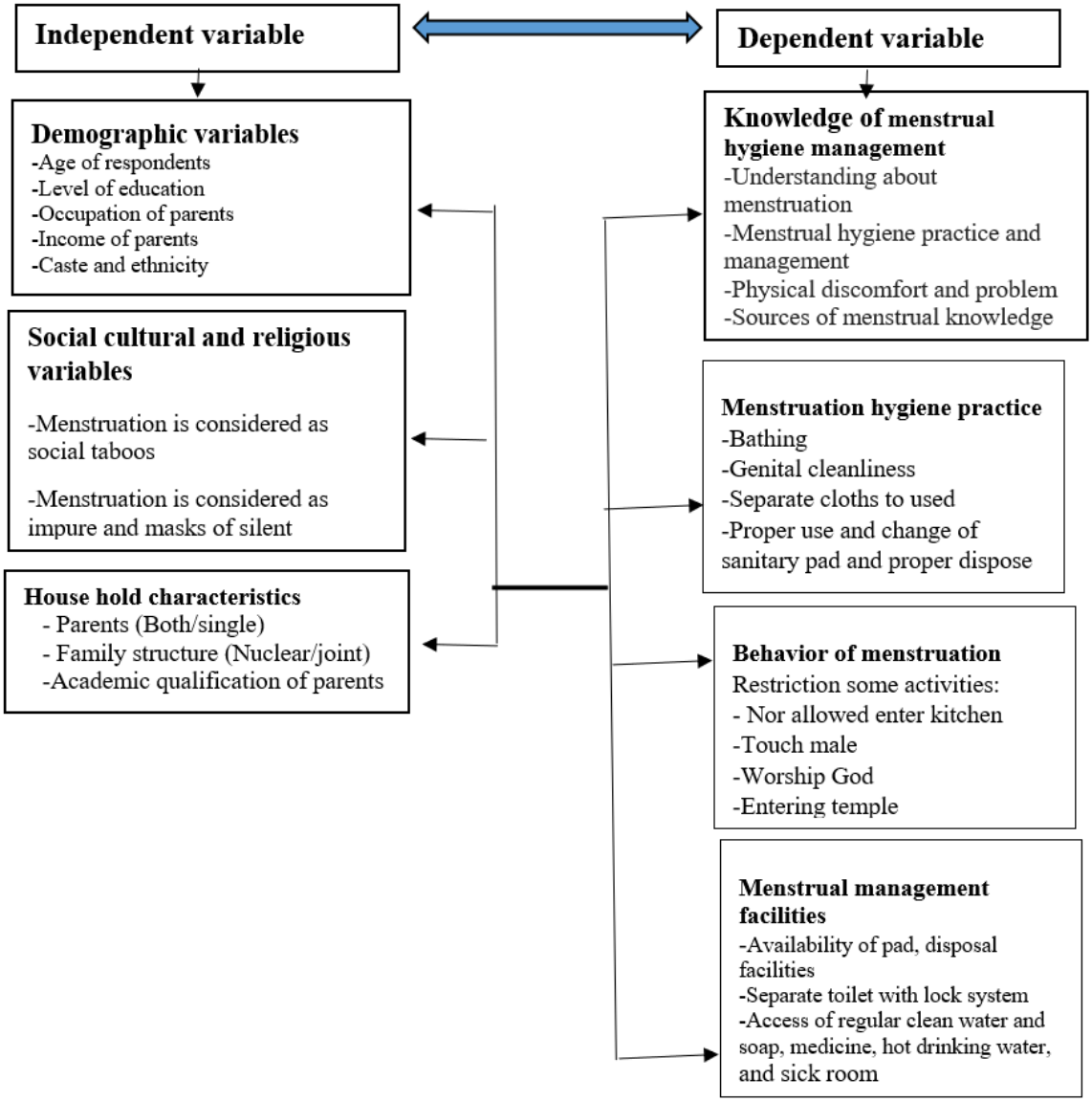

Figure 2.1 deals about the conceptual framework of the study related to menstrual hygiene management. It explained the relationship between menstrual hygiene management (MHM) and related variables. The related variables are deal with their relationship.

Education plays a crucial role in menstrual hygiene management (MHM). Girls with higher education levels tend to have better knowledge about menstruation, understand the importance of maintaining hygiene, and adopt safer practices. Educated girls are also more likely to challenge social taboos and misconceptions, leading to healthier and more

confident menstruation management. Moreover, education fosters a positive perception of menstruation, helping girls view it as a natural biological process rather than something unclean or shameful.

Parental income directly impacts access to menstrual hygiene products like sanitary pads, soap, and clean water. Higher income levels allow families to afford these essential items, ensuring that girls can manage their menstruation hygienically. Additionally, income influences the quality of facilities at home and in schools, with wealthier families more likely to have private toilets, clean water, and proper waste disposal systems all crucial for effective MHM. Caste and Ethnicity

Cultural norms and practices surrounding menstruation are often shaped by caste and ethnicity. In many communities, traditional beliefs dictate how menstruation is perceived and managed, which can either support or hinder good MHM. Some castes or ethnic groups may also experience social exclusion during menstruation, such as isolation from communal activities or restrictions on using shared spaces, negatively impacting the physical and mental well-being of menstruating girls.

Geographical location significantly influences access to MHM resources. Urban areas typically have better access to sanitary products, healthcare, and education, leading to more effective MHM practices. In contrast, rural areas often lack these resources, resulting in poorer hygiene practices and increased health risks. The availability of essential infrastructure, such as schools with private toilets, clean water, and waste disposal systems, also varies greatly between urban and rural settings, strongly affecting how girls manage their menstruation.

In communities where menstruation is viewed as a social taboo or something impure, girls often face restrictions on their activities and may be subjected to isolation during their periods. These practices can lead to feelings of shame and contribute to poor menstrual hygiene. Such perceptions also create barriers to accessing accurate information about menstruation, which is essential for good MHM. Girls who internalize these taboos are less likely to seek help or ask questions, leading to gaps in knowledge and potentially harmful practices.

The availability of secure, private toilets in schools and homes is crucial for MHM. Without such facilities, girls may feel embarrassed, fearful, and uncomfortable, leading to school absenteeism during their periods. Having a lockable toilet ensures privacy and

security, allowing girls to manage their menstruation with dignity and maintain regular school attendance.

Access to clean water, proper sanitation, and hygiene facilities is fundamental for good MHM. Without these, girls cannot maintain proper hygiene during menstruation, which can lead to health risks such as infections. Adequate WASH facilities enable girls to change sanitary products, wash themselves, and dispose of waste safely, which is essential for their health and well-being.

Knowledge is the foundation of effective MHM. Girls who are well-informed about menstrual hygiene are more likely to use sanitary products correctly, maintain cleanliness, and manage discomfort effectively. This knowledge helps reduce health complications and improves their overall menstruation experience. Additionally, accurate knowledge about menstruation helps girls overcome misconceptions and taboos, leading to healthier behaviors and contributing to a broader cultural shift towards better MHM practices.

The relationship between MHM and these variables is profound. Education, income, caste, geographical location, social perceptions, and infrastructure play pivotal roles in shaping how menstruation is managed

2.5 Summary of the Second Chapter

The second chapter deals with the review of theoretical and empirical literature related to the study. The theoretical review highlights how poor water, sanitation, and hygiene (WASH) facilities in schools, inadequate puberty education, and lack of menstrual hygiene management (MHM) items can cause girls to experience menstruation as shameful and uncomfortable. Causes of poor menstrual hygiene include illiteracy, superstitions, poor sanitation, and limited access to hygienic menstrual products, weakening the education, health opportunities, and socio-economic status of women and girls. The review discusses how, in certain religious and spiritual traditions, menstruation has been linked to notions of impurity and uncleanness, leading girls and women to restrict their participation in religious activities during menstruation. In contrast, Christian girls reported feeling free to worship during their periods. Many cultures historically deem menstruation a taboo subject, contributing to the social stigmatization of menstruating individuals. The theoretical review concludes by emphasizing the importance of creating a supportive environment for girls and women during menstruation through measures like de-stigmatizing menstruation, providing necessary

resources, and promoting menstrual health education. Integrating menstrual health and hygiene (MHH) policies into national programs can help normalize conversations and reduce stigma. Collaborative efforts involving various stakeholders are key to implementing effective and sustainable MHH practices.

The empirical literature review highlights the situation in Nepal, where menstruation is considered religiously impure and culturally shameful. Socio-cultural taboos and traditional beliefs lead to a lack of correct information on menstrual hygiene, adversely affecting the health and education of adolescent girls. The review emphasizes the need for a multifaceted approach, including menstrual health education, investment in community infrastructure, and ensuring access to affordable menstrual products, to address these challenges. The review identifies a research gap in the knowledge of menstrual hygiene management among school-level girls, especially in Nepal, highlighting the need for further research to promote the health, dignity, and well-being of menstruating girls and women.

In my study, the conceptual framework of menstrual hygiene management explains the relationship between menstrual hygiene management (MHM) and related variables.

Demographic variables, socio-cultural and religious variables, girl-friendly environment in school, household characteristics, and barriers to education. Demographic variables include age, sex, marital status, level of education, occupation and income of parents, caste and ethnicity, and geographical location, which influence respondents' exposure, experiences, and understanding of menstrual hygiene management. Socio-cultural and religious variables encompass beliefs and practices around menstruation, such as social taboos, misconceptions, myths, or considering it unclean, directly affecting knowledge, perception, and behavior. The girl-friendly environment in school involves facilities like toilets with lock systems, water, sanitation, hygiene, waste disposal, electricity services, soap, pads, medicine, hot water, and sick rooms, significantly enhancing girls' knowledge and management of menstrual hygiene. Household characteristics include parental presence, family structure, number of children, parents' education level, parents' age, and barriers to education like school regularity and absenteeism, impacting the support available to girls. Dependent variables focus on knowledge, perception, and behavior about menstruation, including maintaining menstrual hygiene, accurate menstruation information, sanitary pad use, understanding unhealthy menstrual management effects on health, managing menstrual discomfort, and perceiving menstruation as a natural process

versus a socio-cultural taboo, along with behavioral aspects like activity restrictions, separate living spaces, separate cloth usage, and restrictions on kitchen access and male contact.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Philosophical Paradigm

Ontological perspective views menstruation as a complex phenomenon deeply intertwined with the physical and social realities of women's lives. It goes beyond the biological aspect of menstruation to consider how it is connected to a woman's sense of self, identity, and lived experiences. This perspective highlights the cultural, social, and embodied dimensions of menstruation, addressing issues like menstrual etiquette, taboos, and the societal oppression of women as menstruations. It also examines how menstruation is perceived and experienced differently across various social, cultural, and historical contexts. Ontological perspective on menstruation can provide valuable insights into the complex and multifaceted nature of this biological process, and can contribute to a more inclusive and empowering understanding of the female experience (Taylor, 2023).

Investigation into how knowledge about menstruation is acquired through conscious experiences, shaping subjective perceptions and cultural norms. This perspective highlights the subjective nature of understanding menstruation, influenced by social contexts and individual experiences. The acquisition of knowledge about menstruation is not solely based on biological facts but is intertwined with social, cultural, and historical dimensions that impact how menstruation is perceived and discussed in society. This approach challenges traditional views that often musicalize menstruation, portraying it as taboo, stigmatized, or even a form of illness, which can lead to disempowerment and control over women's bodies. By considering menstruation from an epistemological standpoint, we can better understand how societal norms, gender roles, and cultural beliefs shape our perceptions and attitudes towards this natural biological process.

“The menstrual etiquette, which is transmitted from generation to generation and reinforced by social norms, is so deeply rooted in our culture that many women are not consciously aware of engaging in any behavioral changes during their periods” (Christoforou, 2014, p. 21)

3.2 Research Design

This study follows a quantitative research design. The tools of data collection were closed-ended self-administrative questionnaire as the focus of my study is on menstruation hygiene management among adolescent girl students at selected community schools in Kirtipur Municipality. The study is based on census method where I have collected quantitative data by visiting girl students in each school classroom and providing them with a set of closed-ended questionnaires, with the support of subject teachers. According to Cross and Belli (2004), ‘‘quantitative survey studies, the primary concern is to select respondents so that responses are representative of some defined population of interest’’ (p.291).

The nature of my research objectives is clearly communicated through statistics and numbers, making it a correlational study. The measurement of variables for my first research objective relates to menstrual knowledge, which begins with yes/no questions that is numerical. Similarly, the second and third objectives of my study was correlate MHM with the available requirements and the overall educational barriers faced by adolescents which is also indicate the quantitative types.

In a quantitative research design, the principal purpose is to determine the relationship between an independent variable and a dependent variable within a given population. This involves systematically measuring and analyzing numerical data to identify patterns, test hypotheses, and draw conclusions about how changes in the independent variable affect the dependent variable. The goal is to achieve objective, statistically significant results that can be generalized to the broader population, providing a clear understanding of the causal or correlational links between the variables under investigation (Mehrad & Zangeneh, 2019). Quantitative research is a method that explains phenomena by collecting numerical, detailed data, which are then analyzed using mathematical methods, particularly statistics. This approach addresses questions such as who, what, when, where, how much, how many, and how. It relies on numbers, logic, and maintains an objective stance throughout the process (Haradhan, 2020).

3.3 Study of Population

The population of this study are the community school level girl's students of Kirtipur Municipality from grade VI to X. The respondents of my study are adolescent female students. Those female students are studying in schools and are of an age where they are likely experiencing menstruation. So, I selected those schools and places to conduct my research on the experiences and challenges faced by menstruating adolescent girls, particularly in relation to menstrual hygiene management. By focusing on these schools, I am able to effectively gather the necessary data to address my objectives of research is related to the menstrual hygiene management experiences of girl's students.

3.4 Study Area

This study was conducted in Kirtipur Municipality, located in the southern region of Kathmandu District, which is home to a diverse student population district. I selected specific schools in this area to conduct my research. These schools are chosen because in this place. The municipality has a total of 10 community secondary schools, all of which serve students from a variety of cultural and socio-economic backgrounds. This diversity is important for my study.

3.5 Sampling Strategy and Sample Size Determination

This study used a census method to investigate the menstrual knowledge, hygiene practices, and management of adolescent girls studying in community schools of Kirtipur Municipality, Kathmandu district. Census method is often used in quantitative research to gather data from every member of a specific population (Fowler, 2014; Babbie, 2017).

Initially, the study aimed to include all 10 community schools in Kirtipur Municipality. However, during the time of data collection, one school was engaged in a special science program, and another was undergoing physical construction due to a natural disaster, resulting in the exclusion of these two schools.

For data collection, I visited the schools twice a day before and after the tiffin break covering only two schools per day. Since the study targeted all menstruating girls from grades 6 to 10 in the selected community schools, I had to visit some school's multiple times. The entire data collection process took approximately one month. In total, I successfully collected data from 565 girls' students among 605 of total eligible menstruating girls from grades 6 to 10 of eight schools. Although census sampling

ensures a comprehensive representation of the target population, challenges such as student absenteeism can result in a few individuals being left out of the study, even when the goal is to include everyone (Neuman, 2014).

3.6 Tools of Data Collection

A structured questionnaire used to collect data from the adolescent students. The questionnaire based on the research objective of this study covering areas such as socio-demographic characteristics, knowledge about menstrual hygiene, current menstrual hygiene practices, and the impact on education. The questionnaire includes closed-ended type, and it is pre-tested with a small group of same characteristics of respondents to check for clarity and effectiveness. Based on their feedback, I finalized the questionnaire.

3.7 Data Collection Procedure

The study followed a quantitative research design, using a self-administered, closed-ended questionnaire. The sampling process involved several steps. Before starting data collection, I consulted my supervisor and visited the Kirtipur Municipality office with an official request letter to obtain permission for school visits. After receiving authorization, I informed the head teachers of all selected schools and obtained their consent for data collection.

Additionally, I provided one-hour training sessions to the female teachers in and staff nurse (if staff nurse is available) in each school to familiarize them with the data collection process. Then I collected data by visiting each school twice a day, before and after the tiffin break, covering two schools per day. Since the study included all menstruating girls from grades 6 to 10, I visited selected schools' multiple times and I gathered data from 565 out of 605 eligible respondents from eight community schools. Although I used a census sampling technique to collect data from all 605 eligible girls in the selected schools.

3.8 Data Entry

After data collection, the information was entered using Epi Data 3.1 software. The data was then converted to Statistical Package for the Social Sciences (SPSS) software, version 20.0, for further analysis. To ensure the quality and consistency of the collected data, I prepared a clean dataset by conducting frequency analyses and cross-tabulations, making it ready for detailed analysis.

3.9 Quality of Data

The study used a globally standardized self-administered closed -ended questionnaire designed to meet the research objectives. Before the data collection, questionnaire was pretested with a small group of students in school to ensure the questions were clear and effective. Based on the feedback, the questionnaire was refined to improve its content, clarity, sequence, and overall accuracy. To assist with data collection data collection, female teachers in each school received one hour of training to understand their role in the data collection process. During these interviews, detailed information about the study and the data collection procedure. This thorough and systematic approach ensured that the data collected was reliable, clear in wording, and consistent.

3.10 Method of Data Analysis

Descriptive analysis, including univariate, bivariate, and multivariate linear regression, percentiles, pie charts, and percentage calculations, was used to summarize the data and provide an overview of the characteristics of the research respondents. These parameters help summarize the respondents' characteristics and highlight their understanding of menstruation, the current status of menstrual hygiene practices, and management.

To examine the relationship between independent variables (caste/ethnicity, religion, occupation of mother, educational qualification of mother, age, and types of family) and dependent variables (menstrual knowledge, practices, and management), multiple linear regression analysis. The following matrix provides detailed information about examining the objectives of the study.

Objectives	Factors to be Examined	Methods/Statistical Techniques
Objective 1: To examine the factors associated with knowledge of menstrual hygiene among the girl students at the selected schools of Kirtipur Municipality	Dependent variable (menstrual knowledge) and independent variable (age, caste/ethnicity, living with female members, present living condition, having sister, religion educational qualification of mother)	Analyses of univariate, bivariate, and multivariate linear regression percentiles, and pie charts)
Objective 2: To identify the factors associated with current menstrual hygiene practices among the girl students at the selected schools of Kirtipur Municipality	Age caste/ethnicity, living with female members, present living condition, having sister, religion educational qualification of mother)	Analysis of univariate, bivariate, pie charts,
Objective 3: To examine factors associated with menstrual hygiene management that impact these girls' education at the selected schools of Kirtipur Municipality	Dependent variable (Menstrual Management Facilities) and independent variables (age, caste/ ethnicity, living with female members, present living conditional, having sister, religion educational qualification of mother)	Analyses of univariate, bivariate, and multivariate linear regression percentiles, pie charts

3.11 Hypothesis Test

Hypothesis of this study formulated relation to the objectives and aims to examine the association between various factors (such as socio-demographic characteristics, knowledge, practices and management and other relevant variables) and the level of

knowledge about menstrual hygiene. The hypothesis was tested using appropriate statistical methods, multiple logistic regression.

3.12 Ethical Consideration

As a researcher, I ensured that all research ethics were carefully followed before, during, and after the study. Before the study, respondents were provided with detailed information about the research objectives, methodology, and procedures and their informed consent was obtained. During the study, participants were treated with respect, After the study, the collected data was securely stored and used solely for research purposes, ensuring the findings were presented honestly and accurately.

CHAPTER FOUR

SOCIO- DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The chapter addresses the socio-demographic characteristics of respondents. It includes combination of social and demographic factors such as age composition, grade, caste/ethnicity, culture, religion, occupation, permanent district, main sources of income, and types of family of respondents.

4.1 Age Composition of Respondents

The age composition of respondents is the main demographic characteristics, which denotes their maturity level and ability to gain knowledge regarding menstruation. In this study, the respondents are between the age of eleven and eighteen years. Those age indicates that the key stage of adolescence when most of them experienced menarche and understanding menstrual knowledge and managing hygiene practices. This period important for understanding for managing hygiene practices effectively.

Table 4.1: Distribution of Population by Age

Age	N	Percent
11	3	0.5
12	43	7.6
13	113	20.0
14	142	25.1
15	145	25.7
16	83	14.7
17	30	5.3
18	6	1.1
Total	**565**	**100.0**

Source: Field Survey, 2081

Table 4.1 shows that the respondents' ages ranged from 11 to 18 years. The majority of respondents within the ages of fourteen and fifteen, accounting for one forth (25%) and 25 percent of the total, respectively. Similarly, one fifth (20%) of the respondents were thirteen years old, while 14 percent were sixteen years old. In contrast, a smaller 7 percent of respondents were twelve years and 5 percent were seventeen years old, and only 1 percent were eighteen years old.

4.2 Grade-wise Distribution of Respondents

The grade wise distribution of respondents reflects the grade-wise distribution of respondents from different academic levels.

Table 4. 2: Distribution of Grade

Grade	N	Percent
Six	70	12.4
Seven	120	21.2
Eight	111	19.6
Nine	124	21.9
Ten	140	24.8
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 4.2 express that the participants were almost evenly spread across the educational levels, with a noticeable concentration in higher grades. Grade ten has the highest representation, comprising nearly one fourth (24%) respondents followed closely by grades nine with grade seven and grade nine with same 21 percent.

Grades eight and six have slightly lower frequencies, contributing 19 percent and 12 percent respectively.

4.3 The Age of Onset of Menstruation among the Respondents

Age at onset of menstruation is the time when a girl experiences her first menstrual period, usually during adolescence. The age at which girls begin menstruation varies, some may experience it as early as 10 years, while others may start at 14 years or later. Key factors influencing the age of menarche include genetics, nutrition, living condition and other environmental factors.

Table 4. 3: Age at Menarche of the Respondents (Average age: 11.84 years)

Age	N	Percent
10 years	90	15.9
11 years	126	22.3
12 years	177	31.3
13 years	129	22.8
14 years	40	7.1
Mean age (Years)		11.8

Source: Field Survey, 2081

The table 4.3 shows the distribution of respondents based on their age at menarche. The most common age at menarche is twelve years, reported by 31 percent respondents. Similarly, 22 percent of respondents experienced menarche at the age of thirteen and 22 percent at the age of eleven. A small portion, 7 percent respondents of reported the age of

menarche at the age of fourteen. This data indicates that the majority of represents start menstruating within the age of eleven, twelve and thirteen.

4.4 Distribution of Caste/Ethnicity of Respondents

Nepal is a multilingual, multicultural and multi-ethnic country. According to the latest census of 2078, there are 142 castes, 124 mother tongues and more than 10 religions in Nepal. In this study the respondents were from five different castes: Brahmin, Kshetri, Janajati, Dalit and Madhesi.

Table 4. 4: Caste/Ethnicity of Respondents

Caste/Ethnicity	N	Percent
Brahmin	70	12.4
Kshetri	163	28.8
Janajati	255	45.1
Dalit	48	8.5
Madhesi	29	5.1
Total	**565**	**100.0**

Source: Field Survey, 2081

Table 4.4 highlights the caste/ethnicity of the respondents. The nearly half of the total population 45 percent of respondents were from the Janajati community, followed by 28 percent from the Kshetri community. Similarly, 12 percent of respondents identified as Brahmin, while 8 percent were Dalit, and only 5 percent belonged to the Madhesi community.

4.5 Distribution of Religion of Respondents

Religion refers to a set of beliefs, practices and systems that relate to the understanding of the divine, spiritual matters, and moral values. Religion can play a great role in shaping an individual's worldview, behavior, and interactions with others, as well as influencing societal norms and institutions. In this study, six religions are represented out of the more than ten religions in Nepal.

Table 4. 5: Distribution of Religion (n=565)

Religion	N	Percent
Hindu	447	79.1
Buddhist	58	10.3
Christian	43	7.6
Others	17	3.0
Total	**565**	**100.0**

Source: Field Survey, 2081

Table 4.5 outlines the religious distribution of the respondents. The maximum 79 percent of respondents identified as Hindu, while all other religions represented a relatively small proportion. Specifically, 10 percent of respondents were Buddhist, 7 percent were Christian, and others religions 3 percent includes Kirant, Islam and Jain.

Table 4. 6: Distribution of Respondents by Occupation of Father

Occupation of Father	N	Percent
Farmer	89	15.8
Social worker/Politician	11	1.9
Government job	99	17.5
Private job	87	15.4
Foreign employee	96	17.0
Business	103	18.2
Labor	79	14.0
Total	564	99.8
System	1	0.2
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 4.6 demonstrates the distribution of respondents by occupations of the fathers among 565 respondents highlighting a diverse occupational landscape. A significant portion of fathers are engaged in formal employment, business, and agricultural activities. Specifically, nearly one fifth 18 percent were involved in business, 17 percent, in government job also 17 percent in foreign employment, 15 percent in farming, and 14 percent in labor. However, nominal percent 1.9 were engaged social worker or Politician.

Table 4. 7: Distribution of Respondents by Occupation of Mother

Occupation of Mother	N	Percent
Farmer	126	22.3
House manager	179	31.7
Social worker/ Politician	15	2.7
Government job	34	6.0
Previte job	55	9.7
Foreign employee	33	5.8
Business	83	14.7
Labor	37	6.5
Total	562	99.5
Missing System	3	0.5
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 4.7 reveals the occupations of the mothers of among 565 respondents highlighting a diverse occupational landscape. A significant portion of mothers were engaged in house manager, agricultural activities, and business. Specifically, nearly one third 31 percent were involved in house managers, more than one fifth (22%) in agricultural activities, 14 percent, in business. However small 9 percent were involved in private job, and only 6 percent were in labor. However, nominal percent 1 were engaged in social worker or Politician.

Table 4. 8 Distribution of Respondents by Main Sources of Income of their Family

Sources of income	N	Percent
Rent of home and land	2	0.4
Agriculture/Livestock	104	18.4
Cottage industry	4	0.7
Business-retail, wholesale, etc.	122	21.6
Causal labour (agriculture)	13	2.3
Causal labour (non-agriculture)	12	2.1
Service: GOs/NGOs/Corporations/etc.	197	34.9
Foreign employment	111	19.6
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 4.8 explores the main sources of income of the parents of 565 respondents. Most of the parents' main source of income was government jobs, accounting for nearly one third 34 percent. Likewise, the second main source of income was business activities 21 percent, such as retail and wholesale. Additionally, 19 percent depended on foreign employment, prominence the importance of remittances. Agriculture and livestock contribute 18 percent showing the continued significance of farming in the economy. Nominal shares of income come from casual labor in agriculture and non-agriculture was only 2 percent, cottage industries were below I percent and rent from homes or land also below the 1 percent. This mix reflects a community balancing between traditional and modern income sources, emphasizing the need to support all sectors for sustainable growth.

Table 4. 9: Distributions of Family Members of Respondents and Average Family Size

Average family size was 5.62 members

Family members	N	Percent
3	2	0.4
4	136	24.1
5	159	28.1
6	126	22.3
7	88	15.6
8	31	5.5
9	23	4.1
3172	565	100.0
Average family size	5.6	members

Source: Field Survey, 2081

Table 4. 9 presents the distribution of family sizes among 565 households, ranging from three to nine members. Families with 5 members are the most common, accounting for 28 percent of the total, followed by families with 4 members nearly one fourth 24 percent and 6 members 22 percent. Smaller families with 3 members represent only below 1 percent. while larger families with 7, 8, and 9 members make up 15 percent, 5 percent and 4 percent of the total, respectively.

Table 4. 10: Distribution of Population by Provinces of Nepal

Province	N	Percent
Koshi	23	4.1
Madesh	50	8.8
Bagmati	216	38.2
Gandaki	21	3.7
Lumbani	62	11.0
Karnali	83	14.7
Sudurpashchim	102	18.1
Total	**565**	**100.0**

Source: Field Survey, 2081

Table 4.10 shows the distribution of population by province in Nepal. Respondents from Koshi province included 23 members of different districts of Jhapa (3), Illam (5), Khotang (5), Okhaldhunga (6), Bhojpur (1), Taplejung (1), Solukhumbu (2).

Similarly, respondents from Madesh province included the districts of Bara (14), Sarlahi(12), Janakpur(4), Dhanusa(4), Rautahat (8), Siraha(3), Mohottari(2), Parsa(1), and Saptari(2).

Likewise, respondents from Bagmati provience included 216 respondents of different districts of Kathmanadu (114), Lalitpur (1), Makawanpur (34), Chiwan (2), Kavre (12), Sinduli (4), Ramechhap (8), Sindhupalchok (5), Nuwakot (8), Dhading (17), Rasuwa (8), and Dolakha (3). Respondents from Gandaki province included 23 respondents of different districts of Gorkha (5), Lamjung (11), Tanahun (2), Kaski (1) and, Baglung (2). Additionally, respondents from Lumbani included different districts of Nepal Rupandehi (2), Palpa (2), Gulmi (4), Arghakhanchi (2), Dang (5), Bardiya (13), Rolpa (1), Pyuthan (13), Rukum East (19), and Nepalgunj (1).

Respondents from Karnali province included 83 respondents of different districts of Surkhet (9), Dailekh (4), Jajarkot (9), Jumla (5), Kalikot (7), Dolpa (12), Mugu (7), Humla (8), Salyan (3), Rukum West (19). Lastly, the respondents from Sudurpashchim province included different districts of Kailali (18), Kanchanpur (7), Doti (3), Dedeldhura (2), Baitadi (9), Bajhang (33), Bajura (9), Achham (16), and Darchula (5). The table indicates that highest (38%) respondents were from Bagmati province. While nominal (3%) from Gandaki province.

Table 4. 11: Distributions of Respondents by Family Types

Types of Family	N	Percent
Nuclear family	392	69.4
Joint family	173	30.6
Total	565	100.0

Source: Field Survey, 2081

Table 4.11 provides information on the types of family of the respondents. According to the data, more than two-thirds (69%) of the students came from nuclear families, while 30 percent belonged to joint families. The predominance of nuclear families can be attributed to the fact that many students are migrants and, as a result, do not live in joint family settings

CHAPTER FIVE

MENSTRUAL KNOWLEDGE AND PRACTICES OF MENSTRUAL HYGIENE MANAGEMENT OF RESPONDENTS

Menstruation is a natural and biological process, and having proper knowledge at the right time plays a significant role for adolescent girls. Menstrual knowledge and hygiene practices is an important aspect of every girl and woman's life. Accurate knowledge and understanding of menstrual hygiene practices during menstruation significantly influences the reproductive health of adolescents. All respondents demonstrated some general knowledge about menstrual hygiene. To identify accurate knowledge or misconception, the following analysis revealed that some respondents had accurate knowledge or misconception. They recognized menstruation as a natural, monthly bleeding phenomenon, a sign of adulthood, and displayed an understanding about menarche. This reflects clear and accurate information.

5.1 Factors Associated with Knowledge of Menstrual Hygiene regarding Caste/ Ethnicity

Menstrual knowledge and hygiene practices differs among different caste and ethnic groups. It is influenced by many factors like level of education of respondents, religion, cultural beliefs and educational background of their families. In this table aims to examine the understanding the time of respondents first time learned about menstruation whether before menarche or after experiencing their first menstruation.

Table 5. 1: Age of First Menstruation Knowledge by Caste/Ethnicity

Caste/ethnicity	First time heard about menstruation							
	Before the age of 10		Age of 10-12		After the age 15		Total	
	N	Percent	N	Percent	N	Percent	N	Percent
Brahmin	21	19.8	48	10.6	1	10.0	70	12.4
Kshetri	32	30.1	129	28.7	2	20.0	163	28.8
Janajati	31	29.2	221	49.2	3	30.0	255	45.1
Dalit	12	11.3	34	7.5	2	20.0	48	8.5
Madhesi	10	9.4	17	3.7	2	20.0	29	5.1
Total	**106**	**100.0**	**449**	**100.0**	**10**	**100.0**	**565**	**100.0**

Source: Field Survey, 2081

The table 5.1 presents data on the age at which individuals from different caste/ethnic groups first learned about menstruation. The Janajati group had the highest early awareness, with 29 percent learning before age 10 and 49 percent between ages 10-12. In contrast, the Dalit and Madhesi groups exhibited the lowest awareness, with only 11percent and 9 percent learning before age 10, respectively, and a significant 20 percent

in both groups learning only after age 15. The Kshetri group showed a more balanced awareness, with 30 percent learning before age 10, 28 percent between 10-12, and 20 percent after 15. The Brahmin group had 19 percent aware before age 10 and 10 percent between ages 10-12, indicating relatively lower early awareness. Overall, the data highlights significant disparities in menstrual health knowledge across caste/ethnic groups, underlining the need for targeted educational efforts to improve early awareness.

Table 5. 2: Age of First Menstruation Knowledge by Religion

Religion	**Age of 10 yrs**		**Age 10-12 yrs**		**Age after15yrs**		**Total**	
	N	**Percent**	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Hindu	198	82.5	246	78.1	3	30.0	447	79.1
Buddhist	21	8.7	35	11.1	2	20.0	58	10.3
Christian	15	6.3	26	8.3	2	20.0	43	7.6
Others	6	2.5	8	2.5	3	30.0	17	3.0
Total	**240**	**100.0**	**315**	**100.0**	**10**	**100.0**	**565**	**100.0**

The table 5.3 outlines when individuals from different religious groups first learned about menstruation, categorized into three age groups: before 10 years, between ages 10-12, and after 15. Among Hindus, maximum (82%) were aware before age 10 years, with most (78%) learning during ages 10-12, and 30 percent after age 15, indicating a high level of awareness overall.

Buddhists showed lower awareness, with only (8%) learning before age 10 and a total of (20%) after age 15 years, Christians had a moderate level of awareness, with 6 percent learning before age 10 and a total of (20%) after age 15 years. Overall, the data reflects significant disparities in awareness across religious groups, particularly highlighting the low awareness in others religions including Kirant, Jain and Islam.

Table 5. 3: Understanding and Perception about Menstruation in Terms of Caste/Ethnicity

Understanding	**Brahmin**		**Kshetri**		**Janajati**		**Dalit**		**Madhesi**	
	N	**P**	**N**	**P**	**N**	**P**	**N**	**P**	**N**	**P**
Monthly bleeding phenomenon	61	87.1	132	81.0	230	90.2	46	95.8	27	93.1
Dirty bleeding phenomenon	42	60.0	95	58.3	147	57.6	35	72.9	17	58.6
Natural process that happens with every girl	65	92.9	151	92.6	234	91.8	48	100	28	96.6
Sign of adulthood	53	75.7	121	74.2	201	78.8	43	89.6	26	89.7
Total	**61**	**87.1**	**132**	**81.0**	**230**	**90.2**	**46**	**95.8**	**27**	

Source: Field Survey, 2081

The table 5.2 presents insights into the understanding and perception of menstruation among various caste/ethnic groups, including Brahmin, Kshetri, Janajati, Dalit, and Madhesi. Among them most significant majority, regarding Monthly bleeding

phenomenon maximum (87%) Bramin, (81%) Kshetri, (90%) Janajati, (95%) Dalit, and (93%) recognized menstruation as a monthly bleeding phenomenon, indicating a high level of awareness. Similarly, all most all caste/ethnicity perception regarding menstruation considered as natural process. However, individuals perceive it as a dirty bleeding phenomenon, with Dalits showing the highest stigma at 72 percent Despite this, 526 individuals of Dalits viewed menstruation as a natural process that occurs in every girl, reflecting strong biological recognition.

Table 5. 4: Understanding about Menstruation

Understanding	**F**	**Percent**
Incorrect Understanding	292	51.7
Correct Understanding	273	48.3
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.4 illustrates that Understanding about Menstruation. Respondents of more than half (51%) have incorrect understanding or misconception regarding menstruation. They reported that menstruation is dirty bleeding phenomenon, while below half (48%) respondents have corrected understanding about menstruation. It shows that more than half people still have a misconception regarding menstruation.

Table 5. 5: Sources of Knowledge of Respondents Regarding Menstruation

Sources of knowledge	**Yes**		**No**		**Total**	
	N	**Percent**	**N**	**Percent**	**N**	**Percent**
Mother	420	74.3	145	25.7	565	100..0
Sister	244	43.2	321	56.8	565	100.0
Grand-mother	83	14.7	482	85.3	565	100.0
Friends	169	29.9	396	70.1	565	100.0
Teacher	222	39.3	343	60.7	565	100.0
Social media	91	16.1	474	83.9	565	100.0
Books, Newspaper	95	16.8	470	83.2	565	100.0

Source: Field Survey, 2081

The table 5.5 indicates the source of knowledge about menstruation. The majority of respondents (74%) got the knowledge about menstruation through their mother, nearly fifty (43%) of them got the knowledge about menstruation through their sister, and 14 percent were aware about it through their grandmother. Likewise, the data shows that school also plays a vital role to aware students about menstruation. It is found that more than one forth (29%) of the respondents were aware about menstruation by their friends and more than one third (39%) from their teacher. Similarly, 16 percent were familiar to it through social media whereas 16 percent learned about it through books and newspaper.

Table 5. 6: Sources of Knowledge about Menstruation in Terms of Caste/Ethnicity (n=565)

Sources of Knowledge	Caste/ethnicity										
	Brahmin		Kshetri		Janajati		Dalit		Madhesi		Total
	N	P	N	P	N	P	N	P	N	P	N
Mother	51	72.8	119	73.9	197	77.3	34	70.8	23	82.1	424
Sister	28	40.6	79	49.1	107	42	24	50	6	21.4	244
Grandmother	7	10.1	21	13	43	16.9	10	20.8	2	7.1	83
Friend	12	17.4	33	20.5	99	38.8	19	39.6	6	21.4	169
Teacher	19	27.5	40	24.8	131	51.4	22	45.8	10	35.7	222
Social media	8	11.6	15	9.3	55	21.6	11	22.9	2	7.1	91
Book, newspaper	8	11.6	20	12.4	52	20.4	12	25	3	10.7	95
Total	**69**		**161**		**255**		**48**		**28**		**565**

Source: Field Survey, 2081

The table 5.6 presents the sources of knowledge about menstruation categorized by caste/ethnicity: Brahmin, Kshetri, Janajati, Dalit, and Madhesi. The primary source of information is mothers, with a total of 424 individuals (72%) Brahmin, (73%) Kshetri, (77%) Janajati, (70%) Dalit, and (82%) Madhesi identifying them as the main source. Sisters also play a significant role, particularly among Dalits (50%) and Kshetris (49%), totaling 244 respondents. Grandmothers are less frequently cited, with only 83 individuals acknowledging them as a source. Friends contribute notably to Janajati (38.8%) and Dalit (39%) knowledge, totaling 169 responses. Teachers are important as well, especially for Janajati (51%) and Dalit (45%) groups, with a total of 222 individuals referencing them. Social media is the least utilized source, with only 91 individuals citing it, while books and newspapers account for 95 responses, with a higher reliance among Dalits (25%). Overall, maternal knowledge is predominant, but siblings, friends, teachers, and media also play essential roles in shaping understanding about menstruation across different caste/ethnic groups.

Table 5. 7: Sources of Knowledge about Menstruation in Terms of Religion

Sources	Hindu		Buddhist		Christian		Others		Total
	N	P	N	P	N	P	N	P	N
Mother	334	75.4	46	79.3	27	62.8	13	76.5	420
Sister	195	44.0	23	39.7	17	39.5	9	52.9	244
Grandmother	69	15.6	9	15.5	3	7.0	2	11.8	83
Friend	129	29.1	20	34.5	14	32.6	6	35.3	169
Teacher	168	37.9	28	48.3	21	48.8	5	29.4	222
Social media	74	16.7	9	15.5	7	16.3	1	5.9	91
Book and newspaper	73	16.5	11	19.0	9	20.9	2	11.8	95
Total	**443**		**58**		**43**		**17**		**561**

Source: Field Survey, 2081

The table 5.7 shows where people learn about menstruation in different religions. Most respondents get their information from family members, especially mothers. For Hindus (75%) and Buddhists (79%), mothers are the main source of knowledge. Sisters are also

important, particularly for Hindus (44%) and Buddhists (39%). Grandmothers and friends are mentioned less often. Teachers are a key source for some, especially Buddhists (48%) and Christians (48%). Social media and books/newspapers are not used as much, suggesting that most people prefer to learn from family and friends. In others religion including Islam, Jain and Kirant mother (76%) are also the main sources, followed by sisters (52%). Overall, the data shows that family plays a big role in teaching about menstruation in different cultures.

Table 5. 8: Respondent's Beliefs about Menstrual Myth

Myths related menstruation	Yes	Percent	No	Percent	Total	Percent
Bathing with cold water affect menstruation negatively	83	14.7	482	85.3	565	100.0
Bathing with hot water increase amount of menstrual blood.	50	8.8	515	91.0	565	100.0
Menstrual pain decreases after marriage	66	11.7	499	88.3	565	100.0
Drinking cold beverage affects menstruation badly	212	37.5	353	62.5	565	100.0
Drinking hot beverage decrease menstruation pain	386	68.0	179	31.7	565	100.0
Hard work affects badly during the time of menstruation	432	76.5	133	23.5	565	100.0
Hot milk or dairy product decrease menstrual pain	463	81.9	102	18.1	565	100.0
Carrying heavy object during menstruation causes uterus prolapse	486	86.0	79	14.0	565	100.0
Taking pain relief medicine during menstruation harmful menstrual cycle	486	86.0	79	14.0	565	100.0

Source: Field Survey, 2081

Table 5.8 presents the belief regarding menstrual myths among respondents. The maximum (86%) of respondents believed that the pain relief medicine is harmful and carrying heavy object causes uterus prolapse during menstruation. Similarly, most proportion (81%) of respondent believed consuming hot milk and dairy products decreases menstrual pain. Additionally, higher percent respondents (76%) believed that hard work affects badly during menstruation. Respondents of (68%) believed that drinking hot beverage decrease menstrual pain and respondents of one third (37%) believed that drinking cold beverage affects badly. Likewise (14%) bathing with cold water affects menstrual badly, (11%) of respondents believed that menstrual pain decreases after marriage, and (8%) of respondents supposed that bathing with hot water increase the amount of menstrual blood.

5.2 Factors Regarding Menstrual Practices and Behavior of Respondents

Table 5. 9: Experience of First-time Menstruation

Experience	N	Percent
Happy	98	17.3
Afraid	165	29.2
Normal shyness	118	20.9
Confused	140	24.8
Sad	44	7.8
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.9 shows the experiences of girls during their menarche. Out of 565 girls, more than one fourth (29%) were afraid, nearly one fourth (24%) were of them were confused, one fifth (20%) were shy, nearly one fifth (17%) were happy and a few respondents (7%) were sad during their first menstruation. Mostly, during the menarche, girls are found to be unaware and afraid. However, some of them were happy to have the first experience of menstruation.

Table 5. 10: Menstrual Practices and Behavior in Terms of Caste/ethnicity

	Caste/ethnicity				
Restriction	**Brahmin**	**Kshetri**	**Janajati**	**Dalit**	**Madhesi**
Entering Kitchen	50	111	94	16	11
	71.4	68.1	36.9	33.3	37.9
Cooking food	51	112	92	16	10
	72.9	68.7	36.1	33.3	34.5
Touching male	39	79	76	17	8
	55.7	48.5	29.8	35.4	27.6
To participate in wedding ceremony	41	80	102	18	5
	58.6	49.1	40	37.5	17.2
Eat curd and milk	33	72	73	22	4
Total	**47.1**	**44.2**	**28.6**	**45.8**	**13.8**

Source: Field Survey, 2081

The table 5.10 outlines menstrual restriction practices across various castes and ethnic groups, revealing notable differences in beliefs and behaviors. A significant percent of Brahmins (71%) and Kshetris (68%) avoid entering the kitchen during menstruation, while Janajati (36%), Dalit (33%), and Madhesi (37%) show much lower adherence, indicating a more relaxed approach.

In cooking, still maximum (72%) of Brahmins and 68 percent of Kshetris restricted themselves, compared to lower percent among Janajati (36%), Dalit (33%), and Madhesi (34%). Restrictions on touching males are less common, with 55 percent of Brahmins and 48 of Kshetris adhering, while Janajati 29 percent, Dalit 35 percent, and Madhesi 27 percent were restricted.

Participation in wedding ceremonies also varies more than fifty (58%) of respondents of Brahmins and nearly fifty (49%) of Kshetris restricted attendance, but only 17 percent of

Madhesi. The consumption of curd and milk shows varied restrictions, with Brahmins nearly fifty (47%) and Kshetris (44%) avoiding them more than Janajati (28%), Dalit (45%), and Madhesi (13%). Overall, the data highlights a complex landscape of menstrual practices influenced by caste and ethnicity, with some groups evolving towards more relaxed attitudes. In the case worshiping the God and entering religious places all of the respondents was strictly restricted.

Table 5. 11: Menstrual Behavior during the Time of Menstruation in Terms of Religion (n=565)

Menstrual Practices	**Religion**							
	Hindu		**Buddhist**		**Christian**		**Others**	
	N	P	N	P	N	P	N	P
Entering Kitchen	253	56.6	11	19	10	23.3	8	11.1
Cooking food	251	56.2	13	22.4	9	20.9	8	11.1
Touching male	191	42.7	12	20.7	9	20.9	7	9.7
To participate in wedding ceremony	203	45.4	23	39.7	13	30.2	7	9.7
Eating curd and milk	167	37.4	14	24.1	15	34.9	8	11.1
Total	**447**		**58**		**43**		**72**	

Source: Field Survey, 2081

The table 5.11 presents the menstrual practices regarding restrictions imposed on respondents from different religions. It reflects the differences in their behavior during menstruation. The religion of Hindus respondents faced the highest rates restriction to entering the kitchen which was more than fifty (56%) and cooking food (56%), touching male less than fifty (42%), wedding ceremony nearly fifty (45%), eating curd and milk more than one third (37%) and all of the respondents worshiping the God and entering religious places was strictly restricted. Similarly, Buddhists religion reported the lower restriction of participation that is entering kitchen, nearly one fifth (19%), cooking food more than one fifth (22%), touching male (20%), and eating curd and milk (24%) but in case of weeding ceremonies more than one forth (30%), of respondents were restricted.

Christian respondents faced comparatively fewer restrictions, including entering the kitchen which was more than one third (23%), cooking food (20%), touching males (20%), attending wedding ceremonies one third (34%), and consuming curd and milk (8%). However, worshiping God and entering religious places remained strictly prohibited.

Table 5. 12: Menstrual Behavior in Terms of Educational Qualification of Mother

Restriction	**Illiterate**	**Basic level_1-8**	**Secondary level_9-12**	**Higher level**	**Total**
Entering Kitchen	**55**	**123**	**82**	**19**	**279**
	52.9	48.4	51.6	43.2	
Cooking food	53	127	80	19	279
	51	50	50.3	43.2	
Touching male	44	104	54	16	218
	42.3	40.9	34	36.4	
To participate in wedding ceremony	48	111	72	14	245
	46.2	43.7	45.3	31.8	
Eat curd and milk	37	96	57	13	203
	35.6	37.8	35.8	29.5	
Total	**104**	**254**	**159**	**44**	**561**

Source: Field Survey, 2081

The table 5.12 examines menstrual practices based on mothers' educational qualifications, showing notable trends. Among illiterate mothers, more than fifty (52%) restricted their daughters from entering the kitchen during menstruation, with this percent slightly decreasing for those with basic education (48%) and more than fifty percent secondary education (51%). However, it drops significantly for university-educated mothers (43%).

In cooking practices, more than fifty (51%) of total population illiterate mothers and half of total population (50%) of those with basic education impose restrictions, while this remains consistent at 50 percent for secondary education and falls to 43 percent for higher educated mothers. Restrictions on touching males are lower overall, with 42 percent of illiterate mothers enforcing this practice.

For participating in wedding ceremonies, more than one third (46%) of illiterate mothers restrict their daughters, with slightly lower percent among those with basic (43%) and secondary education (45%). University-educated mothers show a decrease in restrictions (31%), while no restrictions are reported for MPhil graduates.

In contrast, all respondents, regardless of education, report strict restrictions on worshiping God and entering religious place, reflecting a universal adherence to these religious practices. The consumption of curd and milk showed varied restrictions, with more than over (35%) of illiterate mothers and more than one third (37%) of those with basic education imposing limits, decreasing to 29 percent of respondents among university-educated mothers. Overall, while higher education is linked to less stringent menstrual practices, religious observance remains consistently restricted across all groups.

Table 5. 13: Menstrual Behaviour in Terms of Family Structure

Restriction	Types of family				
	Nuclear family		Joint family		
	N	Percent	N	Percent	Total
Entering Kitchen	185	47.3	97	55.7	282
Cooking food	186	47.6	95	54.6	281
Touching male	151	38.6	68	39.1	219
To participate in wedding ceremony	173	44.2	73	42.0	246
To worship God	391	100.0	174	100.0	565
Entering temple	391	100.0	174	100.0	565
Eat curd and milk	139	35.5	65	37.4	204

Source: Field Survey, 2081

This table 5.13 presents about the menstrual practices in terms of family structure. All the respondents of both; nuclear and joint family restricted to worshiped God and enter religious place during their menstruation. Likewise, in terms of entering in the kitchen, nearly half (47%) of nuclear family and (55%) of joint family were restricted, 47 percent of respondents from nuclear family and more than half (54%) of total population from joint family were restricted to touch male. Moreover, one third (44%) of respondents belonging to nuclear family and (42%) belonging to joint family cannot participate in wedding ceremony and 35 percent from nuclear family and 37 percent from joint family are restricted to eat curd and milk during their menstruation.

Table 5. 14: Feeling comfortable discussion about the topic of menstruation with male

Feel comfortable	N	Percent
Yes	135	23.9
No	430	76.1
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.14 indicated the ratio of feeling comfortable discussion about the topic of menstruation with male. According to the data, most of respondents (76%) did not feel comfortable discussing menstruation with males, highlighting the continued presence of social taboos that prevent open discussions and create barriers to proper understanding. In contrast, only 23 percent felt comfortable discussing the topic with males. The reasons for this discomfort vary among students and include teasing from boys, feelings of shame, and socio-cultural taboo and restrictions.

Figure 5.2: Perception Regarding Menstruation

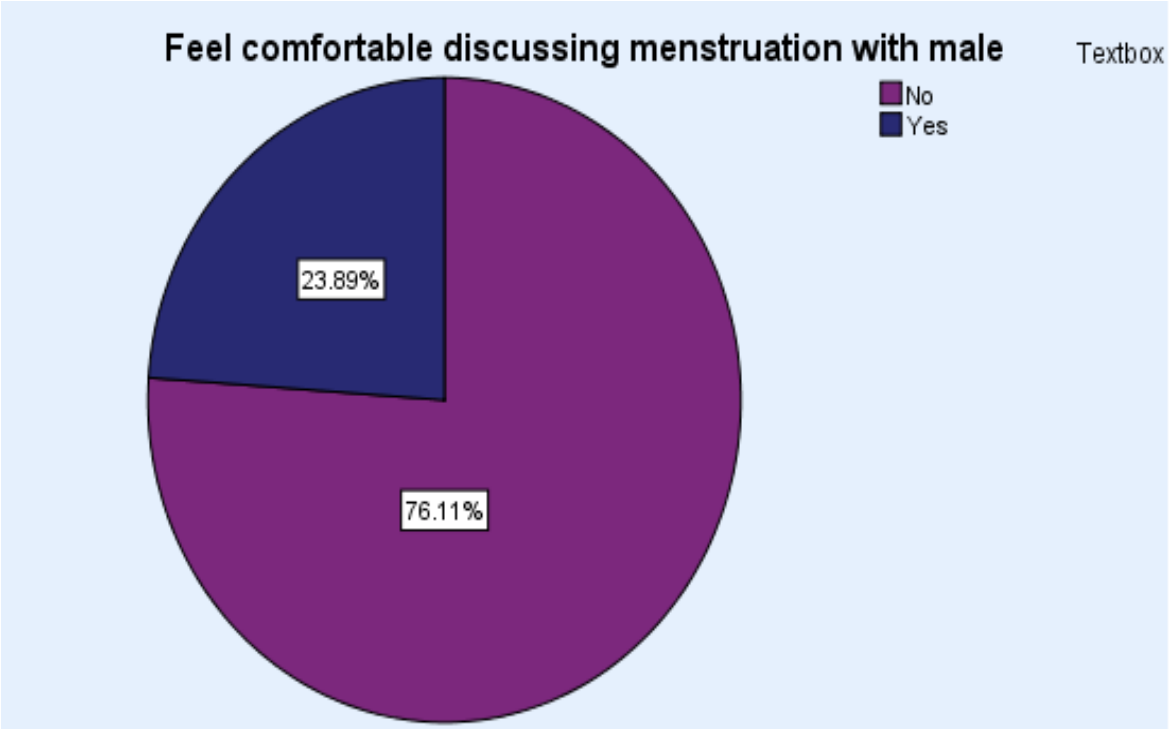

Table 5. 15: Faced Physical Problem during Menstruation (n=565)

Problems	Yes	Percent	No	Percent
Itchy reproductive organs	74	13.1	491	86.0
Tiredness	407	72.0	158	28.0
Headache	461	81.6	104	18.4
Lower abdominal pain	469	83.0	96	17.0
Burning micturition	131	23.2	434	76.8
Nausea/vomiting	81	14.3	484	85.7
Not regular menstruation	64	11.3	501	88.7
Over bleeding	73	12.9	492	87.1

Source: Field Survey, 2081

The table 5.15 indicates the physical problems faced by respondents during menstruation. The most common problem is lower abdominal pain which is faced by 83 percent of the total respondents. Likewise, maximum (81%) other common problems were headache, 81 percent faced physical problem of tiredness 72 percent. Similarly, more than one fifth (23%) suffer from burning micturition, small (14%) suffer from nausea and vomiting, 11 percent of the respondents have irregular menstruation and 12 percent have over bleeding.

Figure 5.3: Faced Physical Problem during Menstruation

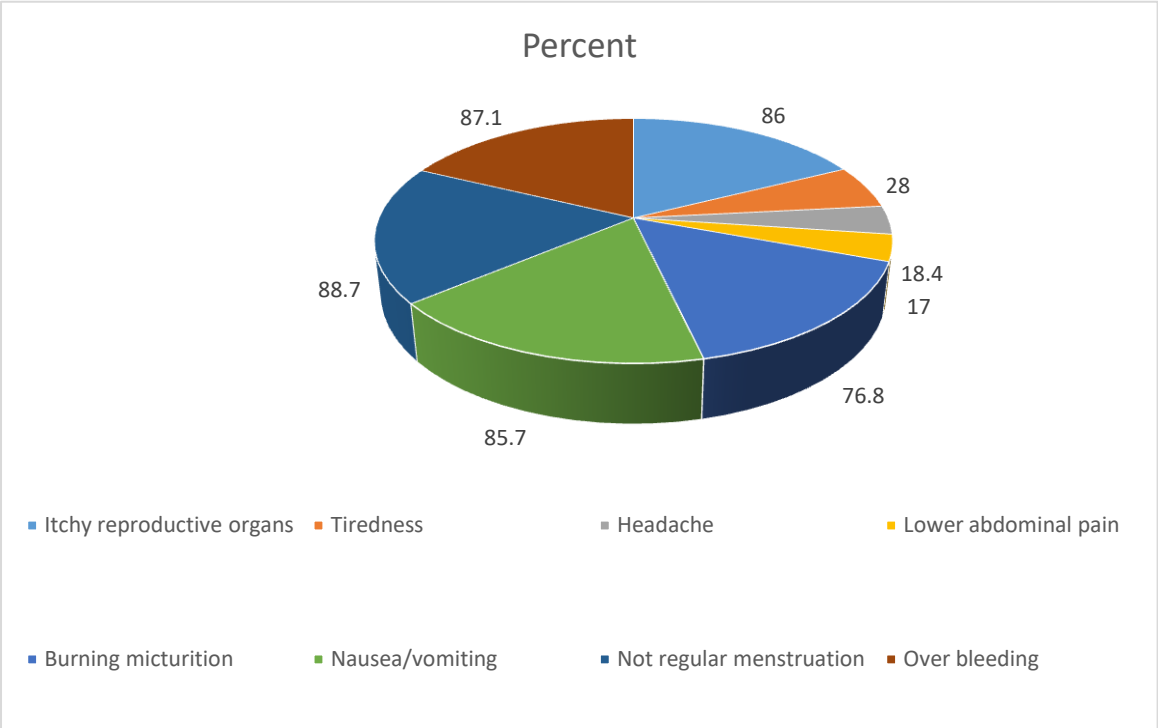

Table 5. 16: 1Used Pain Relief Medicine during Menstruation

Medicine	N	Percent
Yes	110	19.5
No	455	80.5
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.16 shows the ratio of girls who take medication to treat the menstrual cramps. Majority of the students (80%) did not use pain relief medicines whereas nearly one fifth (19%) used medicine in case of menstrual problem.

5.3 Factors Associated with Hygiene Practices in Menstrual Management

Hygiene practices and management in the case of menstruation are various factors including frequency of bathing, genital cleanliness practices, used of sanitary pad properly disposed of used pads and understanding these factors available in school and essential for promoting safe, clean and regular available.

Table 5. 17: Menstrual Management and Practices Regarding Frequency of change Pad

Frequency of change pad	N	Percent
Two times a day	73	12.9
Three times a day	200	35.4
Four times a day	190	33.6
After the pad wet	102	18.1
Total	**565**	**100.0**

Source: Field Survey, 2081

This table 5.17 indicates the menstrual management and practices regarding frequency of change pad. More than one third (35%) of them were found to change their pad three times

commendable, areas like frequent bathing and proper care of reusable pads may benefit from further education and support.

Table 5. 20: Menstruation Hygiene Management in Terms Religion

Hygiene Management	Hindu	Buddhist	Christian	Others
Change pad frequently	446	57	42	17
	99.8	98.3	97.7	21.3
Properly dispose used pad	440	58	43	17
	98.4	100.0	100.0	21.3
Genital hygiene	447	58	43	17
	100.0	100.0	100.0	21.3
Bath frequently	343	44	28	14
	76.7	75.9	65.1	17.5
If cloth pads should be washed properly, dried thoroughly, and reused.	347	43	36	15
	77.6	74.1	83.7	18.8
Total	**447**	**58**	**43**	**80**

Source: Field Survey, 2081

The table 5.20 shows hygiene management across different religious groups reveals the following insights: A total of 565 respondents reported that maintain their hygiene they used to washed their genital hygiene practices properly but in the other religion less practiced (21%). Almost all Hindu (99%) and the one fifth (21%) among those in the others religion include Islam, Kirant and Jain. Similarly, all respondents indicated that proper disposal of used pads, faithfulness from Buddhists and Christians, while the others religion showed one fifth (21%) regarding the genital hygiene. Bathing frequency also showed most (76%) of respondents Hindus and 65 percent of Christians reporting regular bathing, while nearly one fifth (17%) from the "Others" group used to this practice. Lastly, washing, drying, and reusing cloth pads were Buddhists respondents showing the highest 83 percent.

Table 5. 21: Menstrual Hygiene Management in Terms of Preference for Menstrual Hygiene Materials among Respondents

Effective Materials	Yes		No		Total	
	N	Percent	N	Percent	N	Percent
Sanitary pad	560	99.1	5	0.9	565	100.0
Homemade pad	215	38.1	350	61.9	565	100.0
Tampon	16	2.8	549	97.2	565	100.0
Menstrual cup	18	3.2	547	96.8	565	100.0

Source: Field Survey, 2081

This table 5.21 presents the preference of menstrual hygiene materials among respondents. Out of total students, almost all of them (99%) used sanitary pads during menstruation, more than one third (38%) used homemade pad. Likewise, very few respondents (3%) of respondents used menstrual cup and nominal (2%) used tampon. These findings advocate that while sanitary pads are the most widely used and preferred option, there may be limited awareness or accessibility regarding alternative menstrual hygiene products like reusable homemade pad, menstrual cups and tampons. Used reusable homemade pads, which may be considered a more environmentally friendly option compared to disposable sanitary pads. To improve menstrual health education, schools could provide information on various products to ensure that students are aware of all available options.

Table 5. 22: Menstrual Hygiene Management in terms of Methods of Dispose Used Pad

Methods of Dispose used pad	Yes N	Percent	No, N	Percent	Total, N	Percent
Burry in the pit	35	6.2	530	93.8	565	100.0
If cloth pads should be washed properly, dried thoroughly, and reused	207	36.0	358	63.4	565	100.0
Put in dustbin, and send it with garbage truck	562	99.5	3	0.5	565	100.0
Destroy in burning kit	24	4.2	541	95.8	565	100.0

Source: Field Survey, 2081

The table 5.22 presents the methods of disposing the used pads. Almost all of the respondent's (99%) disposed the used pad in dustbins and sent them with garbage truck, more than one third (36%) of them washed, dried and reused the cloth pads, only 6 percent bury the pad in pit and nominal (4%) of them destroy it in burning kit.

Table 5. 23: Menstrual Hygiene Management in Terms of Genital Cleanliness

Time duration	N	
Once a day	85	15.0
Two times a day	142	25.1
Three times a day	130	23.0
Four and above time	208	36.8
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.23 indicates the frequency of proper washing and care of the genital hygiene practices during menstruation. More than one third (36%) of respondents maintain genital

cleanliness four times a day and above during their menstruation, one fourth (25%) practices genital cleanliness for two times a day, more than one fifth (23%) practices genital cleanliness three times a day and (15%) practices genital cleanliness once a day.

5.4 Used to Materials to Washing their Genital Cleanliness during Menstruation

During the time of menstruation, it is essential to genital hygiene. It is important to maintain hygiene to use material such as clean water, soap and tissue paper. Such kind of practices play important role reducing the risk of infection.

Table 5. 24: Materials to Used their Genital hygiene

Materials to use genital hygiene.	Yes		No		Total	
	N	Percent	N	Percent	N	Percent
water and soap	76	13.5	489	86.5	565	100.0
Only water	467	82.7	98	17.3	565	100.0
Tissue paper	25	4.4	540	95.6	565	100.0

Table 5.24 presents that the materials used for genital hygiene. The table shows the materials used for their genital cleanliness, referred three options Water and soap, only water and tissue paper. Maximum (82%) of respondents used water to genital cleanliness during menstruation. Similarly, a smaller (13%) of respondents used water and soap, with nominal (4%) preferred tissue paper. This kind of situation indicate that the need for better menstrual hygiene education, improved access to soap and regular clean water in every school, and awareness programs emphasizing the importance of proper menstrual hygiene.

5.5 Girls Friendly Environments at School during the Time of Menstruation

Girls' friendly environments at schools is essential for hygiene practices. During the time of menstruation supportive environment play central role to all girls and women for their regular attendance, achieving quality of education. Confirming access to menstrual hygiene products, private facilities, pads and proper health education helps them attend school without disruptions. Creating an atmosphere of understanding and eliminating stigma around menstruation allows girls to focus on their education and continue building their academic and career paths.

Table 5. 25: Supportive Environment in Schools During the Time of Menstruation

Supportive environment	N	Percent
Yes	494	87.4
No	71	12.6
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.25 shows whether or not the schools' environment is supportive during menstruation. Most of the students (87%) mentioned that there is a supportive environment in their school. This suggests that most of schools have implemented menstrual friendly measures. However, some (12%) reported a lack of support, indicating that some schools still need improvements in ensuring a fully supportive environment for menstruating girls' students.

Figure 5.4: Supportive Environment During the Time of Menstruation

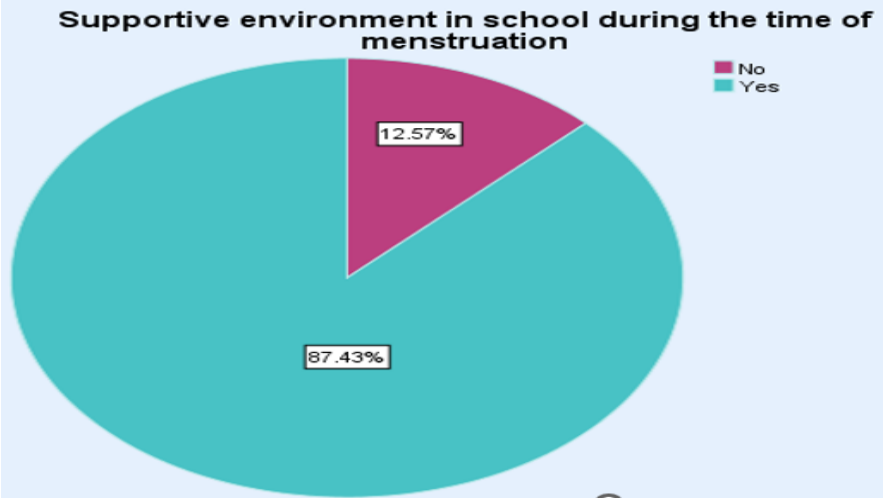

Table 5. 26: Supportive Environment in Schools During the Time of Menstruation

	Name of School							
Supportive environment	**Adinath**	**Balkumari**	**Gorakhnath**	**Janasewa**	**Kirtipur**	**Mangal**	**Taudaha**	**Vaishnabi**
No	0	10	5	28	22	3	1	2
Percent	0.0	14.1	7.0	39.4	31.0	4.2	1.4	2.8
Yes	44	49	15	90	59	128	73	36
Percent	100.0	83.05	75.0	76.3	72.8	97.7	98.6	94.7
Total N	**44**	**59**	**20**	**118**	**81**	**131**	**74**	**38**
Percent	**7.8**	**10.4**	**3.5**	**20.9**	**14.3**	**23.2**	**13.1**	**6.7**

Source: Field Survey, 2081

The table 5.26 indicates information about the supportive environment in selected community schools during menstruation. Most of the respondents of all schools, Adinath (100%), Balkumari (83%), Gorakhnath (75%), Janasewa (76%), Kirtipur (72%), Mangal (97%), Taudaha (98%), and Vaishnabi (94%) reported that there was supportive environment in their schools. This means that while most schools are supportive, some may need to improve their facilities and awareness programs to better help students during menstruation.

Table 5. 27: Menstrual Management Facilities in Schools

	Yes		No		Total	
Facilities	**N**	**Percent**	**N**	**Percent**	**N**	**Percent**
Access to clean toilet facilities with a locking system, along with regular clean water, bins, and soap	300	53.1	265	46.9	565	100.0
Availability of sick room	481	85.1	84	14.9	565	100.0
Availability hot drinking water	462	81.8	103	18.2	565	100.0
Menstrual pain relief medicine	428	75.8	137	24.2	565	100.0
Free availability of pads at school	565	100.0		-	-	100.0

Source: Field Survey, 2081

The table 5.27 highlights the availability of menstrual facilities in selected schools for menstrual hygiene management. Studies showed that more than half (53%) of respondents reported that their school provided, access to clean toilet facilities with a locking system with clean water including bin and soap, while (46%) of respondents said lacked these essential amenities. A most of school's (85%) reported having a sick room, and (81%) provided hot drinking water for students. Additionally, 75 percent of schools offered menstrual pain relief medicine, and notably, all schools ensured free availability of menstrual pads. These findings highlight the efforts and gaps in creating supportive environments for student health and well-being.

Figure 5.5 Menstrual Management Facilities

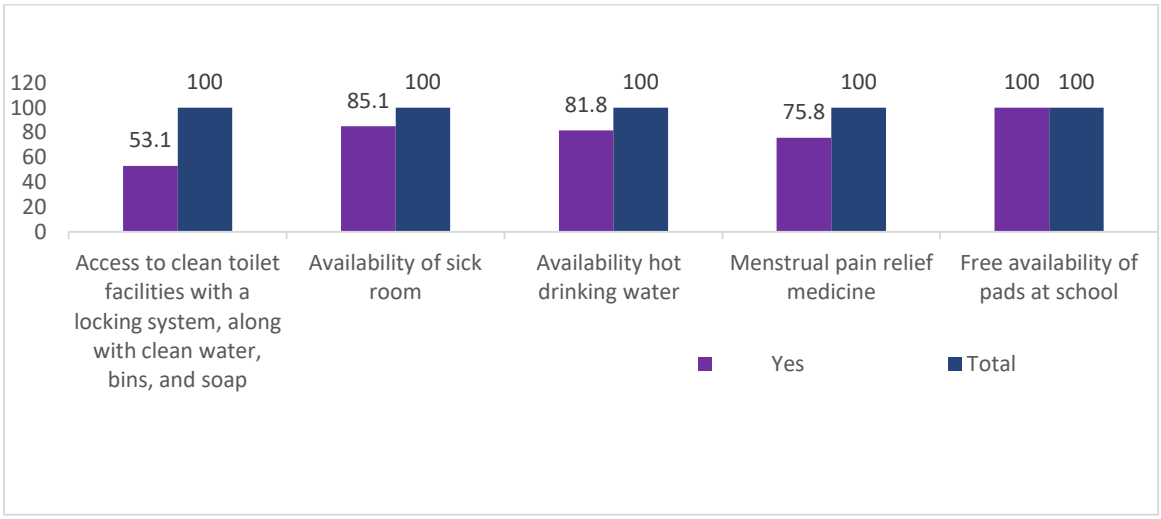

Table 5. 28: Attending School During Menstruation

Attendance	**N**	**Percent**
Yes	361	63.9
No	204	36.1
Total	**565**	**100.0**

Source: Field Survey, 2081

The table 5.28 indicates the attendance of girl students in school during menstruation. Nearly two third (63%) of them were absent as they cannot attend their school for various reasons whereas, more than one third (36%) of them attended their classes even during menstruation.

Table 5. 29: Causative Factors of Absent in School During the time of Menstruation

Causative Factors	Yes		No		Total	
	N	Percent	N	percent	N	Percent
Teasing by boys in school	62	11.0	503	89.0	565	100.0
Feel uncomfortable to sit in class	504	89.2	61	10.8	565	100.0
Fear of leakage blood/Shame	537	95.0	28	5.0	565	100.0
Social, cultural and religious restriction	143	25.3	422	74.7	565	100.0

Source: Field Survey, 2081

The table 5.29 demonstrates the causative factors for the girl students to be absent in their school during their menstruation. According to the above table, utmost of the respondent's (95%) did not attend their school due to fear of leakage of blood and shame and most of them most of them (89%) were absent because they do not feel comfortable to sit in the class. Likewise, there are still various kind of social, cultural and religious restrictions prohibited some girl students from going to school during their menstruation.

CHAPTER SIX

FACTORS AFFECTING MENSTRUAL KNOWLEDGE REGARDING MENSTRUATION

This chapter discusses factors related to the objectives of the study, focusing on the analysis through regression. It examines variables affecting knowledge, practices, and management regarding menstruation, which are considered independent variables. These factors are analyzed in relation to the dependent variables of menstrual knowledge, practices, and management. The chapter aims to identify the key determinants influencing menstrual hygiene and their implications for effective management.

6.1 Regression Analysis

Regression is one of the important statistical techniques or tools, which establishes the relationship between a dependent variable and one or more independent variables. The main purpose of regression analysis is to find out the relationship between dependent and independent variables, prediction the result of target variable and testing the hypothesis. The analysis is mainly focusing on the knowledge and practices of menstrual hygiene management. It helps in understanding how various factors influence the outcome and quantifies the strength of these relationships**.** This method is widely used in research and data analysis to make predictions and identify significant factors influencing an outcome (Cohen, 1988).

Table 6.1 Multiple linear Regression of Menstrual Knowledge

Model 1: Menstrual Knowledge			
Variables	Description	**B(95%CI)**	p -value
(Constant)		0.432 (0.205,0.0660)	0.00
Age	Age of respondents (continuous)	0.02(0.005, 0.034)	0.007
Janajati	Caste of the respondents (Magar/ Newar /Gurung = 0, Brahmin/ Kshetri =1)	0.021(-0.025, 0,068)	0.372
Dalit/Madhesi	Caste of the respondents (Dalit/Madhesi = 1 Other =0)	0.103(0.041, 0.165)	0.001
Living	Respondents living with female and male (Mother/Sister /Grandmother =1 and Male = 0)	0.039(-0.018, 0.096)	0.175
Living condition	Present living condition of respondents = (Living in own house =1 and Other=0)	0.027(-0.022, 0.076)	0.284
Family types	Family types of respondents (Nuclear =1 Joint =0)	0.041(-0.002, 0.084)	0.063
Sisters	Sister number of respondents (Having elder/ sister younger=1 and Non =0)	-0.03(-0.084, 0.023)	0.268
Religion	Religion of respondents (Hindu=1 and All other=0)	0.021(-0.031,0.074)	0.429
Mother qualification	Qualification of mother (Illiterate=0 and All other 1)	-0.025(-0.076, 0.026)	0.328
Model 1: Relationship between dependent (Menstrual knowledge) and independent variables (age, caste/ethnicity, living with female members, present living condition, having sister, religion educational qualification of mother)			

Table 6.1 of model first examines the relationship between dependent variables (menstrual knowledge) and independents variables (age, caste/ethnicity, living with mother, sister and grandmother, present living condition, having sister, religion educational qualification of mother). Age has a significant positive effect (*B = 0.02, p < 0.007*), meaning older students have better menstrual knowledge. Caste/ethnicity also plays an important role. Dalit/Madhesi students have significantly higher awareness on menstrual knowledge (*B = 0.103,* 95% CI: 0.041 to 0.165 p = 0.001 < 0.05) in comparison to Janajati girls' students (B = 0.021, p = 0.372 > 0.05). But less than reference group. However, Janajati students show a positive but insignificant effect (*B = 0.021, p > 0.05*). Other factors, such as living with female family members (*B = 0.039, p > 0.05*), living conditions (*B = 0.027, p > 0.05*), and religion (*B = 0.021, p > 0.05*), have no significant impact. The number of sisters shows a negative but insignificant effect (*B = -0.03, p > 0.05*), while family type is marginally significant (*B = 0.041, p = 0.063*). The mother's educational qualification has a negative but insignificant effect (*B = -0.025, p > 0.05*). Overall, the results suggest that age and caste/ethnicity (Dalit/Madhesi) significantly influence menstrual knowledge, while other factors do not have a strong effect. The model explained only 3.1% of the variance in menstrual knowledge, meaning many other factors may also contribute to students' understanding of menstruation. This model examines the influence of demographic and social factors on menstrual knowledge. In this regard the hypothesis: "higher the age of respondents, tend to have better knowledge, leading to improved menstrual hygiene management" is accepted.

Table 6.2 Multiple Linear Regression of Menstrual Facilities in Schools and their Impact on Attendance

Model 2: **Menstrual Management Facilities**			
Variables	Description	**B(95%CI)**	p -value
(Constant)		0.134(-0.044, 0.312)	0.139
Age	Age of respondents (continuous)	0.014(0.002, 0.025)	0.019
Janajati	Caste of the respondents (Magar/ Newar /Gurung = 0, Brahmin/ Kshetri =1)	-0.036(-0.074, 0.001)	0.059
Dalit/Madhesi	Caste of the respondents (Dalit/Madhesi = 1 All other =0)	-0.066(-0.114, -0.019	0.007
Living	Respondents living with female and male (Mother/Sister /Grandmother =1 and Male = 0)	0.020(-0.022, 0.062)	0.344
Living condition	Present living condition of respondents = (Living in own house =1 and All other=0)	-0.029(-0.069, 0.011)	0.154
Family types	Family types of respondents (Nuclear =1 Joint =0)	0.001(-0.033, 0.035)	0.959
Sisters	Sister number of respondents (Having elder/ sister younger=1 and Non =0)	-0.019(-0.063, 0.024)	0.386
Religion	Religion of respondents (Hindu=1 and All other=0)	0.019(-0.022, 0.060)	0.357
Mother qualification	Qualification of mother (Illiterate=0 and All other 1)	-0.007(-0.047, 0.034)	0.750
Model 2: Relationship between dependent (Menstrual Management Facilities) and independent variables (age, caste/ethnicity, living with female members, present living conditional, having sister, religion educational qualification of mother)			

i. The table 6.2 of second model examines the relationship between dependent variables (affecting menstrual factors) and independents variables (age, caste/ethnicity, living with mother, sister, grandmother, present living condition, having sister, religion educational qualification of mother) factors affecting menstrual hygiene management facilities and school attendance during

menstruation. Age has a significant positive effect (*B = 0.014, p < 0.05*), meaning the students having higher age are more likely to attend school during their periods. However, Dalit/Madhesi students' attendance result shows a significant negative effect (*B = -0.066, p < 0.01*), indicating they have lower attendance compared to the reference group. The effect of attendance result of Janajati students is marginally significant and negative (*B = -0.036, p = 0.059*), suggesting slightly lower attendance in comparison to reference group. The results of other factors, such as living with female members (*B = 0.02, p > 0.05*), living conditions (*B = -0.029, p > 0.05*), family type (*B = 0.001, p > 0.05*), number of sisters (*B = -0.019, p > 0.05*), religion (*B = 0.019, p > 0.05*), and mother's education (*B = -0.023, p > 0.05*), show no significant effect on school attendance during menstruation. These results suggest that the age has positively influences on attendance, while Dalit/Madhesi students face significant attendance challenges. The model explains 47% of the variation in attendance, making it more predictive than the previous model. This indicated that the hypothesis of Access to sanitary products in school is positively associated with the regular attendance of girl students is accepted.

CHAPTER SEVEN

FINDINGS AND DISCUSSION

7.1 Menstrual Knowledge

Menstruation is natural biological process and sign of growth. It typically occurs every 28 days, which is referred to as menstrual cycle. Menstruation beings during adolescence and end after menopause. Common symptoms during this time include headaches, mood swings, fatigue, tardiness, lower abdominal pain and irregular menstruation. In this period, accurate knowledge is essential for girls and women. Open discussion regarding menstruation plays central role to eradicate misconception and promote a better understanding of this natural and biological process.

In this study general knowledge of menstruation among respondents was found to be satisfactory, as all respondents had some general knowledge. However, a significant proportion, more than fifty (51%) had a misconception that menstruation is "dirty bleeding phenomenon." This shows the inadequate knowledge and lack of awareness among respondents. This finding is closer to the previous research of southern Ethiopia, a total of about 540 out of 791 respondents (68%) had demonstrated poor understanding of menstruation in a cross-sectional study (Nuhu, 2022).

In terms of sources of knowledge regarding menstruation, mothers were the primary sources, with the highest (74%) followed by sister (43%). This expresses that mother and sister were the fundamental sources of knowledge of respondents of this study. I compared this finding with a previous quantitative study conducted in Nepal by (Adhikari & Adhikari, 2023). The study found that mother were the main sources of menstrual knowledge was maximum (70%), followed by sisters (38%) among 250 respondents. This finding supports my research.

7.2 Menstrual Hygiene Practices

Menstrual hygiene Practices refers to clean and safe materials, maintaining personal hygiene during menstruation. It requires access to sanitation facilities such as, water and soap for washing hand, changing and disposing of sanitary protection materials.

In this study, almost all of the respondents are conscious of maintaining their hygiene during menstruation. All respondents cleaned their reproductive organs frequently with (36%) reporting they washed their genital cleanliness four or more times a day.

Additionally, almost all (99%) respondents used sanitary pad whereas more than one third (38%) used homemade pad and properly disposed it in dustbins or garbage trucks. It reflected students had good hygiene practices. I compared this finding with the result of previous quantitative study done in Nepal (Adhikari & Adhikari, 2023) which revealed that in terms of menstrual hygiene managements and practices, most of respondents preferred sanitary pad (93%) compared to homemade clothes pad one fourth of respondents (29%). This data is very close to my study.

In this regard schools can also suggest the students to use homemade cloth pads, which are eco-friendly and affordable. By teaching students how to make and use these pads, schools can promote and freely provide sustainable menstrual practices while reducing costs for families. This approach not only supports environmental conservation but also empowers students with practical knowledge and a focus on accessible menstrual health solutions (Alarcão & Pintassilgo, 2023; Mahanta & Sneha, 2020).

In the case of restriction, all the respondents are restricted to worship God and enter into religious places. I compared this finding of previous community based cross-sectional study conducted in Mumbai of India among 152 adolescent girls in the age group 10-19 years by (Jena & Mudi, 2023). This study found that most (94%) of the respondents are restricted to attend any type of religious activities. In this regard, this study supported my research.

Although respondents experienced a friendly environment at schools. This study reflected that with (87%) reported their school provide supportive environment in the school. However, (36%) stated being absent during menstruation. The primary reasons for their absent included physical discomfort, such as feeling uncomfortable sitting in class that was (89%), fear to leakage blood or feeling shame, most of respondents (95%), headaches (81%), and lower abdominal pain (83%).

7.3 Situation of Menstrual Hygiene Facilities in School

Menstrual hygiene facilities refer to the facilities related to access to clean toilets with luck and system, bins, soap, including clean water, availabilities of pain relief medicine, sick rooms, and of menstrual pad in school. it is essential to manage girl's friendly environment in every school, which promotes the health and well-being of students. Providing access to clean and private sanitation options not only supports attendance but also empowers girls' students to manage their menstruation with dignity and confidence.

In this study, the facilities of menstrual hygiene management were found satisfaction level of respondents. All respondents reported that their schools provided free sanitary pads. Similarly, most respondents stated the availability of sick room (85%), access to drinking hot water (81%), pain relief medicine (75%), and to clean toilet facilities with a locking system along with water, bins and soap, more than half (53%). Respondents also mentioned that while all basic facilities regarding menstruation are available, they are no consistently provided. This inconsistency affects the regular attendance of female students during their menstruation.

In the case of materials to used clean reproductive organs in this study, it was found that most respondents (82%) used only water to clean their reproductive organs. A small (13%) respondents used water and soap, while a minimal 4% of respondents said that they used tissue paper. This findings are similar to the previous community based cross-sectional study conducted by (Jena & Mudi, 2023) in which among 152 adolescent girls aged group 10-19 years, more than half (57%) respondents used only water, while (41%) used water and soap. This indicated that irregular availability of soap in schools, which may limit proper hygiene practices.

This study found that nearly one fourth (19%) respondents used pain relief medicine during menstruation. This results is also similar to the previous study of Systematic Reviews and Meta-Analyses framework on menstruation hygiene preparedness schools in India, conducted by (Shantanu et al., 2020) which reflected that one fifth (21%) of girl's students used pain relief medicine during menstruation

CHAPTER EIGHT

CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

This study concluded that the general knowledge of menstruation among all respondents in the study areas was found to be satisfactory. However, the study found some misconception about menstruation. In the case of hygiene practices, all respondents were aware and most of the respondents maintained proper hygiene practices, including the appropriate disposal of sanitary pad and genital cleanliness practices properly. Majority of respondents reported the girl's friendly environment is available in their schools. This study also found that menstrual restriction practices continue to be prevalent, reflecting deep rooted cultural and religious beliefs. Additionally, in case of supportive environment and menstrual facilities in schools were generally found to be satisfactory, with access to clean water separate toilet with luck system, bins soap, hot water, pain relief medicine, sick rooms, and availabilities of free pads. However, a significant respondents reported not regularity in schools during menstruation because not regularly water supply in toilet and other physical problems including feel discomfort to live in class, fear to leakage blood and pain related issues impacted in their academic participation. The study revealed that the age of respondents has a significant positive impact on both menstrual knowledge and hygiene practices.

8.2 Recommendations

8.2.1 Policy Level

i. Encourage and promote the use of eco-friendly products among respondents by providing information about reusable cloth pads, menstrual cups, and biodegradable pads through awareness programs.
ii. Encourage and promote community-level awareness campaigns in collaboration with local health authorities to address accurate menstrual health and eliminate misconception

8.2.2 Practices Level

i. Promoting respect and inclusivity around menstruation is key to breaking taboos and discrimination, fostering a supportive society that values autonomy and experiences.

ii. The active involvement of male teachers and male students in menstrual health programs is essential for creating a supportive and inclusive environment. Schools, NGOs, and INGOs should encourage male participation to reduce stigma, promote awareness and create gender equality.

iii. Focus on reducing absenteeism in schools during menstruation by providing basic menstrual facilities regularly.

8.2.3 Research Level

i. Future research can be adopted a qualitative approach or utilize mixed methods to gain deeper insights.

ii. Oncoming research can be included respondents from rural areas to ensure a more comprehensive understanding of the topic.

iii. Oncoming research can be included in privates' schools and campuses girls.

iv. Comparative studies between private and government schools' girls also be conducted to identify differences and similarities in the findings.

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APPENDIX

MENSTRUAL HYGIENE MANAGEMENT AND GIRL'S EDUCATION

(A study based on Adolescence students of selected community school in Kirtipur Municipality)

Questionnaire

Circle the appropriate answer

Name of school

S.N	**Demographic Characteristic**			**Remarks**
1	Name of student:			
2	Caste/ethnicity	Brahmin	1	
		Kshetri	2	
		Janajati	3	
		Dalit	4	
		Madhesi	5	
3	Religion	Hindu	1	
		Buddhist	2	
		Islam	3	
		Kirant	4	
		Jain	5	
		Christian	6	
		Sikh	7	
		Bahai	8	
		Prakarti	9	
		Bon	10	
4	Class of respondents	6	1	
		7	2	
		8	3	
		9	4	
		10	5	
5	Marital Status	Married	1	
		Unmarried	2	
		Divorce	3	

6	If married Do you live with your husband?	Yes	1	
		No	2	
7	Educational qualification of your husband	Illiterate	1	
		Basic level (1-8)	2	
		Secondary Level (9-12)	3	
		Higher Level (Above 12 class)	4	
8	What is the occupation of your husband?	Farmer	1	
		Social worker/ Politician	2	
		Government job	3	
		Private job	4	
		Foreign employee	5	
		Business	6	
		Labor	7	
9	Permanent Address District:			
10	Municipality	Rural Municipality	1	
		Municipality	2	
		Sub-metropolitan city	3	
		Metropolitan city	4	
11	Occupation of father	Farmer	1	
		Social worker/Politician	2	
		Government job	3	
		Private job	4	
		Foreign employee	5	
		Business	6	
		Labor	7	
12	Occupation of Mother	Farmer	1	
		House manager	2	
		Social worker/Politician	3	
		Government job	4	
		Private job	5	
		Foreign employee	6	
		Business	7	
		Labor	8	
13	Education of Father	Illiterate	1	
		Basic level (1-8)	2	

		Secondary Level (9-12)	3	
		Higher Level (Above 12 class)	4	
14	Education of mother	Illiterate	1	
		Basic level (1-8)	2	
		Secondary Level (9-12)	3	
		Higher Level (Above 12 class)	4	
15	How many members are there in your family?	Numbers ……	……..	
16	Do you have sisters	None	1	
		Yes, younger sister	2	
		Yes, elder sister	3	
		Both	4	
17	Number of younger sisters	Numbers	……	
18	Number of elder sister	Numbers	…….	
19	Age (Complete year)	Years	…….	
20	Types of family	Nuclear	1	
		Joint	2	
21	Present living status	Own house	1	
		Ranted house	2	
		Cottage house in rented land	3	
22	Do you have your own house?	Yes, our family owns both land and a house	1	
		Yes, but the land belongs to others (Cottage)	2	
		No, do not have a house but only land	3	
		No, do not have a house or land	4	
23	Whom do you live with? **(You can choose more than one)**	Mother	1	
		Father	2	
		Brother	3	
		Sister	4	
		Single	5	
		Relative	6	
		Grandfather	7	
		Grandmother	8	

		Living in hostel	9	
24	What are the main source of the income of your family? **(You can choose more than one)**	Rent of home and land	1	
		Agriculture/Livestock	2	
		Cottage Industry	3	
		Business - Retail, Wholesale, etc.	4	
		Casual Labour (Agriculture)	5	
		Casual Labour (Non-Agriculture)	6	
		Parent's salary: Service (GOs/NGOs/Corporations/etc.)	7	
		Foreign Employment	8	
Kno wledge of Menstrual Man agement Related Questionnaire				
25	Before experiencing menarche, did you know about menstruation?	Yes	1	
		No	2	
26	When did you first time heard about menstruation? < **(You can choose more than**	The age of before 10 years	1	
		10 to 12 years	2	
		12–15 years	3	
		After 15 years	4	
27	What is your source of information before menarche? **(You can choose more than one)**	Mother	1	
		Sister	2	
		Grandmother	3	
		Friend	4	
		Teacher	5	
		Social media	6	
		Book, newspaper	7	
28	Do you feel comfortable discussing menstruation openly?	Yes	1	
		No	2	
29	What is your understanding about the menstruation? **(You can choose more than one)**	Menstruation is a monthly bleeding phenomenon	1	
		Menstruation is dirty bleeding	2	
		It is a natural process that happens with every Girls	3	

		Menstruation is sign of adulthood	4	
30	Do you know at what age menstruation start? **(You can choose more than one)**	10-12 years	1	
		13-15 years	2	
		16-18 years	3	
		After 18 years	4	
31.	At what age did you get your period	Age of 10 years	1	
		Age of 11 years	2	
		Age of 12 years	3	
		Age of 13 years	4	
		Age of 14 years	5	
		Age of 15 years and above	6	
32	How did you feel during your first menstruation?	Happy	1	
		Afraid	2	
		Normal Shyness	3	
		Confused	4	
		Sad	5	
33	Whether you have faced restriction during the time of menstruation?	Yes	1	
		No	2	
34	If yes, what are your restriction during the time of menstruation? **(You can choose more than one**	Entering kitchen	1	
		Cooking food	2	
		Touching male	3	
		To participate in wedding ceremony	4	
		To worship God	5	
		Entering temple	6	
		Eat curd and milk	7	
35	Have you believed about the myths related to menstruation ?1-12 (Alharb et al., 2018) (**You can choose more than one)**	Bathing with cold water affects menstruation negatively	1	
		Bathing with hot water increases the amount of menstrual blood	2	
		Menstrual pain decreases after marriage	3	
		Drinking cold beverages affects	4	

		menstrual badly		
		Drinking hot beverages decrease the menstrual pain	5	
		Hard work or exercise affects menstruation badly	6	
		Hot milk, dairy product and dark chock let decrease the menstrual pain	7	
		Carrying heavy objects causes your uterus to prolapse	8	
		Taking pain killers for menstrual pain is harmful for menstrual cycle	9	
36	Is menstrual hygiene taught in any of the school's subjects?	Yes	1	
		No	2	
37	If yes, Which subject taught menstruation hygiene management?	HPE	1	
		Social	2	
		Other	3	
Menstrual Management Practices Related Questionnaires				
38	How often do you bath during Menstruation/Period?	Daily	1	
		Two times during the period	2	
		One time during the period	3	
39	Have you done genital cleanliness practices?	Yes	1	
		No	2	
40	If Yes, how many times do you clean your genital in a day?	Once a day	1	
		Two times a day	2	
		Three times a day	3	
		Four and above times	4	
41	What do you use to clean your genital during your menstruation?	Water and soap	1	
		Only with water	2	
		Tissue paper	3	
	How many times do you change your pad	2 times a day	1	

42	per day?	3 times a day	2	
		4 times a day	3	
		After the pad wet	4	
43	Did you use any medicine during menstrual problems?	Yes	1	
		No	2	
44	What kind of physical problems faced during the time of menstruation? **(You can choose more than one**	Itching |hgg c[a] lrnfpg]	1	
		Tiredness	2	
		Headache	3	
		Lower abdominal pain	4	
		Burning micturition	5	
		Nausea/Vomiting	6	
		Not regular menstruation	7	
		Over Bleeding	8	
45	What is your understanding about menstrual health and hyegine? (**You can choose more than one)**	Change pad frequently	1	
		Properly dispose of used pad	2	
		Properly genital hygiene practice	3	
		Bath frequently	4	
		If it is cloth pad, should be washed properly, dried thoroughly and reused	5	
46	Which pad is more effective when used during menstruation? (**You can choose more than one)**	Sanitary pad (Used and throw)	1	
		Homemade pad (Reusable)	2	
		Tampon	3	
		Menstrual cup	4	
47	Do you used reusable sanitary pad?	Yes	1	
		No	2	
48	How to dispose of used pad? (**You can choose more than one)** (**You can choose more than one)**	Bury in the pit	1	
		If it is cloth pad, should be washed properly, dried thoroughly and reused	2	
		Put it in the dustbin and send it with garbage truck	3	
		Destroy in burning kit	4	

	Menstrual Management Facilities Related Questionnaires			
49	What kind of safe and hygienic products Available in your school? (**You can choose more than one)**	Access to clean toilet facilities with a locking system, along with regular clean water, bins, and soap	1	
		Drinking hot water	2	
		Menstrual pain relief medicine	3	
		Sick room/Rest room	4	
		Free availability of pads at school	5	
50	Can you attend the school regular during the time of menstruation?	Yes	1	
		No	2	
51	If no, what are the factors affecting regular attendance? **(You can choose more than one)**	Not availability of pads at school	1	
		No private place to manage MHM	2	
		Lack of continuous water supply	3	
		Pain/discomfor	4	
		Lack of separate toilet for girls	5	
		Social, cultural and religious restriction	6	
52	Is there a supportive environment in the school ?	Yes	1	
		No	2	
53	Have you faced any kind of obstacle in school during the time of menstruation?	Teasing by boys	1	
		Feel uncomfortable in class	2	
		Fear of leakage blood/ Shame	3	
		Due to stigma or embarrassment	4	
54	For menstrual hygiene management, are there menstruation awareness programs and information available in schools?	Yes	1	
		No	2	
55	If Yes, who lunched that types of programs?	School	1	
		NGOs	2	
		INGOs	3	

Thank you for your support