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PERCEIVED IMPACTS OF MENSTRUATION TO ACCOMPLISH HIGH SCHOOL EDUCATION AMONG GIRLS: A CROSS-SECTIONAL STUDY FROM HILLY REGIONS OF LUMBINI PROVINCE OF NEPAL

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ABSTRACT

This study aimed to analyze the perceived impacts of menstruation to accomplish high school education among secondary school-level girls in the hilly districts of Lumbini Province, Nepal. Focused on the local context, the study provides a detailed examination of impacts which includes missing regular teaching learning activities, unable to submit assignment/homework on time, unable to attend final exams, getting low grade, anxiety, class repetition, and susceptible for early marriage. The study reveals that 93% of girls have experienced school absenteeism during menstruation, with significant implications for academic achievement, psychological well-being, and long-term opportunities. Despite the global recognition of menstrual health issues, the study emphasizes the lack of attention to this specific context, calling for more research and policies tailored to the hilly districts of Lumbini Province. The research aims to inform the provincial government and advocate for targeted policies to address the identified gaps, contributing valuable insights to the discourse on menstrual health and education in the region. The study's strengths lie in its comprehensive analysis, contextual relevance, quantitative approach, and explicit policy implications.

Keywords: Menstruation, menstrual barrier, impacts on educational attainment, and Nepal.

1.0 BACKGROUND

Menstruation is a biological process that involves the periodic removal of blood and mucus from the vaginal canal, and it reflects the primary reproductive sign of a woman (Uzoechi et al., 2023). However, societal attitudes and practices surrounding menstruation across different cultures are often covered by taboos, stigma, and shameful sentiments, which compound socio-cultural, psycho-social, and physical consequences. Consequently, menstruation among schoolgirls is a neglected issue, and they may encounter numerous barriers to attending school that could cause their academic progress (Sharma et al., 2020).

In various cultural contexts, menstruating schoolgirls are subjected to prohibitions from attending school, as highlighted by a study conducted in India (Mohammed & Larsen-Reindorf, 2020). Menstruation-related school absenteeism is also influenced by parents' fears of their daughters being sexually harassed by male classmates and male teachers while they are menstruating (Kaur et al., 2018).

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Physical factors such as inadequate washroom facilities, scarcity of water for cleansing, and a lack of gender-sensitive sanitation and hygiene resources are closely intertwined with menstrual-related school absenteeism among adolescent girls (Kumbeni et al., 2021). Evidence shows that 56% of adolescent schoolgirls in Ethiopia were absent from school due to a lack of menstrual health supplies, 23% of adolescent schoolgirls dropped out of school due to the lack of access to washroom facilities and sanitary pads, and 31% of adolescent schoolgirls missed regular school activities in Brazil due to menstrual health issues (Garg and Anand, 2015; Pitangui et al., 2012). Additionally, LGBTQ youth in North America encounter challenges with communal washrooms during menstruation, further impeding their school attendance (Schmitt et al., 2022). Correspondingly, adolescent schoolgirls in low-income countries confront challenges such as inadequate privacy, insufficient disposal options for menstrual products, and overflowing trash bins, exacerbating school absenteeism during menstruation (Mohammed et al., 2020; Schmitt et al., 2022). Access to sanitary pads is also a notable contributory factor of menstrual-related absenteeism. However, a small pilot study in Ghana conducted by Oxford University concluded that providing sanitary pads to adolescent schoolgirls as an intervention could help reduce school absenteeism (Somer et al., 2016)

The repercussions of menstrual-related school absenteeism due to socio-cultural and physical factors may impact various aspects educational attainment as school day absent, unable to submit homework, and missed final exam. Missed classroom instructions and extracurricular activities could contribute to lower academic performance and educational achievement over time, perpetuating educational disparities (Sommer, 2010). Furthermore, incomplete curricular coverage during absenteeism results in knowledge gaps compared to peers (Sommer, 2010). Psychological and emotional well-being are significantly affected by menstrual-related absenteeism, with affected students experiencing stigma, shame, and lower self-esteem, thus impacting their mental health (Hennegan et al., 2017). Authors further claimed that feelings of exclusion from educational and social activities further compound emotional challenges, affecting overall well-being (Hennegan et al., 2017). Respectively, absenteeism exacerbates educational disparities, contributing to increased dropout rates and limiting future opportunities, especially for girls. Higher dropout rates among girls perpetuate gender-based educational disparities, hindering access to higher education and better employment opportunities (Shah et al., 2012).

Based on these discussions, stigma, social-cultural factors, taboos, gender disparities, and physical facilities are some of the menstrual-related barriers that can be experienced by adolescent schoolgirls during menstruation, causing school absenteeism. However, we could not find any study analyzing how menstruation-related barriers impact the education of schoolgirls in Nepal. Therefore, the specific objective of this study is to evaluate menstrual-related barriers that may be faced by adolescent schoolgirls and their impact on adolescent schoolgirls in the Lumbini Province of Nepal and advice the policy practitioner at the macro to the micro level to make appropriate policies to address the identified gaps.

2.0 METHODS AND MATERIALS

2.1 Study Design and setting

This study aimed to explore impacts of menstruation to accomplish high school education among high schoolgirls (grades 9 and 10) at a government-run high school in Lumbini

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province, Nepal. A cross-sectional descriptive study design was employed for this study. The study area was Lumbini province, situated in western Nepal, which ranks as the third largest province in land area and population. The ecological makeup of this province comprises mountains (3%), hills (69%), and Terai (28%). Ethnically, Lumbini province has significant diversity, with the Magar community constituting the most prominent group at 14.50%, followed by the Tharu community at 14.30% (CBS Nepal, 2021). Both these groups are considered marginalized ethnic populations within the province.

Figure 1: Map of Lumbini province

2.2 Sampling procedure

This study adopted three levels of the selection process: I) site selection (districts), II) schools' selection, and III) participant selection.

I. Site selection: The research team prepared a list of hilly districts (6 hilly districts) in the Lumbini province of Nepal. Thereafter, the study used a simple stratified random sampling method (Taherdoost, 2016) and selected four hilly districts.
II. Schools' selection: This study employed a convenience sampling method (Taherdoost, 2016) and selected four government-run secondary schools from each selected district (4* 4 = 16 schools in total). These schools were chosen based on their proximity to the district headquarters.
III. Sample Size Calculation and Participants selection. This study employed Cochran formula ($n = z^2 * p * (1 - p) / e^2$)

While determine sample size.

Where:

n = Required sample size

Z = 1.96 for a confidence level of 95%

P = population proportion 50% = 0.5

q = 1-p = 1- 0.5 = 0.5

e = margin of error 5%= 0.05

Now,

$n = z^2 * p * (1 - p) / e^2$

$n = 1.96^2 * 0.5 * (1 - 0.5) / 0.05^2$

n = 0.9604 / 0.0025 = 384.16

n = 385

Therefore, our sample size frame is (n) =385

After determining the sample size, the research team simply divided sample (n= 385/16= 24.06) by total selected school. We used the school admission registry from each selected schools as a sampling frame for this purpose. After that we employed a lottery method to select 24 respondents from each selected school. This method involved writing the names of all eligible female students (grades 9 and 10) on uniform-sized papers, which were then folded and placed into a small box. Those papers were drawn from the box one by one, with the box being shaken thoroughly each time until the required number of subjects was obtained as determined from each school.

2.3 Survey tool construction and data collection technique

This study used a semi-structured self-administered survey questionnaire as a primary data collection tool. An extensive review of relevant literatures guided the development of this tool. (Adhikari et al., 2007; Khanal et al., 2023; Miiro et al., 2018; Mohammed & Larsen-Reindorf, 2020; Ranabhat et al., 2019; Tegegne & Sisay, 2014). Additionally, we consulted subject matter experts and engaged in collaborative discussions within the study team during the tool development phase. While designing the self-administered survey questionnaire, this study considered the schoolgirls' social location, taboos, and menstrual experiences and impacts. Consequently, this study was mainly focused on examining the potential impacts to accomplish education (e.g., missed regular class activities, missed exams, delayed submitting assignments, receiving low grade, repeat class, susceptible for early marriage, anxiety and stress and uncertain future).

The survey questionnaire was developed to capture various aspects of menstruation among secondary school girls including the age of menarche, sources of information about menstruation, factors influencing school attendance, the number of days missed , perceived barriers, place to stay, availability of support services and, the most importantly, the impacts of menstruation on the girls' educational journey during high school period.

Before finalizing the questionnaire, a pilot test was conducted on 10% of the questionnaires (n=38) with high school girl students in the Pyuthan district. After analyzing the pilot test results, we revised the questionnaire to ensure its effectiveness and relevance for the final data collection.

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Once the sampling process and survey tools were finalized, our research coordinator approached the headmasters of the selected schools and provided them with research details, including consent forms. The headmasters then distributed research packages to the selected students to discuss the study with their parents and obtain parental approval, considering the subjects were minors [under 16]. Upon receiving signed parental consent forms from all selected students, the headmasters informed our research coordinator and confirmed the date and time of data collection. On the designated data collection day, the research coordinator and the research team visited the respective schools and distributed questionnaires to the selected study subjects. We distributed three hundred and eighty-five survey questionnaires; however, three hundred seventy-eight study subjects completed the survey.

2.4 Variables

The study examined various facets of menstruation among secondary school girls. The age of menarche, marking the onset of menstruation, was determined by asking "How old were you when you first experienced menstruation?" The sources of information regarding menstruation were assessed by asking "How did you know about menstruation" and responses were categorized: self-discovery, information from friends, guidance from mothers and elder sisters, learned from the school, and additional sources such as television and the internet. Moreover, information regarding items used to manage the menstruation were collected by asking "What did you use to manage menstrual blood in your last menstruation?" and responses were listed as the use of sanitary pads or improvised materials like ragged clothes or something others. To enquire place to stay during menstruation, we asked, "Where did you stay in your last menstrual period?" and responses were classified as same room with other family members, separate room at the same house, shed,

Chhaupadi. Chhaupadi is a cultural tradition especially in western Nepal where girls are forced to stay in huts as they considered that menstrual women are impure and untouchable (Joshi, 2022).

Similarly, to investigate the support system available in the school and respondent's belief about menstruation, we asked the following questions yes/no questions.

Is there any support desk or person in your school to provide counselling to female students when they are menstruating? Does your school provide sanitary pads when you are menstruating?

Does female teacher encourage you to go to school when you are menstruating? Does male teacher encourage you to go to school when you are menstruating? Do you agree that you do not achieve anticipated progress in your education due to your menstruation? Do you agree that your cultural norms do not allow you to go to school when you are menstruating? Do you agree that girls should not touch books during their monthly period? Did your parents force to marry when you are menstruating? Do you receive family support to go to school when you are menstruating?

Besides, to explore the factors or barriers that impeding school attendance during menstruation, we asked, "What were the barriers you can list that stopped you to go to the school in your last menstruation" and responses were- access to sanitary materials, physical facilities [separate

toilet/bathroom, extra room to take rest], culture, psychological factors, lack of support [from parents, school teachers and peers], and economic factors [no money to buy sanitary pads].To identify the days missed during last menstruation, we asked "How many days did you stay home in your last menstruation?" and the responses of this question was categorized as [one day, two days, three days, four days on none days].

Lastly, the study team investigated the impacts of missing school by asking "What are the immediate impacts of menstruation did you face?" and responses were listed as- missing crucial classes or extracurricular activities, experiencing stress and anxiety, possibility of repeating a school year, encountering the risk of school dropout, potentially receiving lower grades, and being susceptible to early marriage.

2.5 Statistical Analysis

In the data analysis phase, this study applied simple statistical procedures while sorting, tabulating, categorizing, and coding the raw data by using Microsoft Word and Excel. The descriptive analysis method was used to describe attributes of the data set (categorical data, presenting frequencies, percentages, and average).

3.0 RESULTS

3.1 Demographic status of the participants

This study was conducted in the four hilly districts of Lumbini Province to explore the menstrual impacts in education. A total of 378 high school girls [from grade 9 and 10] took part in this study.

Table 1: Characteristics of the respondents [n=378]

Variables	
Age of the participants	**Number [%]**
14 years	48 [12.70]
15 years	113 [29.89]
16 years	171 [45.23]
17 Years	46 [12.16]
Grade	
Grade 9	101 [26.72]
Grade 10	277 [73.28]
Age at menarche	**Number [%]**
10 -11 years	73 [19.31]
12 years	100 [26.46]
13 years	148 [39.15]
14 years	57 [15.08]

This table show that the average age of participants was 15.5 years. Among the total participants, the majority 277[73%] were in grade 10. In terms of the age at menarche, the

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majority 148 [39%] have their menarche by age the age of 13 and 73[19%] participants reported that they experienced menstruation in between the age at10 -11 years. +

Table 2: Barriers identified for school attendance during monthly period [n=378]

Barriers	Details
Access 42 [11%]	Limited or no access to hygienic sanitary materials at home and school
Facility 76 [20%]	Lack of separate toilets for girls
	Lack of washing and cleaning materials
	Unavailability of hygienic materials, clean water
	No rest room (to take rest while tired and feeling unwell)
	No place/bins for pad disposal
Culture 113 [30%]	Taboos (what to do and what not to do)
	Restriction to touch males
	Restriction to touch books
Psychological factor 61[16%]	Fear of stains on clothes and seat
	Bullying from the opposite sex
	Shyness and feelings of humiliation
	Anxiety and depression
	Perceived weakness
	Hesitation to tell others
Lack of support 29 [8%]	Parental support and facilitation
	Peer/Teacher support
	Lack of counseling desk in school
Economic factor 57[15%]	Lack of money to buy sanitary pads

Table 2 explores the various barriers encountered by participants that impeded their ability to attend school during their monthly period. Among the reported barriers, culture 113 [30%] was identified as prominent barrier reported by respondents. This barrier encompasses cultural restrictions related to touching males and societal taboos dictating behaviors and practices during menstruation. The facility barrier 76 [20%] emerged as the second most significantly cited by the respondents. This barrier encompasses challenges such as the absence of separate toilets or bathrooms designated for girls, insufficient washing and cleaning materials, and lack of designated restrooms to have a rest during school days when they feel tired or exhausted. Additionally, 44 [15%] were identified economic barriers that contain challenges related to the financial constraints that hinder access to menstrual hygiene products and other necessary resources.

Figure 2: Living arrangements during menstruation

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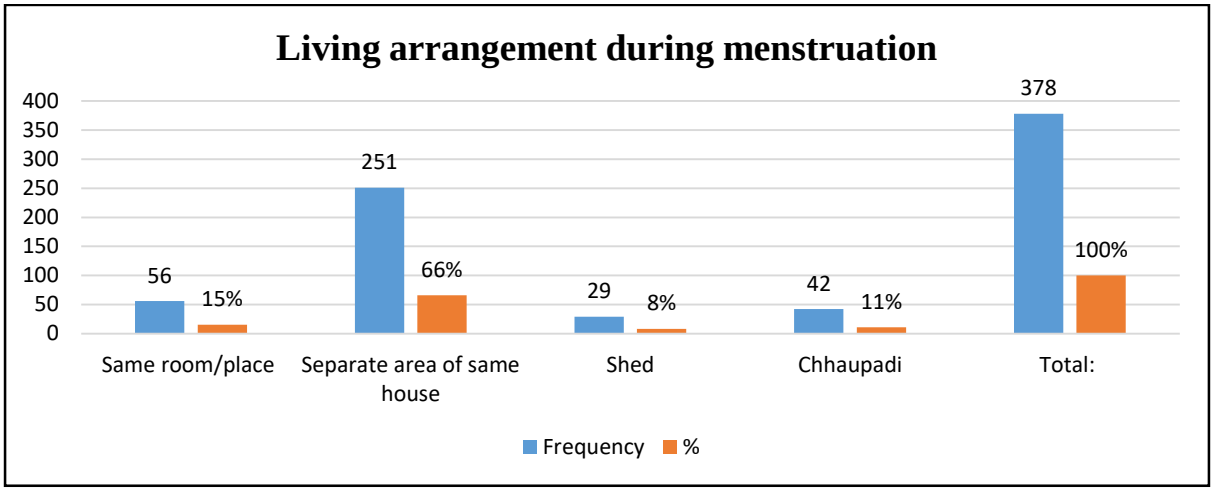

Figure 1 indicates the living arrangement during menstruation. 251[66%] respondents reported that they lived in a separate room or area of the same house and 56 [15%] respondents lived in their own room respectively. Similarly, 29 [8%] respondents lived in a separate structure (shed), and 42 [11%] respondents went to Chhaupadi during their last menstruation.

Table 3: Availability of support System and belief of schoolgirls during menstruation [n=378]

Variables	Response	
	Yes	No
Is there any support desk or person available in your school to provide counselling to female students when they are menstruating?	117[31%]	261[69%]
Does your school provide sanitary pads?	130[34%]	248[66%]
Does female teacher encourage you to go to school when you are menstruating?	227[60%]	151[40%]
Does male teacher encourage you to go to school when you are menstruating?	145[38%]	233[62%]
Do you agree that you do not achieve anticipated progress in your education due to your menstruation?	240[63%]	138[37%]
Do you agree that your cultural norms do not allow you to go to school when you are menstruating?	233[62%]	145[38%]
Do you agree that girls should not touch books during their monthly period?	198[52%]	180[48%]
Did your parents force to marry when you are unable to do good at school performance due to menstruation?	227[60%]	151[40%]
Do you receive family support to go to school when you are menstruating?	221[58%]	157[42%]

Table 3 describes available support at school and respondent's beliefs during menstruation. The majority 261 [69%] respondents mentioned that there was no support desk or person available when they were in menstrual period and 248 [66%] reported that sanitary pads were not provided by school to support girls during menstrual period. The majority of the respondents 227 [60%] got support from female teacher to continue school during menstruation and male teachers were less supportive [38%]. 240 [63% respondents] agreed that menstruation is a cause of not receiving progress in class and it becomes the cause of parental force for early marriage which is stated by 227 [60%].154 [42%] respondents cited that they did not get family support to attend school during menstruation.

Table 4: Days absent in class and Impact of menstruation on educational attainment [n=378]

Variables	Frequency [%]
School absent days (During the Most Recent Menstrual Period)	
Half day	35 [9%]
1 day	80 [19%]
2 days	57 [16%]
3 days	80 [23%]
≥ 4 days	99 [26%]
Always go to school	27 [7%]
Total:	**378 [100%]**
Impact on educational attainment	
Missed regular school activities	73 [19%]
Unable to submit homework on time	90 [24%]
Missed final exam	67 [18%]
Anxiety and stress	54 [14%]
Low grade/ rank	43 [11%]
Class repetition	51 [13%]
Total:	**378 [100%]**

Table 4 represents the days school absenteeism during the last menstruation and menstrual impact on respondents' educational accomplishment. Class absenteeism 351[93%] was the immediate impact that respondents mentioned where the absent days were varied in between half day to ≥ 4 days; and majority 99 [26%] missed ≥ 4 days during their last menstrual period.

While focusing on impacts, 73 [19%] reported that they missed regular class activities and extracurricular activities. Similarly, 90 [24%] respondents reported that they were unable to submit their homework on time, and 43 [11%] reported receiving a low grade.

4.0 DISCUSSION

This study was conducted in the rural terrain, specifically the hilly districts of Lumbini Province of Nepal. Our study sample comprised girls in grades 9 and 10, aged 14 to 17, enrolled in government-run public schools. The prevalence of school absenteeism during the monthly

period was determined to be 93% in our sample, with total missed days ranging from half day to ≥4 days in their last menstrual cycle. Comparable findings were observed in Ghana, (Montgomery et al., 2012) where schoolgirls were absent for 1 to7 days during their monthly cycle. Similar trends were reported in various low- and middle-income countries (Davis et al., 2018; Kumbeni et al., 2021; Vashisht et al., 2018). A recent study in Chitwan reported that 61.4% of schoolgirls were absent during their last menstrual cycle (Khanal et al., 2023). Globally, the prevalence of school absenteeism during the monthly cycle varies, such as 59% in Uganda (Miiro et al., 2018), 40% in Ghana (Mohammed et al., 2020), 40% in India (Vashisht et al., 2018), and 54% in Ethiopia (Tegegne & Sisay, 2014). These variations may be attributed to participant's age, school type (public vs. private), geographical location (urban vs. rural), and household socioeconomic status (rich vs. poor). Our sample identified infrastructure-related barriers, including the lack of separate toilets/ bathrooms for girls, insufficient washing and cleaning supplies, a deficiency of restrooms, and a lack of safe disposal places. Oduor et al. (2015) in Kenya and Ellis et al. (2016) in the Philippines similarly concluded that inadequate water, latrine and sanitation facilities, and disposal mechanisms hindered schoolgirls' regular attendance during their monthly cycles. A study in Uganda (Miiro et al., 2018) highlighted barriers such as the lack of access to clean absorbents, inadequate facilities for changing, unavailability of disposal space, and a shortage of cleaning materials, including clean water and soap. These infrastructure-related barriers are predominantly evident in low- and middle-income countries, including Nepal, as reported by various studies (Ellis et al., 2016; Mason et al., 2013; Miiro et al., 2018; Oduor et al., 2015; Phillips-Howard et al., 2016; Sommer, 2010). Additionally, cultural factors (taboos, restrictions on touching male members, and books) and psychological factors (fear of stains, shyness, bullying, hesitation, anxiety, depression, perceived weakness, and humiliation) contribute to the barriers to attending school during the monthly period, consistent with previous studies (Khanal et al., 2023; Mason et al., 2013; Phillips-Howard et al., 2016; Sommer, 2010a; Sommer et al., 2016).

Financial situation of the family plays a crucial role in accessing menstrual health products, with individuals from affluent families more likely to afford sanitary pads. Rossouw and Ross (2021) noted that most girls using sanitary pads felt comfortable without fearing stains or teasing from male peers. Similar findings on sanitary pad use were reported in Ghana (Montgomery et al., 2012), Ethiopia (Tegegne & Sisay, 2014), India (Sivakami et al., 2019), and Bhutan (Kumbeni et al., 2021). Approximately 7% of our sample never missed school during their last menstrual cycle, potentially due to their well-financial family backgrounds and supportive parents. Conversely, poverty emerges as a leading cause of school absenteeism during menstruation. Girls from impoverished households may be unable to afford disposable sanitary pads, relying on cloth rags, leading to potential leaks and physical discomfort, resulting in non-attendance.

The impacts of monthly period-related school absenteeism extend to academic achievement. Our study revealed impacts on school activities, including missing class tests, extracurricular activities, and final tests, resulting in class repetition. Similar outcomes were supported by previous studies.(Garg & Anand, 2015; Hennegan et al., 2021; Khanal et al., 2023; Mohammed & Larsen-Reindorf, 2020; Montgomery et al., 2012; Parker et al., 2010; Sharma et al., 2016; Tegegne & Sisay, 2014; Vashisht et al., 2018) In Addis Ababa, Tegegne, and Sisay (2014) reported that approximately 39% of schoolgirls experienced adverse effects on their academic performance due to their monthly cycles, impacting their class rankings. Our study found 11%

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of participants falling into the low-grade range who were experiencing difficulties submitting homework on time. About 14% of them reported that they experienced anxiety and stress during their monthly period.

Combining these factors creates a challenging environment for adolescent girls striving to complete their education. The threat of early marriage serves as a stark reminder of the obstacles faced by girls in pursuit of their academic goals, further emphasizing the urgent need for targeted interventions to support girls' education and empower them to make choices about their futures autonomously. Addressing these issues requires a multi-faceted approach involving educational reforms, community engagement, and advocacy for gender equality and women's rights.

Growing research suggests that an unfriendly school environment for girls managing their monthly periods negatively impacts their future academic success and limits their long-term economic and other potentials, significantly affecting sexual and reproductive health outcomes (Mason et al., 2013; Sommer, 2010b; van Eijk et al., 2016) While our study primarily focused on immediate consequences, such as class repetition, dropout, and psychological impact, further research is warranted to explore the long-term impacts of menstruation on academic success and economic activities.

4.1 Strengths and Limitations of the Study

This study represents the initial exploration of barriers to school attendance and their effects on educational attainment among girls in grades 9 and 10 in hilly districts of Lumbini Province, Nepal. The acquisition of firsthand data from students provides valuable insights, potentially influencing policies to create a more girl-friendly school environment. The study effectively underscores attendance challenges during the monthly cycle, offering actionable solutions at both the local (school) and policy (provincial government) levels.

Despite these strengths, the study has notable limitations. Its cross-sectional nature precludes the establishment of causal relationships between socio-demographic factors and school absenteeism. Generalizability is restricted to government-run schools, and privately operated schools with differing infrastructures may yield distinct impacts. Additionally, the study's participants, drawn solely from one province (hilly region), lack representation as a national sample. Nonetheless, the findings furnish crucial insights applicable to diverse provinces within Nepal.

5.0 RECOMMENDATIONS

Based on the findings presented in this study, the following recommendations can be made to address the challenges related to school absenteeism during menstruation:

5.1 Infrastructure Improvement

Enhance school infrastructure, particularly in rural areas, by ensuring the availability of separate and well-equipped toilet/bathroom facilities for girls. Provide essential washing and cleaning supplies, including soap and water. Establish restrooms for girls who may need to take a break due to severe cramps or feeling unwell.

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5.2 Educational Programs

Implement educational programs to raise awareness about menstrual hygiene and management. These programs should focus on dispelling cultural taboos, addressing psychological factors, and promoting a supportive and inclusive school environment.

5.3 Access to Menstrual Health Products

Work towards improving access to menstrual health products, especially for girls from economically disadvantaged backgrounds. Consider initiatives such as providing subsidized or free sanitary pads and promoting the use of sanitary products to enhance comfort and confidence.

5.4 Poverty Alleviation Measures

Develop targeted interventions to alleviate poverty-related challenges by providing financial support or assistance to girls from low-income households. This could include subsidies for menstrual products and other necessities, reducing the economic barriers to regular school attendance.

5.5 Parental and Community Involvement

Encourage parental and community involvement through awareness campaigns. Foster open communication among parents, teachers, and students to create a supportive network that addresses menstrual-related issues and challenges.

5.6 Psychological Support Services

Integrate psychological support services within schools to help girls cope with anxiety, stress, and other emotional impacts associated with menstruation. This could include counseling services and creating a stigma-free environment.

5.7 Long-Term Research

Promote further research to explore the long-term impacts of menstruation on academic success and economic activities. This comprehensive understanding will inform sustainable policies and interventions to support girls' overall well-being throughout their educational journey. By implementing these recommendations, stakeholders can contribute to creating a more inclusive and supportive educational environment, ultimately reducing school absenteeism among girls during their monthly periods.

6.0 CONCLUSION

This study highlights the widespread issue of menstrual impacts on educational attainment among high school girls during their monthly periods in hilly districts of Lumbini Province, Nepal. The identified barriers include inadequate school facilities, cultural taboos, psychological factors, and economic disparities. The study points out the negative consequences on academic performance, such as missed exams and class repetition, as well as risk of early marriage and the psychological impact on girls. The findings emphasize the urgent

need for comprehensive interventions addressing infrastructure, cultural norms, and economic factors, to ensure a favorable environment for girls' education and well-being. Further research is warranted to explore the long-term implications of menstruation on academic success and economic activities.

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6.3 Declaration of Conflicting Interests

The authors declare no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

6.4 Data Availability

Not Applicable

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