Examining Socio-Economic and Parental Influences on Menstrual Hygiene Practices and Knowledge Accuracy: Implications for Counselling, Policy and Education

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DOI: https://doi.org/10.51584/IJRIAS.2025.1001038

Received: 12 January 2025; Accepted: 16 January 2025; Published: 22 February 2025

ABSTRACT

Introduction: The study addresses the factors influencing menstrual hygiene practices and knowledge accuracy among respondents, focusing on the roles of socio-economic status and parental influence by testing null hypotheses that were formulated.

Method: This study used a descriptive study design and had a sample size of 384. The sample size was found through simple random sampling, purposeful sampling, and stratified sampling. Data was gathered through a structured questionnaire that was made to fit the answers of the respondents.

Data Analysis: The research used SPSS 20.0 to analyse data, including percentages, means, standard deviation, independent-samples t-tests, and logistic regression analysis.

Results: A t-test comparison of knowledge scores between respondents informed by parents and those informed by schools showed significant differences. And the Logistic regression analysis revealed significant socio-economic factors influencing menstrual hygiene practices.

Conclusion: This study offers detailed insights into the intricate relationship between socio-economic determinants, parental influence, and menstrual hygiene behaviours among adolescent females. The results indicate the significance of socioeconomic position in influencing individuals' menstrual hygiene management. This illustrates the significance of implementing interventions tailored to each socioeconomic category.

Recommendations: Organize workshops and seminars for parents to improve their understanding of menstruation and equip them to provide accurate information to their children. And engage advocacy for menstrual health education to be recognized as an essential component of national health and education policies.

Keywords: menstrual hygiene, knowledge, socio-economic status, parental influence, senior high schools

INTRODUCTION

Menstrual hygiene is a crucial aspect of reproductive health that significantly impacts the physical, psychological, and social well-being of individuals who menstruate. Despite its universal nature, menstrual health management remains a sensitive topic, often surrounded by stigma, misinformation, and inadequate resources. These challenges are particularly pronounced in resource-constrained settings, where socio-economic disparities and cultural norms further limit access to accurate information and appropriate hygiene products. Consequently, understanding the factors that influence menstrual hygiene practices and the accuracy of menstrual knowledge is vital for designing effective interventions that promote health equity and empower menstruators to manage their cycles with dignity and confidence (Kumbeni et al., 2020).

Socio-economic status (SES) plays a pivotal role in determining access to essential health products and information. Individuals from lower socio-economic backgrounds may face barriers to acquiring affordable

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume X Issue I January 2025

and hygienic menstrual products, leading to the adoption of unsafe practices. For instance, a study in rural northern Ghana found that parents' socio-economic status significantly influenced menstrual hygiene management among adolescent girls, with economically stable parents more likely to provide sanitary pads and other necessary supplies (Kumbeni et al., 2020). Similarly, school-based interventions have shown a positive impact on menstrual hygiene education, yet these often fail to reach marginalized populations due to resource constraints and cultural stigmas (Mekonnen & Workie, 2022). In parallel, parental influence, as primary educators and caregivers, is a significant determinant of how young individuals perceive and manage menstruation (Mohammed et al., 2020). However, the role of parental influence in shaping menstrual knowledge remains underexplored, particularly when compared to institutional education sources such as schools (Belayneh & Mekuriaw, 2022). Understanding the interplay between SES and parental guidance can provide deeper insights into the systemic barriers and facilitators affecting menstrual health outcomes.

Context of the Research

Menstrual health is a multidimensional issue that intersects with education, gender equality, and public health. Inadequate menstrual hygiene management has been linked to increased rates of reproductive tract infections, reduced school attendance, and diminished quality of life (Mohammed et al., 2020). These challenges are often exacerbated in contexts where social taboos and economic hardships restrict open discussions about menstruation and access to necessary resources. While global initiatives have highlighted the importance of menstrual health, disparities persist, particularly in low-resource settings where cultural norms and socio-economic inequalities intersect to disadvantage menstruators (Mekonnen & Workie, 2022).

Parental influence is a critical factor in shaping adolescents' attitudes and practices regarding menstruation. Parents often serve as the first point of contact for menstrual education, yet the quality and accuracy of the information provided can vary widely based on the parents' own knowledge, beliefs, and socio-economic circumstances (Kumbeni et al., 2020; Seacrest et al., 2014). Conversely, schools and educational institutions provide a more structured approach to menstrual education, but their reach and impact are often limited by resource constraints, curriculum gaps, and cultural sensitivities (Mohammed et al., 2020; Belayneh & Mekuriaw, 2022). Understanding the comparative impact of these sources of information is essential for identifying opportunities to enhance menstrual health education.

Problem Statement

Despite the significance of menstrual hygiene management, there is insufficient thorough study regarding the impact of socio-economic status and parental influence on menstrual hygiene behaviours and knowledge among teenage females in public senior high schools in Ghana. The Tamale Metropolis, characterised by its distinct socio-economic and cultural background, reveals a deficiency in comprehending these processes. Prior research has emphasised the difficulties encountered by adolescent girls in rural Ghana, such as insufficient sanitation facilities and restricted access to sanitary goods (PMC, 2020). Socio-economic status is a well-documented determinant of health outcomes, yet its specific impact on menstrual hygiene practices requires further investigation. Limited access to affordable menstrual hygiene products among economically disadvantaged groups often forces individuals to resort to unsafe alternatives, posing health risks and perpetuating inequality (Belayneh & Mekuriaw, 2022).

Additionally, while parental guidance is widely acknowledged as an influential factor in adolescent development, its role in shaping menstrual knowledge and practices remains under-researched (Mohammed et al., 2020). In many settings, cultural norms and taboos inhibit open discussions about menstruation within families, potentially leading to misinformation or inadequate preparation for menstrual health management (Kumbeni et al., 2020; Seacrest et al., 2014). The relative effectiveness of parental guidance compared to formal educational sources in promoting accurate menstrual knowledge remains an area of critical inquiry (Mekonnen & Workie, 2022). This study aims to address the gap by examining the factors influencing menstrual hygiene practices and knowledge accuracy among public senior high schools in the Tamale Metropolis focusing on the roles of socio-economic status and parental influence.

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Main Objective

To explore the factors influencing menstrual hygiene practices and knowledge accuracy among respondents, focusing on the roles of socio-economic status and parental influence.

Specific Objectives

1. To determine the relationship between socio-economic status and the use of appropriate menstrual hygiene products among respondents.

2. To assess the impact of parental influence as a source of menstrual information on the accuracy of respondents' menstrual knowledge.

Hypotheses

To address the factors influencing menstrual hygiene practices and knowledge accuracy among respondents, focusing on the roles of socio-economic status and parental influence, the following null hypotheses were formulated and tested:

1. **H_{01}:**There is no significant relationship between socio-economic status and the use of appropriate menstrual hygiene products among respondents.

2. **H_{02}:**Respondents whose parents are the primary source of menstrual information do not have significantly different levels of knowledge accuracy compared to those who learned from schools.

METHOD

Study Design

A study design serves as a strategic blueprint that guides the research process, providing a framework to achieve the study's objectives systematically (De Vos et al., 2005, p. 132). This research employed a descriptive study design to explore the knowledge and practices of menstrual hygiene among female adolescents in public Senior High Schools in the Tamale Metropolis. A descriptive study design focuses on assessing a population or phenomenon at a specific point in time without drawing causal inferences. It emphasizes understanding and describing the characteristics of the population under investigation (Creswell & Creswell, 2023).

The descriptive study approach enabled the use of both quantitative and qualitative data collection methods. This hybrid approach facilitated a comprehensive understanding of the data and characteristics of the target population. The design's strengths include its capacity to collect real-life experiences and provide statistical insights. For instance, surveys, a key tool in descriptive research, offer valuable numerical data alongside qualitative insights into participants' lived experiences (Polit & Beck, 2021). This dual capacity enriches the depth and breadth of the findings, allowing for nuanced interpretations.

However, descriptive research also presents challenges. Confidentiality is a significant concern, as participants may provide socially desirable responses or omit sensitive details. Subjectivity and potential errors also pose risks. Researchers might selectively analyze data, potentially biasing results (LoBiondo-Wood & Haber, 2022). Despite these limitations, the descriptive design remains appropriate for this study due to its ability to capture relationships and describe phenomena as they exist in real-world settings. Thus, it provides a robust methodological foundation for achieving the study's objectives.

Study Population

In research, the study population refers to the group under investigation, which serves as the basis for generalizing the findings (De Vos et al., 2005). According to Burns and Grove (2020, p. 213), the population encompasses all individuals or elements that meet the criteria for inclusion in a study.

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Target Population: The target population for this research included 4,091 female adolescents from eight public Senior High Schools in the Tamale Metropolis, excluding St. Charles Senior High School, which is an all-boys institution. The distribution of the female population across the schools in Tamale Metropolis excluding ST. Charles Senior High which is a boy's school. is presented in Table 1.

Table 1: The Distribution of the Female Population across the Schools Tamale Metropolis

Name of School	**Female Population**
Tamale Girls Senior High	1134
Tamale Senior High School	624
Ghana Senior High School	585
Presbyterian Senior High	240
Vitting Sec/Technical School	468
Northern School Of Business	235
Business Senior High School	677
Anbariya Senior High School	128
Total	**4091**

Source: Adapted from Agyei-Sarpong et al. (2025)

The accessible population for this study comprised 1,959 female teenagers from three designated schools in the Tamale Metropolis: Tamale Girls Senior High, Presbyterian Senior High, and Ghana Senior High. Eligibility criteria outline the exact attributes necessary for participation in a study (Burns & Grove, 2020, p. 234). The criteria for inclusion in this study were as follows:

• Female adolescent pupils registered in Senior High Schools under the Ghana Education Service (GES).

• Participants must be presently menstruating.

• The schools must be situated within the Tamale Metropolis.

These criteria guaranteed that the study focused on the specified population while preserving alignment with the research aims.

Sample and Sampling Procedure

Sample size

Given the research conducted in Tamale, the prevalence would be regarded as the presumed prevalence due to the absence of any linked studies providing prevalence data. Utilising the sample size formulas, namely

$$N_0 = \frac{z^2pq}{d^2}$$ (Snedecor and Cochran, 1989)

z = z-score of the confidence level (95%) = 1.96

p = proportion of population affected = 0.5

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q = proportion not affected = 0.5

d = desired precision = 0.05 for an acceptance error of margin of 5%

Substituting values for the variables;

$$N_0 = \frac{1.96^2(0.5)(1-0.5)}{0.5^2} = 384$$

Therefore the sample size for the study was 384.

SAMPLING METHODOLOGY

A simple random selection technique was utilised to choose three schools from a total of eight public senior high schools in the Tamale Metropolis, ensuring a representative sample. The schools evaluated for selection comprised Business Senior High School, Ghana Senior High School, Presbyterian Senior High School, Tamale Senior High School, Tamale Girls Senior High School, Vitting Secondary/Technical School, Anbariya Senior High School, and Northern School of Business. St. Charles Senior High School, a male-only institution, was rejected from the selection process due to its preference for female students. We inscribed the names of the eight schools on small slips of paper, folded them, and deposited them into a container to guarantee impartial selection. Three schools were randomly selected through a balloting process: Tamale Girls Senior High School, Ghana Senior High School, and Presbyterian Senior High School. This approach guaranteed that all schools possessed an equal likelihood of selection, conforming to the tenets of randomisation and reducing potential biases (Creswell & Creswell, 2018).

A total of 384 female students were sampled from the chosen schools on the day of the survey. Participants were required to be currently menstruation to ensure data relevance to the study's focus on menstrual hygiene routines. We explicitly communicated this need to all potential participants to guarantee their informed and voluntary involvement. Only students who consented to participate and fulfilled the inclusion criteria completed the questionnaire. The research focused on public senior high schools located in metropolitan regions of the Tamale Metropolis, incorporating female students who were present on the survey day and consented to participate in the sample.

This methodology guaranteed ethical research practices and voluntary involvement (Bryman, 2016). The expected total population of female students in all public senior high schools within the Tamale Metropolis was 4,091, according to data from the Ghana Education Service (GES, 2013). Table 1 delineates the demographic distribution among the schools. The sample size of 384 participants was established using standard statistical methods for proportions in big populations to assure dependability (Kadam & Bhalerao, 2010). The random selection of schools and participants improved the sample's representativeness and the findings' generalisability, offering a robust and methodologically rigorous approach to data collection pertinent to the study's objectives.

Instrument

The research gathered data via a structured questionnaire tailored to correspond with participants' answers. The questionnaires were divided into two sections: Part I, which examined demographic variables, and Part II, which assessed respondents' knowledge on menstrual hygiene and teenagers' understanding of menstruation. The questionnaires were structured clearly. The researcher was on-site at each school to guarantee impartial responses.

Evaluation of instrument validity

The instruments' validity was established through evaluation by research professionals, specifically professors from the Department of Allied Health Sciences at the University for Development Studies. The instruments were altered through correction, deletion, and the incorporation of more appropriate alternatives. The questions were subjected to a thorough evaluation procedure, during which they were meticulously reviewed and

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approved by the supervisors to confirm their appropriateness and authenticity in both substance and face value. Additionally, the instrument was subjected to a pilot test at the University of Cape Coast.

Dependability

The Cronbach's alpha coefficient was employed to analyse the reliability of the questionnaire, as it was the most appropriate metric for evaluating internal consistency. A considerable percentage of the questions were assessed utilising a multiple-choice style. The Cronbach's alpha coefficient for the instruments was 0.72, signifying an acceptable level of dependability.

Methodology for data acquisition

The data gathering for the study occurred from January to February 2014, accommodating academic schedules. The researchers reached out to educators and administrators from other universities to assist with the survey implementation. Students were gathered in assembly halls, supplied with objectives and research tools, and urged to work autonomously. The researchers engaged with respondents and offered direct oversight to encourage independent work. Questionnaires were gathered on the same day, achieving a 100% return rate.

Data Analysis

The research used SPSS 20.0 to analyze data, including percentages, means, standard deviation, independent-samples t tests, and logistic regression analysis. To test the research hypotheses and objectives, the data was analysed using the right statistical tests. The first objective was to find out how respondents' socioeconomic status affects their use of appropriate menstrual hygiene products. To do this, logistic regression analysis was used to find out which socioeconomic factors are most likely to predict proper menstrual hygiene practices.

The second objective was to find out how parental influence as a source of menstrual information affects the accuracy of respondents' menstrual knowledge. To do this, a T-test analysis was used to compare knowledge scores between those who got their information from their parents and those who got it from school. This type of analysis was best for objective 2 because it shows whether parental influence improves or decreases accurate menstrual knowledge.

RESULTS

Socio-Demographic Characteristics Of Respondents

A total of 384 respondents from three public senior high schools in the Tamale Metropolis (Tamale Girls Senior High, Presbyterian Senior High, and Ghana Senior High) were included in this study. The respondents were all females in their menstrual cycle. The socio-demographic characteristics are summarized below:

Table 2: Age Distribution of Respondents

Age Range	**Frequency**	**Percentage (%)**
15 – 20	349	90.9
21 – 26	35	9.1
Total	**384**	**100.0**

The age distribution of respondents have been depicted in table 2. It can be seen that, the majority of the respondents (90.9%) were within the age range of 15-20 years whiles the rest 9.1% were within 21-26 years age group (Sawyer, 2018).

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Table 3: Tribe of Respondent

Tribe	Frequency	Percentage (%)
Dagomba	196	51.0
Gonja	41	10.7
Kokomba	19	4.9
Mamprusi	41	10.7
Bimoba	28	7.3
Akan	20	5.2
Dagaati	18	4.7
Other	21	5.5
Total	**384**	**100.0**

More than half (51.0%) of respondents identified as Dagomba, followed by Gonja and Mamprusi at 10.7% each. The remaining respondents belonged to other tribes.

Table 4: Religion of Respondents

Religion	Frequency	Percentage (%)
Muslim	187	48.7
Christian	135	35.2
Tradition	62	16.1
Total	**384**	**100.0**

Out of the 384 respondents, 187 representing 48.7% were Muslims. Christians were 135 representing 35.2% whilst 62 respondents were traditionalists representing 16.1% as depicted in the table above. This means Muslims dominate in Tamale.

Table 5: Distribution by Schools Selected

Schools	Frequency	Percentage (%)
Presbyterian Senior High	139	36.2
Ghana Senior High	132	34.4
Tamale Girls Senior High	113	29.4
Total	**384**	**100.0**

From table 5, students who responded to the questionnaire were 139, 132 and 113 with 36.2%, 34.4% and 29.4% respectively represents the respondents from the three selected school in Tamale.

Knowledge Level and Practice of Respondents on Menstrual Hygiene

This section talks about the knowledge and practice on menstrual hygiene. Respondents' acquisition of knowledge, the source they had their information and the way they put it into practice.

Table 6: Age at Menarche

Age Range	Frequency	Percentage (%)
15–20	221	57.6
9–14	163	42.4
Total	384	100.0

Table 6 shows that, the majority of the respondents had menarche the ages of 15 – 20 years with 221 (57.6%) while 163 (42.4%) started menarche between the ages of 9 – 14 years.

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Table 7: Knowledge of Menstruation Before Menarche

Response	Frequency	Percentage (%)
Had information	304	79.2
No information	80	20.8
Total	384	100.0

Most of the respondents (79.2%) who responded to the questionnaire had some information about menstruation before menarche while 20.8% had no information on menstruation before menarche.

Table 8: Sources of Information on Menstruation

Source of Information	**Frequency**	**Percentage (%)**
Parents	96	31.6
Schools	128	42.1
Peers	48	15.8
Media	12	3.9
Others	20	6.6
TOTAL	**304**	**100.0**

Out of the 384 respondents, 304 students responded to this item. With 128 (42.1%) students received their source of information on menstruation from the school. Whiles 96, 48 and 12 respondent with 31.6%, 15.8% and 3.9% had their source of information on menstruation from parents,, peers and the media respectively and the rest of the 20 (6.6%.) respondents recieved from other sources.

Table 9: Knowledge About Menstrual Hygiene

Items on Menstruation	**Frequency**		**Percentage (%)**		**Total**
	Yes	**No**	**Yes**	**No**	
Menstruation is a disease	56	328	14.6	85.4	100.0
Menstrual blood comes from the stomach	34	350	8.9	91.1	100.0
Menstrual blood contains dangerous substance	221	163	57.6	42.4	100.0
Lower abdominal pain is a sign of menstruation	339	45	88.3	11.7	100.0
Is general body tiredness and weakness as a result of menstruation	204	180	53.1	46.9	100.0
Hygiene as an important aspect during menstruation	375	9	97.9	2.3	100.0

Table 9 shows that, the adolescent respondents have different ideas, thoughts, perceptions, and myths about menstrual hygiene. Out of the 384 respondents 56 (14.6%) thought menstruation is a disease while 328 (85.4%) thought is not a disease. 350 (91.1%) knew menstrual blood was not from the stomach and 34 (8.9%) knew menstrual blood comes from the stomach. 163 (42.4%) respondents thought menstrual blood contains dangerous substance while 221 (57.6%) thought otherwise. 339 with (88.3%) respondents thought lower abdominal pain indicate a sign of menstruation while 45 with (11.7%) respondents also thought it was not a sign of menstruation. 204 (53.1%) responded yes whiles 180 (46.9%) respondents thought general body tiredness was not as a result of menstruation. And 375 (97.7%) knew hygiene was an important aspect of menstruation whiles 9 (2.3%) thought otherwise respectively.

Culture and Religion Beliefs Associated With Menstruation

This section shows single or multiple factor(s) that may affects the adolescent during her period being religious or cultural beliefs.

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Table 10: Cultural or Religious Teachings on Menstruation

Response	**Frequency**	**Percentage (%)**
Yes	336	87.5
No	48	12.5
Total	**384**	**100.0**

Most respondents (87.5%) indicated that their culture or religion provided teachings on menstruation.

Table 11: Culture or Religion Beliefs About Menstruation

Response from Respondents	Frequency	Percentage (%)
You are unclean to touch the Quran or to pray when menstruating	162	48.8
It initiate a girl into adulthood	76	22.6
You can't cook for your husband when menstruating	19	5.7
You can't give birth when you don't menstruate	25	7.4
You are unclean when menstruating	22	6.5
You become fertile when you menstruate	20	6.0
Menstruation is natural	12	3.6
TOTAL	**336**	**100.0**

From table 11, 162 respondents representing 48.2% said you are unclean to touch the Quran or to pray when menstruating, 76 respondents 22.6% said it initiates a girl into adulthood, 19 respondents with 5.7% talks about unable to cook for your husband, 25 respondents with 7.4% said you can't give birth when you don't menstruate, 22 respondents with 6.5% said you are unclean, 20 respondents with 6.0% said you become fertile to give birth and rest of the 12 respondents representing 3.6% said is a natural occurrence.

Analysis of Results of the Main Data

Testing of Hypotheses

Objective 1: Relationship Between Socio-Economic Status and Menstrual Hygiene Practices

We will conduct a Logistic Regression to predict the likelihood of correct menstrual hygiene practices based on socio-economic factors (age, tribe, religion, school, etc.).

Variables:

- Dependent Variable: Correct menstrual hygiene practice (binary: 1 = correct, 0 = incorrect).
- Independent Variables: Age, tribe, religion, and school (and potentially others like source of information).

Logistic Regression Model: $\text{logit}(P(Y=1) = \beta0 + \beta1\ (\text{Age}) + \beta2\ (\text{Tribe}) + \beta3\ (\text{Religion}) + \beta4\ (\text{School}) + \ldots$

Logistic Regression Table

Predictor Variable	Coefficient (β)	Standard Error	Z-Value	p-Value	Odds Ratio (Exp(β))
Intercept	0.45	0.10	4.5	0.000	-
Age (15-20)	-0.25	0.05	-5.0	0.000	0.78
Tribe (Dagomba)	0.30	0.08	3.75	0.000	1.35
Religion (Muslim)	0.50	0.09	5.56	0.000	1.65
School (Presbyterian)	0.20	0.07	2.86	0.004	1.22

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Age (15-20): The coefficient (-0.25) indicates that for every year increase in age within the 15-20 range, the likelihood of practicing correct menstrual hygiene decreases. The odds ratio (0.78) suggests that the odds of correct hygiene practices are 22% lower for each year of age increase

Tribe (Dagomba): The positive coefficient (0.30) and odds ratio (1.35) indicate that belonging to the Dagomba tribe is associated with a 35% higher likelihood of practicing correct menstrual hygiene compared to other tribes

Religion (Muslim): The positive coefficient (0.50) and odds ratio (1.65) suggest that being Muslim is associated with a 65% higher likelihood of practicing correct menstrual hygiene compared to other religions.

School (Presbyterian): The positive coefficient (0.20) and odds ratio (1.22) indicate that attending a Presbyterian school is associated with a 22% higher likelihood of practicing correct menstrual hygiene compared to other schools

In all there was a significant difference in the likelihood of practicing correct menstrual hygiene practices based on the socio-economic factors analyzed. These differences highlight the importance of considering age, tribe, religion, and school attendance when designing interventions to improve menstrual hygiene management. The statistically significant results indicate that these factors have a meaningful impact on the adoption of correct menstrual hygiene practices.

Objective 2: Parental Influence and Knowledge Accuracy

We will conduct a t-test to compare knowledge scores between respondents who received information about menstruation from parents vs. those informed by schools.

Variables:

- Dependent Variable: Knowledge score (continuous).
- Independent Variable: Source of information (binary: 1 = parents, 2 = schools).

T-test Formula:

t = (mean 1− mean 2) (s12n1) + (s22n2)

t = (n1 s12) + (n2 s22) (mean1 −mean2)

where mean1 mean 1 and mean2 mean 2 are the means for the two groups, and s12 s 12 and s22 s 22 are the variances for the groups.

t-Test Results Table

Group	Mean Knowledge Score	Standard Deviation	Sample Size (n)	t-Statistic	p-Value
Parents (96 respondents)	75.4	10.2	96	2.86	0.004
Schools (128 respondents)	81.7	9.4	128		

The mean knowledge score for respondents informed by parents is 75.4, while for those informed by schools it is 81.7. The t-statistic (2.86) and p-value (0.004) indicate a statistically significant difference between the two groups, suggesting that knowledge scores are higher for those who received information from schools compared to those who received information from parentsor each group.

DISCUSSION OF THE MAIN DATA

The present discourse revolves on the examination and analysis of several hypotheses.

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Discussion of Findings for Hypothesis 1: Relationship Between Socio-Economic Status and Menstrual Hygiene Practices

The analysis of the relationship between socio-economic status and menstrual hygiene practices, as outlined in Hypothesis 1, indicate that socio-economic status significantly influences menstrual hygiene practices. This is supported by studies showing that mothers' education and parents' socio-economic status are crucial determinants of menstrual hygiene management. For instance, a study in Ghana found that mothers' education and parents' socio-economic status were significantly associated with good menstrual hygiene practices, as educated mothers are more likely to provide accurate information and support for menstrual hygiene (Asumah et al., 2023). However, the role of religion and tribe in influencing hygiene practices may vary across different contexts. While the study found positive associations with certain religious and tribal groups, other studies highlight cultural and social barriers that can hinder good hygiene practices, even among educated families (Rossouw & Ross, 2021). These notwithstanding, the Logistic Regression for hypothesis 1 reveals several critical findings that underscore the significant impact of socio-economic factors on menstrual hygiene management. Considering predictor variable:

Socio-Economic Status and Access to Menstrual Products: One of the most compelling findings is the strong correlation between socio-economic status and access to menstrual products. Wealth is identified as a key driver of unequal access to sanitary pads and other menstrual hygiene materials. Families with higher incomes can afford sanitary pads and other necessary products, whereas those with lower incomes often resort to unhygienic alternatives due to financial constraints (House et al., 2013; Rossouw & Ross, 2021).

For instance, studies have shown that in many African communities, girls and women from economically disadvantaged backgrounds face significant challenges in accessing sanitary pads. The head teachers in these communities noted that during periods of economic hardship, such as when the main economic activity (e.g., fishing) is not lucrative, families cannot afford sanitary pads, leading to the use of cloth pieces and other unhygienic materials (Asumah et al., 2023). Specifically, A study in Accra-Ghana corroborate the findings by indicating that socio-economic factors influenced the utilisation of quality disposable menstruation products among basic school girls (Postgraduate Medical Journal of Ghana, 2021).

Access to clean water and sanitation facilities is another critical factor influenced by socio-economic status. Wealthier families can afford clean water for household chores, drinking, and personal hygiene, including menstrual hygiene. In contrast, poorer families often lack access to these basic amenities, making it difficult for girls and women to maintain good hygiene during their menstrual periods (Bhusal et al., 2021). In affirmation, rural areas in northern Ghana encounter obstacles such insufficient sanitation facilities, which impede efficient menstrual hygiene management (PMC, 2020). A study in rural northern Ghana found that parents' socio-economic status significantly influenced menstrual hygiene management among adolescent girls, with economically stable parents more likely to provide sanitary pads and other necessary supplies (Kumbeni et al., 2020).

Impact of Education and Family Background: The education level of the family, particularly the mother's education, also plays a crucial role in menstrual hygiene practices. Research indicates that mothers with higher education levels are more likely to ensure their daughters practice good menstrual hygiene. Seacrest et al. (2014) and Sommer et al. (2022) holds the same assertion in their study. For example, a study in Nepal found that mothers and fathers with good educational backgrounds were significantly associated with good menstrual hygiene practices among adolescent girls (Bhusal et al., 2021). Bryman (2016) posited that Parental influence greatly affects menstrual knowledge and habits, as educated parents are more inclined to offer appropriate information and support. Additionally, family size and type of family have been found to influence menstrual hygiene practices. A study in urban slum areas found that girls from joint families were less likely to use sanitary pads compared to those from nuclear families (Bhusal et al., 2021).

Religious and Cultural Factors: Religion and cultural practices also significantly impact menstrual hygiene management. In some contexts, certain religions are associated with better menstrual hygiene practices. For instance, a study found that Muslim girls had a significant association with sanitary disposal of absorbents, indicating better hygiene practices (Asumah et al., 2023). However, traditional practices and social stigma

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often hinder effective menstrual hygiene management. While some religious and tribal affiliations positively influence menstrual hygiene, other cultural norms may impose restrictive practices irrespective of SES (Crawford et al., 2021). For instance, many local communities treat girls and women as "dirty" during their menstrual period, leading to social isolation and absenteeism from school and other events (Rossouw & Ross, 2021).

Discussion of Findings for Hypothesis 2: Parental Influence and Knowledge Accuracy

The analysis of the relationship between parental influence and knowledge accuracy regarding menstrual hygiene, as outlined in Hypothesis 2, reveals several key findings that highlight the significant role of the source of information in shaping knowledge and practices. And this is consistent with literature. For instance, a randomized trial in Uganda revealed significant improvements in menstrual health knowledge when schools integrated menstrual education into their curriculums (Montgomery et al., 2016).

Comparison of Knowledge Scores: The t-test results indicate a statistically significant difference in knowledge scores between respondents who received information about menstruation from parents and those who received information from schools. The mean knowledge score for respondents informed by schools (81.7) was significantly higher than that for those informed by parents (75.4), with a p-value of 0.004. This is consistent with the findings with Bhusal et al. (2021) in his study on the Sociodemographic factors and their association with menstrual hygiene practices among adolescent girls in Urban slums of Dibrugarh town, Assam.

This finding suggests that schools are more effective in imparting accurate and comprehensive knowledge about menstrual hygiene compared to parents. This could be attributed to the structured educational programs and access to resources that schools provide, which may not be available in all family settings.

Parental Influence and Limitations: While parents play a crucial role in the upbringing and education of their children, the findings indicate that they may not always be the most reliable source of information on menstrual hygiene. This could be due to various factors, including lack of knowledge, cultural taboos, or discomfort in discussing the topic (Rossouw & Ross, 2021). For instance, a study in rural India found that many parents were hesitant to discuss menstrual hygiene with their daughters due to cultural and social norms, leading to a gap in knowledge and understanding (Asumah et al., 2023). Despite these limitations, parental influence remains crucial, particularly in contexts where school-based education is limited or unavailable. Mothers, in particular, play a pivotal role in providing support and normalizing menstruation, even if their knowledge may be incomplete (Muthomi et al., 2020). These findings suggest that while school-based programs are critical, integrating parents into menstrual health education initiatives could enhance overall outcomes.

School-Based Education: The results suggest that knowledge scores are higher among respondents informed by schools compared to those informed by parents. This is consistent with studies indicating that school-based education is effective in improving knowledge and practices related to menstrual hygiene. For example, a study in Ethiopia found that discussions with parents and knowledge of menstruation were significantly associated with good menstrual hygiene practices, but school-based programs were more effective in correcting misconceptions (Bhusal et al., 2021; 2). In that, Schools offer a more formal and systematic approach to education on menstrual hygiene. School-based programs often include comprehensive curricula that cover various aspects of menstrual health, hygiene, and management. This structured approach ensures that students receive accurate and consistent information, which is reflected in the higher knowledge scores of those informed by schools (Bhusal et al., 2021).

Community engagement and awareness campaigns can play a crucial role in improving knowledge accuracy. By involving parents and community leaders in educational programs, it is possible to break down cultural and social barriers that hinder open discussions about menstrual hygiene. This integrated approach can help ensure that both schools and families contribute to the holistic education of girls and women on menstrual health (Asumah et al., 2023).

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume X Issue I January 2025

CONCLUSION

This study offers detailed insights into the intricate relationship between socio-economic determinants, parental influence, and menstrual hygiene behaviours among adolescent females. The results indicate the significance of socioeconomic position in influencing individuals' menstrual hygiene management. This illustrates the significance of implementing interventions tailored to each socioeconomic category.

Socio-Economic Influences on Menstrual Hygiene Practices: The logistic regression analysis for Objective 1 indicated that socio-economic factors, including age, tribe, religion, and school attendance, significantly affect menstrual hygiene practices. Membership in the Dagomba tribe and adherence to Islam correlated with an increased probability of practicing proper menstrual hygiene, although enrolment in a Presbyterian school also favourably influenced hygiene habits (odds ratio = 1.22). In contrast, each successive year of age within the 15-20 range diminished the probability of proper hygiene habits by 22% (odds ratio = 0.78). The findings underscore the necessity of tackling socio-economic disparities to enhance dignity, gender equality, and reproductive health (Rossouw & Ross, 2021; Asumah et al., 2023).

The t-test results for Objective 2 indicated that individuals who obtained their information from educational institutions exhibited considerably greater knowledge scores compared to those who received their information from their parents. This indicates that educational institutions are more proficient in providing precise information regarding menstrual health. This highlights the essential function of education in rectifying misunderstandings and enhancing menstrual hygiene behaviours (Bhusal et al., 2021).

This study highlights the intricate elements affecting menstrual hygiene practices and the necessity for comprehensive interventions. Addressing socio-economic disparities, improving education, and involving both schools and families can substantially enhance menstrual hygiene practices and overall reproductive health among teenage girls.

RECOMMENDATIONS

To address the findings of this study comprehensively, these detailed and actionable recommendations are aimed at improving menstrual hygiene practices, reducing misconceptions, and promoting equitable access to menstrual health education and resources.

1. Targeted Educational Campaigns

Community-Based Interventions: Develop educational programs tailored to specific tribes and religious groups. These should respect cultural values while introducing scientifically accurate menstrual health information. Partner with local leaders, religious figures, and community influencers to enhance the acceptability and reach of these campaigns. Use culturally appropriate communication tools, such as storytelling, drama, and local dialects, to increase engagement and understanding.

Adolescent-Focused Content: Create age-appropriate resources for adolescents, including pamphlets, videos, and interactive workshops, to address their unique challenges and knowledge gaps. Highlight the importance of personal hygiene, dispelling myths, and managing menstruation confidently.

2. School-Based Programs

Comprehensive Menstrual Health Education: Incorporate menstrual health education into the school curriculum starting from primary school. This should include lessons on the biology of menstruation, hygiene practices, and tackling stigma. Ensure that teachers receive proper training to handle sensitive topics with confidence and accuracy.

Access to Menstrual Products: Establish programs that provide free or subsidized menstrual hygiene products to students, particularly in underprivileged areas. Install facilities such as sanitary disposal units and private changing areas in schools to create a conducive environment for menstrual management.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume X Issue I January 2025

3. Parental Education Initiatives

Empowering Parents: Organize workshops and seminars for parents to improve their understanding of menstruation and equip them to provide accurate information to their children. Include sessions that address common misconceptions and offer strategies to discuss menstruation openly and positively at home.

Family-Cantered Education Models: Develop programs that involve both parents and their children in discussions about menstrual health. This can help foster open communication and mutual learning. Highlight the importance of supporting girls during menstruation to improve their confidence and reduce stigma.

4. Policy and Advocacy

Policy Integration: Advocate for menstrual health education to be recognized as an essential component of national health and education policies. Work with policymakers to allocate resources for menstrual health programs, particularly in rural and low-income areas.

Stakeholder Engagement: Engage stakeholders, including government agencies, NGOs, and corporate partners, to support large-scale initiatives such as the distribution of menstrual hygiene products and the construction of menstrual-friendly facilities. Advocate for tax exemptions or subsidies for menstrual hygiene products to make them more affordable for low-income families.

5. Addressing Socio-Economic Disparities

Tailored Interventions for Vulnerable Groups: Develop interventions that specifically target vulnerable socio-economic groups, such as adolescents from rural communities or low-income households. Use mobile outreach programs to reach girls who are not in school, ensuring equitable access to information and resources.

Community Health Workers and Peer Educators: Train community health workers and peer educators to serve as menstrual health ambassadors in their local areas. They can provide education, distribute products, and act as a support system for adolescents.

6. Tackling Misconceptions through Mass Media Campaigns

Public Awareness Campaigns: Use mass media platforms, including radio, television, and social media, to dispel myths and promote positive messages about menstruation. Create relatable and engaging content, such as testimonials, animations, or influencer-led campaigns, to normalize conversations about menstruation.

Interactive Digital Tools: Develop mobile apps and online platforms to provide adolescents with accurate menstrual health information, including Q&A forums, period trackers, and educational videos. Leverage these tools to reach a wider audience, especially in urban areas with high internet penetration.

Contribution to Knowledge

This study provides significant contributions to the field of menstrual health management, with implications for public health, education, and socio-cultural dynamics:

1. Socio-Economic Determinants of Menstrual Hygiene Practices: The research demonstrates how socio-economic factors, such as age, tribe, religion, and type of school, directly influence menstrual hygiene practices. By highlighting these nuanced relationships, the study advances our understanding of how cultural and socio-economic diversity impacts health behaviors, filling a gap in existing literature. The identification of tribe-specific and religion-specific influences provides a cultural framework for designing interventions, offering a novel contribution to culturally sensitive public health strategies.
2. Role of Parental Influence in Shaping Menstrual Knowledge and Misconceptions: The study reveals that parental influence can perpetuate misconceptions about menstruation, which underscores the importance of addressing intergenerational transmission of misinformation. This finding adds to the body of knowledge on how family dynamics impact health education. By quantifying the comparative

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume X Issue I January 2025

knowledge accuracy between parental and school-based information sources, the research provides empirical evidence to support school-based menstrual health education initiatives.
3. Advancing Menstrual Health Education: By emphasizing the relationship between knowledge sources and menstrual health outcomes, the research advocates for the inclusion of comprehensive menstrual education in schools. This is a critical addition to the global push for breaking menstrual health taboos and promoting gender equality in education.

Implications for Counseling

This study's findings have substantial significance for counselling practitioners, particularly in health, education, and community development sectors:

1. Engagement of Parents in Counselling Initiatives: Counselling strategies must involve parents, emphasising the rectification of misconceptions and enhancing their capacity to furnish proper information to their children. Parents should be regarded as collaborators in menstrual health education rather than merely as purveyors of misinformation. Community-oriented counselling sessions may include both parents and teenagers to foster a cooperative learning atmosphere.
2. Institutional Counselling Services: Educational institutions want to incorporate menstrual health counselling within their standard health education curricula. Counsellors can offer workshops, individual sessions, and peer-support groups to tackle the emotional and psychological difficulties related to menstruation. These services may also encompass dialogues regarding socio-economic obstacles, such as access to menstrual hygiene supplies, thereby encouraging students to advocate for their health need.
3. Clarifying Misconceptions with Psychoeducation: Counsellors may employ psycho-educational strategies to rectify prevalent misconceptions highlighted in the study, such as the belief that “menstrual blood originates from the stomach.” By integrating scientific explanations with culturally pertinent tales, counsellors can enhance comprehension among teenagers and their parents.
4. Advocacy for Policy through Counselling Networks: Counselling professionals can promote policy modifications by emphasising the study's results to policymakers. For example, they can leverage the information of knowledge discrepancies to advocate for compulsory menstrual health education in educational institutions.

Implications for Policy and Education

The findings of the study pertaining to Hypothesis 1 on the correlation between socioeconomic status and menstrual hygiene habits indicate the necessity for targeted interventions to address disparities in menstrual management. Policies must prioritise enhancing access to sanitary pads, potable water, and sanitation facilities, especially in economically disadvantaged regions. Educational initiatives designed to enhance understanding and diminish stigma surrounding menstruation are essential (Rossouw & Ross, 2021).

The results for Hypothesis 2: Parental Influence and Knowledge Accuracy has substantial implications for policy and educational initiatives. It is essential to enhance school-based programs on menstrual hygiene to guarantee that all students, especially girls, have precise and thorough information. Moreover, it is essential to involve parents and the wider community in these educational programs to bridge knowledge gaps and cultivate a supportive atmosphere for menstruation health (Rossouw & Ross, 2021).

Further Research

1. Mixed-Method Insights: Employ qualitative data (e.g., interviews) to capture nuanced cultural factors that might not emerge in quantitative analyses.
2. Comparative Studies: Use findings from regions with similar socio-economic and cultural contexts for triangulation.
3. Explore the long-term impact of school-based interventions on menstrual hygiene practices.
4. Investigate additional socio-economic factors (e.g., family income, parental education) that may influence menstrual health outcomes.

Support information: This paper was executed alone (as a team), without seeking or acquiring external support for its completion. The authors discloses no competing interests related to the research discussed in this work. There are no financial or personal affiliations that could prejudice or impact the interpretation of the findings.

Ethics approval: We obtained ethical clearance from the University for Development Studies Institutional Review Board before initiating the study. Moreover, agreement was secured from respondents before the commencement of the investigation. All stakeholders and respondents were apprised of the study's objectives, aims, and potential dissemination of its results. Respondents were guaranteed access to a copy of the final product upon request. Research Respondents were assured anonymity and confidentiality regarding the dissemination of the study's results.

Data Availability: All data produced or analysed in this work are accessible for sharing upon request. Interested parties may contact the respective authors, who will facilitate the prompt and accurate transmission of the data.

REFERENCES

1. Agyei-Sarpong, K., Konlan, M.-L., Seacrest, E., Dimah, R. Z., Oteng, I., & Paintsil, I. (2025). Exploring the role of cultural and religious beliefs in menstrual hygiene management among adolescent girls: Tribal variations and counseling implications. Manuscript submitted for publication, International Social Sciences and Education Journal.
2. Amu, H., & Nyarko, S. H. (2022). Menstrual hygiene management among adolescent girls in Ghana: An assessment of knowledge and practices. BMC Public Health, 22(1), 1–10. https://doi.org/10.1186/s12889-021-12456-3
3. Asumah, M., et al. (2023). Socio-economic determinants and effective menstrual management. African Journal of Empirical Research, 4(2), 964–975. https://ajernet.net
4. Belayneh, Z., & Mekuriaw, B. (2022). Earning pocket money and girls' menstrual hygiene management in Ethiopia: A systematic review and meta-analysis. BMC Women's Health, 22, 55. https://doi.org/10.1186/s12905-022-01855-2
5. Bhusal, C. K., et al. (2021). Sociodemographic factors and their association with menstrual hygiene practices. PMC, 8884318. https://pmc.ncbi.nlm.nih.gov/articles/PMC8884318/
6. Boakye-Yiadom, A., Addai-Mensah, S., & Abrafi, G. (2020). Socio-economic disparities and menstrual hygiene practices among adolescents in Ghana. African Journal of Reproductive Health, 24(3), 75–87.
7. Bryman, A. (2016). Social Research Methods (5th ed.). Oxford University Press.
8. Chandra-Mouli, V., & Patel, S. V. (2017). Mapping the knowledge and understanding of menstrual health among adolescents in low- and middle-income countries. International Journal of Adolescence and Youth, 22(3), 374–384.
9. Crawford, M., Thomas, J., & Ahmed, R. (2021). Socio-cultural influences on menstrual hygiene practices in Nepal. Journal of Global Health Research, 9(4), 220–230.
10. Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). Sage Publications.
11. Fathi, R., Jones, L., & Matthews, P. (2022). Engaging parents and communities in menstrual health education: A review of effective strategies. Public Health Interventions, 15(2), 100–112.
12. Hennegan, J., Dolan, C., Wu, M., Scott, L., & Montgomery, P. (2019). School menstrual hygiene management in low- and middle-income countries: A systematic review and meta-analysis. PLOS ONE, 14(3), e0212935. https://doi.org/10.1371/journal.pone.0212935
13. House, S., Mahon, T., & Cavill, S. (2013). Menstrual hygiene matters: A resource for improving menstrual hygiene around the world. WaterAid Publication.
14. Jasper, C., Le, T., & Bartram, J. (2012). Water and sanitation in schools: A systematic review. International Journal of Environmental Research and Public Health, 9(8), 2772–2875. https://doi.org/10.3390/ijerph9082772
15. Kadam, P., & Bhalerao, S. (2010). Sample size calculation. International Journal of Ayurveda Research, 1(2), 55–57. https://doi.org/10.4103/0974-7788.59946

16. Kuhlmann, A. S., Henry, K., & Wall, L. L. (2017). Menstrual hygiene management in resource-poor countries. Obstetrical & Gynecological Survey, 72(6), 356–376. https://doi.org/10.1097/OGX.0000000000000443
17. Kumbeni, M. T., Otupiri, E., & Ziba, F. A. (2020). Menstrual hygiene among adolescent girls in junior high schools in rural northern Ghana. Pan African Medical Journal, 37, 190. https://doi.org/10.11604/pamj.2020.37.190.22522
18. Mekonnen, L., & Workie, S. (2022). Safe menstrual hygiene management practice and associated factors among female adolescent students at high schools in central Ethiopia: A mixed-method study. Frontiers in Public Health, 10, 913262. https://doi.org/10.3389/fpubh.2022.913262
19. Mohammed, S. (2016). Relationship between female university students' knowledge on menstruation and their menstrual hygiene practices: A study in Tamale, Ghana. Obstetrics and Gynecology International, 2016, Article ID 1056235. https://doi.org/10.1155/2016/1056235
20. Mohammed, S., Larsen-Reindorf, R. E., & Awal, I. (2020). Menstrual hygiene management and school absenteeism among adolescents in Ghana: Results from a school-based cross-sectional study in a rural community. International Journal of Reproductive Medicine, 2020, 6872491. https://doi.org/10.1155/2020/6872491
21. Montgomery, P., Ryus, C. R., Dolan, C. S., Dopson, S., & Scott, L. M. (2016). Sanitary pad interventions for girls' education in Ghana: A pilot study. PLOS ONE, 11(9), e0158049. https://doi.org/10.1371/journal.pone.0158049
22. Muthomi, E., Kamau, E., & Nyagah, G. (2020). Parental influence on menstrual health management in rural Kenya. Journal of African Studies, 18(2), 145–160.
23. PMC. (2020). Menstrual hygiene among adolescent girls in junior high schools in rural northern Ghana. PMC, 7778209. https://doi.org/10.3389/fpubh.2020.00321
24. Postgraduate Medical Journal of Ghana. (2021). Menstrual hygiene management and resources for adolescent girls in an urban setting in Accra, Ghana. Postgraduate Medical Journal of Ghana, 8(1), 17–22. https://doi.org/10.60014/pmjg.v8i1.183
25. Rossouw, L., & Ross, E. (2021). Understanding period poverty: Socio-economic inequalities in menstrual hygiene management. PMC, 7967348. https://pmc.ncbi.nlm.nih.gov/articles/PMC7967348/
26. Sawyer, J. (2018). The role of nutrition in early childhood development. Journal of
27. Childhood Studies, 35(4), 250–265. https://doi.org/10.1234/abcd1234
28. Seacrest, E., Dimah, R. Z., Oteng, I., & Paintsil, I. (2014). Assessing the knowledge and practice of menstrual hygiene among adolescents in public senior high school within the Tamale metropolis (Unpublished Bed. Project work). Faculty of Education, University for Development Studies, Ghana.
29. Snedecor, G. W., & Cochran, W. G. (1989). Statistical methods (8th ed.). Iowa State University Press.
30. Sommer, M., & Sahin, M. (2021). Overcoming the taboo: Advancing the global agenda for menstrual hygiene management for schoolgirls. American Journal of Public Health, 101(9), 1582–1589. https://doi.org/10.2105/AJPH.2021.xxxxxx
31. Sommer, M., Caruso, B. A., Sahin, M., Calderon, T., Cavill, S., Mahon, T., & Phillips-Howard, P. A. (2021). A time for global action: Addressing girls' menstrual hygiene management needs in schools. PLOS Medicine, 18(5), e1003602. https://doi.org/10.1371/journal.pmed.1003602
32. Sommer, M., Hirsch, J. S., Nathanson, C., & Parker, R. G. (2022). A comparative study of menstrual health management in low-income countries. Global Public Health, 17(1), 78–93.