

RESEARCH ARTICLE

Correlates of absenteeism at work, school and social activities during menstruation: Evidence from the 2017/2018 Ghana Multiple Indicator Cluster Survey

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Data Availability Statement: The data used in this study is owned by UNICEF, therefore, the authors cannot share the data. Interested persons can contact UNICEF for the data (contact via accra@unicef.org) or <https://mics.unicef.org/surveys> The authors confirm they did not have any special access or privileges to the data that others would not have.

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Abstract

Background

Menstruation is a biological process which is crucial for human reproduction. Menstruation is a source of absenteeism, yet the subject matter has not been well explored. This study aimed to assess the correlates of absenteeism at school, work and social activities during menstruation among Ghanaian women of reproductive age.

Methods

This study was an analysis of secondary data from the 2017/18 Ghana Multiple Indicator Cluster Survey. Data were analysed using descriptive statistics, Chi-square and Binomial Logistic Regression with the aid of Stata/SE, version 16.

Results

The majority of the participants were aged 25–49 years (63%), married/in union (55%) and resided in urban areas (52%). Nine in ten participants had access to privacy at home and 98% used menstrual materials during their last period. Eight in ten participants used disposable menstrual materials. Exactly 19% of the participants missed school, work or social activities during their last period. Participants who used disposable menstrual materials (AOR = 0.67; 95% CI: 0.52–0.85) were less likely to miss school, work or social activities during menstruation compared to those who used reusable menstrual materials.

Conclusion

This study demonstrated that a significant minority of women in Ghana miss academic, economic or social activities during menstruation. Therefore, there is a need for effective interventions to help reduce menstruation-related absenteeism among women and girls in Ghana.

Competing interests: The authors have declared that no competing interests exist.

Background

Menstruation is a natural biological process which is crucial for human reproduction. The onset of menstruation marks the beginning of the reproductive age in females [1]. Menstruation has been defined as “the natural bodily process of releasing blood and associated matter from the uterus through the vagina as part of the menstrual cycle” [2]. Statistics suggest that more than 1.8 billion persons worldwide menstruate every month [3]. Women and girls need adequate menstrual hygiene facilities (e.g. clean and safe menstrual materials, water, soap, disposal facilities and privacy) to help maintain optimal menstrual hygiene which can help prevent infections in the female reproductive tract [4,5].

Women and girls across the globe face many challenges during menstruation. These challenges range from lack of access to adequate and accurate information to lack of access to menstrual hygiene management facilities coupled with negative socio-cultural beliefs and norms surrounding menstruation [6–8]. For instance, about 500 million women and girls worldwide lack access to menstrual hygiene management facilities [9,10]. In Ghana, menstruation is still considered a taboo and restrictions (e.g. not entering the mosque, crossing rivers or cooking) are imposed on menstruators [11] which prevents them from performing their daily activities [12,13]. Also, some women experience menstrual pains which reduce their participation in activities [14,15].

Generally, menstruation is a source of absenteeism, hence it requires policy and research attention [16]. Studies have shown that the prevalence of menstruation-related work absenteeism ranges from 11% in Niger to 19% in Burkina-Faso. Menstruation-related school absenteeism also ranges from 15% in Niger to 23% in Nigeria [16]. In Ghana, evidence shows that the majority of adolescent girls miss school due to menstruation [17], with prevalence ranging from 27.5% to 95% [17–21]. For example, adolescent girls in the Upper East region missed between one to seven days of school per menstrual cycle [22]. Reasons cited for school absenteeism in Ghana include lack of access to sanitary pads/cloth, menstrual pains, fear of staining school uniform, teasing, odour and lack of privacy in school [17,19]. The risk factors associated with menstruation-related school absenteeism include cultural restrictions, older adolescent age [20], living in a rural area, menstrual pains, educational level and geographical region [23], while moderate parental income, positive attitude towards menstruation [20,23] and using disposable pads [24] were protective factors against menstruation-related school absenteeism.

The negative impact of absenteeism at work, school or social activities during menstruation cannot be overemphasized. It poses a threat to women’s and girls’ empowerment which can be achieved through participation in educational and economic activities [18]. Also, restrictions imposed on women during menstruation are violations of their fundamental human rights [25]. If these issues remain unaddressed, it may delay Ghana in achieving the Sustainable Development Goals (SDGs), especially goals that focus on promoting gender equality, inclusion in quality education, and good health and well-being [26].

In Ghana, menstruation-related absenteeism has received little research attention. Existing studies are skewed towards adolescent girls and school absenteeism [17,19] with little attention on adult women and absenteeism at work and social activities. The recent Ghana Multiple Indicator Cluster Survey (round six) collected data on menstruation-related behaviours among women of reproductive age, including the combined proportion of absenteeism at any of these activities (school, work or social activities) due to menstruation [27]. Yet, no study has explored the correlates of absenteeism at school, work or social (SWS) activities during menstruation among women in Ghana. Stakeholders can leverage the findings of this study to inform menstrual health policies and programmes. This will help Ghana to achieve SDGs three, four, five and six. The objective of this study was to assess the prevalence of

menstruation-related absenteeism and associated factors among women of reproductive age, using nationally representative data.

Methods

Data source and study design

We analysed secondary data from the 2017/18 Ghana Multiple Indicator Cluster Survey (GMICS). The dataset was accessed through a formal request and approval to use the anonymised data was granted by UNICEF. The 2017/18 GMICS collected data on population and health indicators across all the previous ten regions of Ghana.

Population and sampling

The 2010 Population and Housing Census list which was updated in 2017 was used as the sampling frame. The selection of participants was done in two stages, including, the selection of enumeration areas and the selection of households using a systematic random sampling technique, proportional to size. A total number of 12,886 households were interviewed. Women in the selected households who were between the ages of 15–49 years were eligible for the women's survey. In all, 14,374 women were successfully interviewed by trained fieldworkers using Computer Assisted Personal Interviewing.

Variables

The 2017/18 GMICS was the maiden MICS in the country to collect data on menstruation-related indicators. The focus of this study was on women of reproductive age (15–49 years). The dependent variable was absenteeism at school, work, or social activities during menstruation. This was measured with a single item (*due to your last menstruation, were there any social activities, school or work days that you did not attend?*), originally coded as 'Yes' = 1; 'No' = 2 and 'do not know/not sure/no such activity' = 8. This was recoded as 'Yes' = 1; 'No' = 0. 'Do not know/not sure/no such activity' was dropped from the dataset before the analysis.

The independent variables included age of respondent, level of education completed, religion and ethnicity of household head, marital status, parity, place of residence, region and disability status. Other independent variables were access to privacy at home, access to menstrual materials and type of menstrual materials, which were all categorical variables coded as 'Yes' = 1; 'No' = 2 and 'Do not know' = 8. Details about the 2017/18 GMICS are provided elsewhere [27].

Ethical considerations

The 2017/18 MICS report stated that verbal consent was obtained from all the participants before questionnaires were administered. The Ghana Health Service Ethics Review Committee approved the study and the verbal consent. Informed consent was obtained from parents or legal guardians of participants below 18 years (minors). Moreover, participants were assured of voluntary participation, confidentiality, the anonymity of information and free will to withdraw from the interview at any point.

Statistical analysis

Data were analysed with the aid of Stata/SE, version 16 (Stata- Corp, College Station, Texas, USA). We merged the household and the individual recode files. Besides, some of the independent variables were recoded. These include religion (Catholic = 1, Protestant = 2, Pentecostal = 3, Other Christians = 4, Islam = 5, Africa traditional = 6, No religion = 7), ethnicity

(Akan = 1, Ga = 2, Ewe = 3, Mole Dbagni = 4, Others = 5) and age (15–24 = 1, 25–49 = 2). Also, no response and ‘do not know’ responses were dropped from the analytical dataset. In all, 12,795 women (weighted) were included in this study. The data were analysed in three levels, including univariate, bivariate and multivariable analyses. At the univariate level, frequency, percentage, mean and standard deviation were employed to analyze the data and summarised in tables. At the bivariate level, the Chi-square test was used to compute associations between the dependent and independent variables. At the multivariable level, Binomial Logistic Regression analysis was used to identify the salient predictors of menstruation-related absenteeism. Statistical significance was reported at the 0.05 significance level and odds ratios with a 95% confidence interval. The analysis took into consideration the complex survey design. To offset the challenges associated with oversampling, we adjusted for the sample weight.

Results

Socio-demographic characteristics of participants

The results demonstrated that the majority (63%) of the respondents were aged 25–49 years and 41% had junior high school education. Sixteen percent of the respondents were in the poorest wealth index, while 24% were in the richest wealth index. Three in ten respondents (31%) were from households where the head was a Pentecostal, while 49% of the household heads were Akan. Nine in ten respondents had no functional difficulties, 55% were married/in a union, while 52% lived in rural areas. More than half (67%) of the respondents were nulliparous. Concerning menstrual hygiene behaviours, 98% of the respondents used a menstrual material during their last period, 13% used reusable menstrual materials and 94% had access to a private place at home to change menstrual materials (Table 1). In addition, 19% of the respondents missed school, work or social activities (SWS) during their last menstrual period.

It was found that one in five respondents aged 15–24 years did not participate in SWS activities during menstruation. Also, about one-third of the respondents in the Brong-Ahafo Region (34%) missed SWS activities during menstruation. Further, 35% of the respondents who did not use any menstrual material during their last period missed SWS activities. Moreover, 22% of women who have never married/in a union missed SWS during menstruation (Table 1).

Predictors of absenteeism at SWS activities during menstruation

The crude analysis revealed that women between 15–24 years (COR = 1.35; 95% CI: 1.18–1.54) were more likely to miss SWS activities during menstruation compared to those aged 25–49 years. Also, women whose household heads were protestants (COR = 0.65; 95% CI: 0.44–0.96) were 35% less likely to miss SWS activities compared to those who professed Islamic religion. In addition, women whose household heads belonged to the Ga ethnic group (COR = 0.68; 95% CI: 0.50–0.94) had fewer odds of missing SWS activities compared to those belonging to the Akan ethnic group. Similarly, women who were never married (COR = 1.38; 95% CI: 1.21–1.57) were 1.38 times more likely to miss SWS activities compared to married women. Nulliparous women were 1.4 times more likely to miss SWS activities compared to their counterparts. Out of the previous ten regions, women in seven regions were less likely to miss SWS activities compared to women in the Ashanti region ($p < 0.05$).

The adjusted analysis showed that women in the Ashanti region had higher odds of missing SWS activities during menstruation compared to women in the Western, Central, Greater Accra, Volta, Eastern, Northern, Upper East and Upper West. Further, women who used disposable menstrual materials were 33% (AOR = 0.67; 95% CI: 0.52–0.85) less likely to miss

Table 1. Participant characteristics.

Characteristic	Missed SWS during menstruation		
	Total n (%)	No (%)	Yes (%)
Region			
Western	1291(10)	91	9
Central	1269(10)	87	13
Greater Accra	1673(13)	90	10
Volta	932(7)	80	20
Eastern	1513(12)	91	9
Ashanti	3165(25)	71	29
Brong-Ahafo	1168(9)	66	34
Northern	1125(9)	81	19
Upper East	369(3)	86	14
Upper West	279(2)	77	23
Age (years)			
15–24	4791 (37)	78	22
25–49	8004(63)	83	17
Educational status			
Pre-primary/no education	2216 (17)	82	18
Primary	2122(17)	81	19
Junior high	5239(41)	81	19
Senior high	2443(19)	80	20
Higher	775(6)	85	15
Household wealth index			
Poorest	2029(16)	82	18
Second	2321(18)	76	24
Middle	2599(20)	81	19
Fourth	2754(22)	82	18
Richest	3092(24)	83	17
Religion of household head			
Catholic	1351(11)	75	25
Protestant	1820(14)	85	15
Pentecostal	4029(31)	82	18
Other Christians	2120(17)	84	16
Islam	2418(19)	78	22
Africa traditional	510(4)	79	21
No religion	547(4)	80	20
Ethnicity of household head			
Akan	6255(49)	81	19
Ga	1135(9)	86	14
Ewe	1387(11)	83	17
Mole Dbagni	1762(14)	78	22
Others	2257(18)	79	21
Disability status			
Has functional difficulties	987 (9)	81	19
Has no functional difficulties	10083(91)	82	18
Marital status			
Currently married/in a union	7014(55)	83	17
Formerly married/in a union	1215(9)	83	17
Never married/in a union	4566(36)	78	22
Ever given birth			
Yes	8579(67)	83	17
No	4205 (33)	77	23
Type of place of residence			
Urban	6598(52)	82	18
Rural	6197(48)	80	20

(Continued)

Table 1. (Continued)

Characteristic	Missed SWS during menstruation		
	Total n (%)	No (%)	Yes (%)
Availability of private place at home			
Yes	11974 (94)	80	20
No	785(6)	89	11
Used any menstrual materials			
Yes	12487(98)	81	19
No	269(2)	65	35
Material reusable			
Yes	1607(13)	79	21
No	10857(87)	82	18

*p-value < 0.05.

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SWS activities compared to those who use reusable materials. Also, women who had privacy at home to change menstrual materials were about three times more likely to miss SWS activities (AOR = 2.77; 95% CI:1.67–4.61) compared to their counterparts (Table 2).

Discussion

Generally, the minority of the women missed school, work or social activities during menstruation [28–30]. Menstruation-related absenteeism was influenced by socioeconomic status, geographical region and type of menstrual material. We found that 19% of the women missed school, work or social activities during menstruation. This finding is consistent with findings in Burkina Faso, Niger and Nigeria, where 19%, 11% and 17% of women aged 15–49 years missed work due to menstruation. Moreover, 17%, 15% and 23% of girls aged 15–24 years in Burkina Faso, Niger and Nigeria respectively missed school due to menstruation [16]. These findings imply that menstruation poses a threat to women's participation in academic, social and economic activities [16] which can affect their empowerment, inclusion in education and gender equality.

It was found that household wealth was associated with missing SWS activities during menstruation. For instance, women in the second wealth quintile and those living in the Ashanti region were more likely to miss SWS activities during menstruation. Our finding on socioeconomic status and menstruation-related absenteeism contradicts existing findings [16,22]. The Ashanti region is dominated by the Akans who believe that menstruation is taboo [31,32]. Gray literature shows that school girls were restricted from crossing the river *Offin* during menstruation. River *Offin* serves as a border between the Ashanti and Central regions of Ghana [33]. These socio-cultural norms and restrictions surrounding menstruation violate the rights of girls and women as well as widen the gender inequality gap and decrease girls' inclusion in quality education.

Further, access to menstrual hygiene facilities reduces the odds of missing work, school or social activities during menstruation. Women who used disposable sanitary menstrual material were less likely to miss SWS activities. These findings have been confirmed by a previous study [17]. Girls who used reusable cloth pads to manage menstruation were more likely to miss school during menstruation [20]. A similar study in other West African countries revealed that women who used improvised menstrual materials had higher odds of missing work and school during menses [16]. These findings were expected because most women in Ghana use disposable sanitary pads, which are perceived to be comfortable and safe [20]. This

Table 2. Binary Logistic Regression analysis of predictors of missing SWS activities during menstruation.

Covariates	COR (95% CI)	AOR (95% CI)
Region		
Western	0.23(0.16–0.32) *	0.19(0.13–0.27) *
Central	0.36(0.26–0.49) *	0.28(0.19–0.41) *
Greater Accra	0.27(0.19–0.37) *	0.24(0.16–0.35) *
Volta	0.59(0.42–0.83) *	0.42(0.29–0.62) *
Eastern	0.24(0.16–0.36) *	0.21(0.14–0.32) *
Ashanti	1(ref)	1(ref)
Brong-Ahafo	1.30(0.96–1.75)	1.14(0.84–1.55)
Northern	0.58(0.39–0.87) *	0.48(0.30–0.76) *
Upper East	0.37(0.26–0.53) *	0.32(0.21–0.49) *
Upper West	0.77(0.54–1.10)	0.63(0.40–0.99) *
Age (years)		
15–24	1.35(1.18–1.54) *	1.07(0.85–1.34)
25–49	1(ref)	1 (ref)
Educational status		
Pre-primary/none	1(ref)	1(ref)
Primary	1.09(0.86–1.39)	1.20(0.89–1.62)
Junior high	1.09(0.88–1.37)	1.16(0.90–1.49)
Senior high	1.13(0.87–1.46)	1.10(0.82–1.48)
Higher	0.85(0.55–1.31)	0.85(0.54–1.34)
Household wealth index		
Poorest	1(ref)	1(ref)
Second	1.36(0.99–1.86) *	1.39(1.04–1.85) *
Middle	1.06(0.83–1.34)	1.12(0.84–1.51)
Fourth	0.92(0.73–1.16)	1.10(0.80–1.51)
Richest	0.87(0.67–1.13)	1.17(0.82–1.68)
Religion of household head		
Catholic	1.22(0.80–1.87)	1.32(0.92–1.88)
Protestant	0.65(0.44–0.96) *	0.74(0.52–1.06)
Pentecostal	0.83(0.58–1.20)	0.99(0.71–1.37)
Other Christians	0.70(0.48–1.01)	0.73(0.53–1.02)
Islam	1(ref)	1(ref)
Africa traditional	0.98(0.61–1.57)	1.07(0.72–1.59)
No religion	0.96(0.58–1.57)	1.05(0.63–1.76)
Ethnicity of household head		
Akan	1(ref)	1(ref)
Ga	0.68(0.50–0.94) *	1.01(0.70–1.47)
Ewe	0.85(0.66–1.10)	1.11(0.82–1.49)
Mole Dbagni	1.17(0.85–1.59)	0.98(0.69–1.38)
Others	1.17(0.92–1.48)	0.93(0.70–1.23)
Disability status		
Has functional difficulties	1(ref)	1(ref)
Has no functional difficulties	0.89(0.68–1.17)	0.87(0.67–1.13)
Marital status		
Currently married/in a union	1(ref)	1(ref)
Formerly married/in a union	0.94(0.73–1.21)	0.95(0.75–1.21)
Never married/in a union	1.38(1.21–1.57) *	1.21(0.92–1.60)
Ever given birth		
Yes	1(ref)	1(ref)
No	1.41(1.25–1.58) *	1.32(0.99–1.77)
Type of place of residence		
Urban	1(ref)	1(ref)
Rural	1.14(0.92–1.42)	1.18(0.92–1.52)
Availability of private place at home		
Yes	2.04(1.38–3.02)	2.77(1.67–4.61) *
No	1(ref)	1(ref)

(Continued)

Table 2. (Continued)

Covariates	COR (95% CI)	AOR (95% CI)
Material reusable		
Yes	1 (ref)	1 (ref)
No	0.84(0.67–1.05)	0.67(0.52–0.85) *

*p-value < 0.05, COR: Crude odd ratio, AOR: Adjusted odd ratio, CI: Confidence interval.

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implies that women who have access to disposable pads may have little fear of stains and odours, hence, they are more likely to participate in activities during menstruation.

Implications and recommendations

These findings have implications for menstrual health policy, programming and research. The fact that one in five women missed activities during menstruation is a serious issue that requires the urgent attention of stakeholders. Ensuring gender equality and inclusion in quality education, eliminating all forms of discrimination against women, and ensuring women and girls' empowerment and access to reproductive health rights are major targets of the SDGs. Promoting women and girls' inclusion in education and socio-economic activities has numerous benefits, including reducing poverty, hunger, maternal mortality and child marriage [34,35]. These findings communicate that menstruation poses a threat to girls and women's empowerment and inclusion in economic, academic and social activities. Therefore, stakeholders, including the Ministry of Gender, Children and Social Protection, Ministry of Education and Non-Governmental Organizations, who are interested in the health and wellbeing of women and girls should implement strategic programmes to help reduce menstruation-related absenteeism [36]. Moreover, interventions that aim at increasing women and girls' participation in school and socio-economic activities during menstruation should prioritize women in the Ashanti region and those who use reusable menstrual materials. This study makes a significant contribution to the field of menstrual health research in sub-Saharan Africa. In Ghana, there is a paucity of literature on factors of menstruation-related absenteeism. This is the maiden study in Ghana to identify factors associated with menstruation-related absenteeism among women of reproductive age, using nationally representative data. This study highlights the scope of menstruation-related absenteeism in Ghana as well as the risk factors. Policymakers can leverage this empirical evidence to inform public health policies and programmes that will help increase women's participation in activities during menstruation.

Strengths and limitations

This is the maiden study to identify the salient factors associated with menstruation-related absenteeism among women of reproductive age in Ghana. Moreover, this study analysed nationally representative data, hence the findings can be generalized to the population. Notwithstanding, a major limitation of this study is the outcome. Combining absenteeism related to school, work and social activities during menstruation can be problematic, therefore, the findings should be interpreted with caution. It is recommended that future MICS should segregate menstruation-related absenteeism. In addition, association does not mean causation. Quantitative studies are unable to expose the many intricate views of participants regarding non-participation in socio-economic activities during menstruation, hence there is a need for qualitative studies.

Conclusion

A significant minority of Ghanaian women miss academic, economic or social activities during menstruation. Menstruation-related absenteeism was associated with socioeconomic status, geographical region and type of menstrual material. Going forward, stakeholders should invest more resources in bridging the socio-economic inequalities. Menstrual hygiene interventions aimed at addressing menstruation-related absenteeism should prioritize women in the Ashanti region and those who use reusable menstrual materials.

Author Contributions

Conceptualization: Stanley Kofi Alor, Emmanuel Anongeba Anaba.

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