



## Adolescent health brief

## Students' Menstrual Hygiene Needs and School Attendance in an Urban St. Louis, Missouri, District

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## A B S T R A C T

**Purpose:** To assess the menstrual hygiene needs and related school absences among female students in an urban St. Louis, MO district.**Methods:** Students (n = 58) completed a self-administered survey during registration and orientation before the 2019–2020 school year.**Results:** Nearly half (48.3%) needed period products at least once last school year but did not have money to buy them. The majority (62.1%) accessed period products at school last year. Seventeen percent missed at least one day at school because of an inadequate supply of period products, including significantly more ninth graders than 10th–12th graders (33.3% vs. 6.1%, respectively,  $p < .01$ ).**Conclusions:** Students reported a substantial need for menstrual hygiene products but also frequent utilization of school resources to access products. Given that incoming ninth graders reported more absences related to an inadequate supply of products, the district may need to focus more attention on this issue in the junior high school and younger grades.

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IMPLICATIONS AND  
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Providing period products and related support in schools through various avenues is essential, especially where students experience high levels of unmet basic needs. School districts should refocus efforts to reach more students in lower grades and expand support beyond simple placement of products within schools to address menstruation-related absences more comprehensively.

Menstrual hygiene management (MHM) has been widely discussed as a public health issue globally, especially within low- and middle-income countries [1,2]. Recently, this discussion has extended to include women with economic disadvantages in higher income countries such as the United States [3]. Globally, schools are a place where girls struggle with MHM, [4] yet little is known about the menstrual hygiene needs of students in the

United States. Standard MHM at school requires accessibility of absorbent period products and providing space, water, soap, and privacy for changing period products [4,5].

Inadequate MHM is associated with physical, emotional, and social dysfunction, [6] resulting in a decline in school performance and attendance [4,5]. Currently, however, most US states do not require schools to provide menstrual hygiene products for their students. As of 2019, only four US states (California, Illinois, New Hampshire, and New York) had passed legislation requiring schools to make menstrual hygiene products available to students for free [7]. In other states, such as Missouri, local districts and individual schools decide whether to provide menstrual

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hygiene products. This limited legislative action may be due in part to a lack of understanding about menstruation and MHM among female students in US schools [8]. Therefore, this study aims to fill this gap by assessing the relationship between school attendance and menstrual hygiene needs and utilization of the school's period product resources in an urban metropolitan St. Louis, MO district.

## Methods

A two-page, anonymous, self-administered survey in English was offered to female students over three days before the 2019–2020 school year (two days of registration and one day of freshman orientation). Students completed their surveys privately via hard-copy around the room and then returned them anonymously into an envelope. Survey items were a mix of newly developed questions and ones modified from a previous survey on menstrual hygiene needs among adult women in St. Louis [3] as no standardized questionnaire about menstrual hygiene needs exists to our knowledge. Students who completed the survey received a \$5 gift card.

Fifty-nine of the 66 students approached about the survey (89.4%) agreed to complete it. One student who completed the survey but had not yet reached menarche was excluded from the analysis. The 58 students whose surveys were included in the analysis represent 16.2% of the female students registered at the district's high school for the 2019–2020 school year. While age and grade level were the only demographic variables collected on the survey, the high school's enrollment is over 98% African-American and over 99% eligible for free or reduced lunch. [9].

Descriptive statistics were used to determine the prevalence of menstrual hygiene product needs. Pearson's chi-square tests assessed the association between lack of menstrual hygiene products and school attendance, including grade level (ninth graders vs. 10th–12th graders) menstrual product need, and school attendance. The analyses were performed using IBM SPSS v.26 with a statistical significance level of  $p < .05$ . The Institutional Review Board at Saint Louis University reviewed and approved this study.

## Results

All respondents attended school in the same district the prior year, for the 2018–2019 school year. Twenty-five of the 58 respondents (43.1%) were entering their freshman year this school year (2019–2020). The average age of the participants was  $15.21 \pm 1.23$  years with an average age of first period at 11.8 years, consistent with the average age of menarche in the United States [10]. Nearly 40% of respondents reported reducing or skipping a meal at least once last school year because there was not enough money for food.

Nearly half of respondents (48.3%) reported that at least once last school year they needed period products but did not have money to buy them; a significantly greater proportion of ninth graders reported this than 10th–12th graders (74.0% vs. 36.4%, respectively,  $p = .04$ ). Almost 70% of respondents who reported reducing or skipping a meal at least once also reported they could not afford to buy period products when needed at least once last school year ( $p < .01$ ). Furthermore, most respondents (62.1%) reported using school resources to get period products at least once last year; some students used more than one school resource: 56.9% got products from the nurse's office, 25.9% from a

**Table 1**

Unmet period product need, use of school resources for period products, and school absenteeism related to menstruation ( $n = 58$ )

Variable	n (%)
Last school year, needed period products but did not have enough money to buy them	
Never	30 (51.7)
Only once or twice	10 (17.2)
Some months but not all	11 (19.0)
Almost every month	7 (12.1)
Last school year, got period products from any school-related <sup>a</sup> source	
No	22 (37.9)
Yes	36 (62.1)
Last school year, strategies to get period products at school	
Got products from the school-based health clinic	
Never	43 (74.1)
Only once or twice	8 (13.8)
Some months but not all	4 (6.9)
Almost every month	3 (5.2)
Got products from the nurse's office at school	
Never	25 (43.1)
Only once or twice	22 (37.9)
Some months but not all	7 (12.1)
Almost every month	4 (6.9)
Got products from teachers or staff members at school	
Never	47 (81.0)
Only once or twice	7 (12.1)
Some months but not all	4 (6.9)
Almost every month	0 (.0)
Last school year, missed school for any reason related to a period	
No	17 (29.3)
Yes	41 (70.7)
Last school year, missed school due to period for the following reasons ( $n = 57^b$ )	
Pain or cramping with your period	
Never	18 (31.8)
1 day some months but not all	10 (17.5)
1 day each month	8 (14.0)
More than 1 day each month	21 (36.8)
Heavy bleeding with your period	
Never	27 (47.4)
1 day some months but not all	5 (8.8)
1 day each month	9 (15.8)
More than 1 day each month	16 (28.1)
A bad odor during your periods	
Never	45 (78.9)
1 day some months but not all	7 (12.3)
1 day each month	4 (7.0)
More than 1 day each month	1 (1.8)
Not having adequate products to manage period	
Never	47 (82.5)
1 day some months but not all	6 (10.5)
1 day each month	1 (1.8)
More than 1 day each month	3 (5.3)
Would like more information or education on how to manage periods ( $n = 57^b$ )	
No	11 (19.3)
Yes	33 (57.9)
Don't know	13 (22.8)

<sup>a</sup> School-related sources = school-based health clinic, nurse's office, or teachers/staff members.

<sup>b</sup> Missing data for one participant.

school-based health clinic, and 19.0% from teachers or staff members (Table 1). Of the 28 respondents who reported needing period products but not being able to afford them, 19 (67.9%) also reported using at least one school resource for period products.

More than two-thirds of the respondents (70.7%) reported missing at least one day of school last year for any reason related

to their periods, including cramps, heaving bleeding, and bad odor. Seventeen percent of the participants reported missing at least one day because they did not have an adequate supply of period products (Table 1). Ninth graders were more likely to report missing school because of an inadequate supply of menstrual products than 10th–12th graders (33.3% vs. 6.1%, respectively,  $p < .01$ ). Among respondents who used school resources to access period products last year, 16.7% of them reported missing any school days because of an inadequate supply of products.

Over half of respondents (57.9%) indicated a need for more information and education regarding managing periods and personal hygiene. Nearly 40% indicated a desire to learn more about reusable pads/durable products. In addition, most respondents (84.4%) reported family and friends as their main source of information on MHM followed by being self-taught (20%).

## Discussion

Students reported a high level of need around period products, but they also reported using the range of resources that the school makes available to them, especially the nurse's office, to access period products. There were a small but critical number of students, however, who reported needing period products but not using any of the existing school resources. The incoming ninth graders reported higher levels of unmet need for period products than those entering grades 10th–12th. Our findings should be interpreted with caution, however, given the potential for recall bias in having students report on the previous academic year. In addition, the relatively small sample size may limit the generalizability of findings.

Most of the respondents in this study reported missing school because of their periods. This finding is similar to a finding from Uganda (61.7%) [11] and significantly higher than findings from Indonesia (11.1%) [12] and Bangladesh (41.1%) [13]. These comparisons indicate that the magnitude of school absences due to period-related reasons in the present study area is similar to or higher than that among girls from some low- and middle-income countries. Importantly, most of the respondents missed school because of their periods for reasons other than an inadequate supply of products. This suggests a need to move beyond just supplying period products and focus on providing information and education regarding MHM. This finding is further supported

by the substantial number of students who indicated they would like more information about managing their periods and personal hygiene, including some who are interested in learning more about reusable pads.

## Funding Sources

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