

## Improving Girl Child Education and Menstrual Hygiene through Free Sanitary Pad Provision to Secondary School Girls-opinion of Female University Students in Ghana

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Rec date: Oct 05, 2015; Acc date: Nov 17, 2015; Pub date: Nov 19, 2015

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### Abstract

Absence of appropriate sanitary materials to absorb menstrual flow does not only affect female's reproductive health but their acquisition of education. The government of Ghana is proposing provision of free disposable sanitary pads to assist brilliant but poor school girls remain in school. This study assessed female university students in northern Ghana's opinion on this policy and factors that would influence their opinions. To achieve these objective data was collected in a cross-sectional study after administering a questionnaire to 293 randomly selected students. The data was analyzed and association between the various variable were tested using Graph Pad 5.01. The study showed that 78.2% of respondents used disposable sanitary pads during their first year of menstruation with the rest using toilet tissue and re-useable cloth. Majority, 53.2% of respondents agreed with the free sanitary pad policy with their main reason for the support being the high cost of disposable sanitary pads. For the minority, 27.0% who opposed the policy, their reasons include unsustainability, being a misplaced priority and that it is the responsibility of parents to provide sanitary pads for their children. Followers of Islam were significantly more supportive of the free sanitary pad policy than Christians ( $p=0.003$ ).

**Keywords:** Free; Ghana; Policy; Opinions; Students; Sanitary pads; University

### Introduction

Importance of education in the preservation, transmission and improvement of knowledge that brings immense benefit not only to the child but the society cannot be belittled as it ensures potentials are developed for self-actualization [1]. There is no doubt that educating women brings greater benefits to society as family health, child survival, human capital investment, productivity and even average life expectancy experiences significant improvement [1,2]. Many factors however negatively affect the enrolment and progression of the girl child in school and they include poverty, child marriage, socio-cultural conceptions girl education, as well as biological challenges related to physical and psychological changes at puberty [3]. Menstruation, which is indicative of sexual maturation of the female, is rather associated with negativity in several societies sometimes requiring isolation as well as prohibitions from engaging in normal daily activities [4-6]. Appropriate selection, use and disposal of sanitary materials as well as adequate body cleaning with soap, and seeking suitable diet during menstruation ensure good menstrual hygiene [7,8]. There is no doubt that a girl child who remained in school would be more knowledgeable about menstrual hygiene which would also safeguard her health [7]. Management of the menstrual blood must be such as to safeguard the health and dignity of the woman which requires the use of materials that can hygienically absorb all the blood. Before the introduction of sanitary pads, various materials such as ash, feather, soil, cotton wool, cloth, old pieces of mattresses, newspapers among others, were used by women to soak the menstrual blood [9,10]. Some of these inappropriate blood soaking materials which

may be contaminated by infective organisms are still being used by females especially those in rural or impoverished urban areas thereby exposing them to avoidable reproductive tract infections (RTIs) [6,11]. Poorly managed RTIs are reported to be responsible for 10-15% of fetal wastage, 30% to 50% of prenatal infection and other conditions such as cervical cancer HIV/AIDS, infertility, and ectopic pregnancy [5,12-14]. Selection and use of appropriate sanitary products in menstrual hygiene management (MHM) is therefore important to safeguard the health of the post-pubescent female. For less developed countries, attainment of Millennium Development Goal (MDG) 2 which seeks to achieve universal primary education; MDG 3, promoting gender equality and empower women and MDG 5, which is to reduce maternal mortality by three-quarters would be expedited if they provide more support for women during menstruation [4]. Any factor that would affect the girl child's desire to go to school or remain in there would adversely affect attainment of these MDGs. Although there are varying opinions as to whether school absenteeism by girls can be linked to menstruation and the lack of menstrual hygiene materials, there is no doubt that girls who use inappropriate sanitary materials even when in school are distracted due to the fear of soiling their dresses and getting teased by the boys [15-17]. Governments of India and Kenya as well as several non-governmental organizations in Africa are providing free or subsidized sanitary towel to primary school girls as a way of promoting girl child education [11,18-19]. It is possible countries implementing this free or subsidized sanitary policy or intend to start did so based on studies that showed that school attendance and concentration at school increases when free sanitary pads were provided [18-19]. In a Kenyan study, some girls are said to lose 24 learning weeks out of 108 weeks due to menses [18]. The parliament of Ghana approved a World Bank loan facility of 156 million US dollars for the government's secondary schools

improvement programme and it is out if this loan that 15 million was to be used to provide scholarship for some needy but brilliant students [20]. The scholarship includes the provision of free sanitary pads for the females, a policy which is expected to improve upon the menstrual hygiene management so as to encourage the girls to stay in school until completion of their secondary school education [21]. Currently, no study had been conducted among females to obtain their opinion on this free sanitary product policy being instituted in some countries. Female students of the University for Development Studies come from all parts of Ghana and from various socio-economic backgrounds. Based on the assumption that these students would have a better knowledge and appreciation of menstruation and hygiene, their opinion on the government's free sanitary pad policy is worth assessing. The study also ascertained if certain socio-demographic and menstrual factors can sway respondent's attitude towards the free sanitary pad policy.

## Method

### Study design and setting

This cross sectional study conducted between March and April, 2015 was among female undergraduate students of schools of Medicine and Health Sciences and Allied Health Sciences of the University for Development Studies studying Medicine, Nursing, Midwifery, Health Science Education and Community Nutrition. The instrument for this study was a semi-structured questionnaire. The questionnaire was initially pretested among 20 students which ensured correction of ambiguous and inconsistent questions before it was administered for the actual data collection.

### Ethical consideration

Prior approval for this study and the procedures was obtained from the Ethics Committee of the School of Medicine and Health Sciences of the University for Development Studies. Verbal consent was obtained from the respondents to enhance confidentiality of the research which increased their participation. The introductory section of the questionnaire informed respondents that accepting to participate and completing the questionnaire indicate consent and that they have the option to withdraw at any point in the research.

### Study size determination and sampling procedure

Using the Cochran's correction formula for categorical data;

$n_1$  is required return sample size without estimated response rate factor,  $n_0$  the required sample size was calculated based on the assumption that 50% of respondents support the free sanitary pad policy, sampling error is 5%, confidence interval of 95%, and the significant level t-value at alpha level of 0.05 is 1.96. The calculated return sample size without estimated response factor is therefore 384. With the study population of 990, and an estimated response rate of 70%, the drawn sample size of 389 was obtained for this study. The number of respondents from the first to final year classes of these programmers was obtained using a proportional approach based on the number of female students in each class. In each class, respondents were randomly chosen from an envelope containing pieces of paper with name and identity number of each female member of the class printed on it. The respondents were then drawn using the sampling with replacement by the lead researcher or a volunteer from the class. The response rate for this study was 75.3% ( $n=293/389$ ).

## Statistical analysis

Data was entered into Microsoft Excel, and analyzed using Graph Pad Prism, Version 5.01 (GraphPad Software Inc., San Diego CA). Associations between respondent's socio-demographic characteristics and opinions on sanitary pad provision were assessed using the Chi-square test. Statistical significance was assumed at  $p < 0.05$  and at a confidence interval of 95%.

## Results

### Socio-demographic profile

The socio-demographic profile of the respondents is as shown in Table 1. In this study, majority, 221 (75.4%) were between ages 20 and 25 years, Christians, 208 (71.0%), and live in urban areas of Ghana, 181 (61.8%). At menarche, most respondents, 126 (43.0%) stayed in a self-contained accommodation indicative of their parents or guardians belonging to the middle social class (Table 1).

Variable	Subgroups	Number of respondents	Percentages
Age (years)	<20	33	11.3
	20-25	221	75.4
	>25	39	13.3
Religious affiliation <sup>a</sup>	Christianity	208	71.0
	Islam	79	27.0
Type of accommodation at menarche	Single room	46	15.7
	Chamber and hall	55	18.8
	Several rooms in a compound house	52	17.7
	Self-contained apartment	126	43.0
	Mansion	10	3.4
Place of residence during vacation <sup>a</sup>	Urban area	181	61.8
	Sub-urban	88	30.0
	Rural	21	7.2

**Table 1:** Socio-demographic characteristics of the respondents. <sup>a</sup>There are missing values so percentage does not add up to 100 and are therefore valid.

### Menstrual patterns and hygiene practices among the respondents

Majority, 161 (54.0%) of respondent's age at menarche was between 13 and 15 years (Mean= $13.7 \pm 1.87$ ; Median=14 years); began to menstruate when they were in junior high school, 195 (66.6%). At the time of menarche, majority, 229 (78.2%) used sanitary pad, but some others used toilet tissue, 30 (10.2%) and re-useable cloth, 27 (9.2%). Currently, all respondents (100.0%) use sanitary pads. Majority of respondents, 169 (57.7%) change their sanitary pad twice a day (Mean= $2.354$ ; median= $2.0$ ). For most respondents 102 (34.8%), it takes

4 days, for the menstrual flow to stop (Mean=4.484 ± 1.244; Median=4 days) (Table 2).

Variable	Sub-group	Number of students	Percentage
Age of menarche (years)	<13	83	28.3
	13-15	161	54.0
	>15	49	16.7
Number of days of menstrual flow in days	2	9	3.1
	3	47	16.0
	4	102	34.8
	5	77	26.3
	>6	50	17.1
Educational level at which menses started.	Primary	68	23.2
	Junior high school	195	66.6
	Senior high school	25	8.5
Sanitary material used in first year of menses	Sanitary pad	229	78.2
	Toilet tissue	30	10.2
	Re-useable cloth	27	9.2
	Others	4	1.4
Current sanitary material used.	Sanitary pad	293	100.0
How often sanitary pads are changed <sup>b</sup>	Once	18	6.1
	Twice	169	57.7
	Thrice	87	29.7
	Four or more	17	5.8

**Table 2:** Menstrual patterns and hygiene practices among the respondents. <sup>a</sup>For those who stated a range, the higher value was considered in calculating the mean. <sup>b</sup>In calculating the mean, four or more was equated to 4.

### Effect of menstruation on respondent's daily activities and schooling

About a third, 108 (36.9%) said menstruation negatively affected their schooling when it started. For most of these persons affected by

menstruation, their greatest worry is the discomfort, 42 (37.8%); others stain their uniforms, 15 (13.5%), lack of concentration in class, 24 (21.6%) or absent themselves from school, 14 (12.6%). The effects of menstruation on the lives of respondents are shown in Table 3.

Variable	Subgroup	Number of respondents	Percentage
Did menstruation affect you in school when it started?	Yes	108	36.9
	No	182	62.1
How did menstruation affect you in school when it started? (n=108)	Uncomfortable	42	37.8
	Stained uniform	15	13.5
	Self-consciousness	3	2.7
	Restrained	10	9.0
	Lack of concentration	24	21.6

	Absence from school	14	12.6
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**Table 3:** Effect of menstruation on respondents’ daily activities and schooling.

### Student’s opinion on the Ghanaian government’s free sanitary pad policy

Respondent’s opinion about the Ghanaian government’s policy on free sanitary pad policy is shown in Table 4. Majority of respondents, 156 (53.2%) were in support of government providing free sanitary products for senior high school females. The reason for the support of

this policy according to majority, 106 (67.9%) is due to the high cost of sanitary products making it unaffordable for most of the girls. For the minority, 79 (27.0%) the main reason for their opposition to the policy is it being a misplaced priority, 23 (29.1%) for government to pursue since there are more important infrastructure challenges the government of Ghana needs to tackle.

Variable	Subgroup	Number respondents	of	Percentages
Do you support government’s free sanitary pad for senior high school girls?	Yes	156		53.2
	No	79		27.0
	Uncertain	56		19.1
Reasons for supporting (n=156)	High cost, making it unaffordable	106		67.9
	Better menstrual hygiene	39		25.0
	Improves concentration in class	3		1.9
Reasons for not supporting (n=79)	Quality acceptable to all is not possible	5		6.3
	It is responsibility of parents	12		15.2
	Fear of unfair distribution	4		5.1
	It is a misplaced priority	23		29.1
	Not sustainable	11		13.9
	Sanitary pads are affordable	4		5.1
	Others	8		10.1

Table 4: Respondent’s opinions on the government free sanitary pad policy.

### Relationship between socio-demographic characteristics of respondents and their opinion of free sanitary pad policy.

Table 5 below showed the association between the socio-demographic characteristics and the respondent’s opinion of the free sanitary pad policy. Respondents below 20 years were more supportive of the free sanitary pad policy than their older colleagues but the difference was not significant (76.9% vs. 60.6% to 65.9%; p-value=0.405,  $\chi^2=1.806$ ). Females who experienced menarche before age 13 years were the least enthused about the policy (59.7%) compared with (69.2%) for 13-15 years bracket and (67.4%) for those with menarcheal age greater than 15 years. The difference between the levels

of support based on the age at menarche was however not statistically significant (p-value=0.418,  $\chi^2=1.743$ ). Based on religious affiliation, followers of Islam significantly agreed more with the policy than Christians (80.3% vs. 59.4%; p value=0.003). The free sanitary pad policy had greatest support among respondents who lived in mansions than those from less endowed socio-economic classes but the difference was not significant (77.3% vs. 63.6%-69.3%; p-value=0.872,  $\chi^2=1.240$ ). The level of support of the policy based on where respondents reside ranges between 66.7% and 64.7% with those from sub-urban areas most supportive but the difference was not significant (p-value=0.987,  $\chi^2=0.0261$ ).

Variable	Sub-groups	Do you support free sanitary pad policy?		p-value; chi-square
		Yes (%)	No	
Age	<20	20 (76.9)	6	0.405; 1.806
	20–25	116 (65.9)	60	

	>25	20 (60.6)	13	
Age of menarche	<13	37 (59.7)	25	0.418; 1.743
	13–15	90 (69.2)	40	
	>15	29 (67.4)	14	
Religious affiliation	Christianity	95 (59.4)	65	0.003a
	Islam	57 (80.3)	14	
Type of accommodation at menarche	Single room	22 (64.7)	12	0.872; 1.240
	Chamber and hall	28 (63.6)	16	
	Several rooms in a compound house	28 (63.6)	16	
	Self-contained apartment	70 (69.3)	31	
	Mansion	7 (77.8)	2	
Place of residence during vacation	Urban area	95 (66.0)	49	0.987; 0.0261
	Sub-urban	48 (66.7)	24	
	Rural	11 (64.7)	6	

**Table 5:** Relationship between the socio-demographic characteristics and the level of support for the free sanitary pad policy. <sup>a</sup>statistically significant.

## Discussion

For about half (51.2%) of respondents to have menstrual pain affecting their daily activities and about a third's (36.9%) school activities being negatively affected makes the assertion by various studies that menstruation affects girls education tenable. [11,15,22-24]. The fear of staining school uniforms is a plausible reason for the discomfort, lack of concentration, school absenteeism, restrained physical activity as well as self-consciousness although menstrual pain could as well be a reason for post pubescent girl child school attendance [25]. Although various studies reported between 27.0 to 54.51% [12,26-29] school absenteeism associated with menstruation, this study recorded 4.8% (n=14/293). This low school absenteeism at menarche found in this study could be because majority of respondents come from the urban areas of Ghana where sanitary pads are assessable. Again, more than two-thirds of respondents come from middle-income earning families who are able to afford sanitary pads and adequate health care for their menstruating wards. For more than a fifth of respondents in this study to have used toilet tissue as well as re-useable cloth in their first year of menses shows clearly that for various reasons, some girls are unable to acquire the commercially available sanitary pads at menarche which may increase their chance of contracting reproductive tracts infections associated with poor menstrual hygiene. Adequate education on menstruation and menstrual hygiene management including the use of appropriate sanitary materials could reduce the effect of menstruation on girl child education. Having acquired better knowledge of menstruation and hygiene in school, it is expected that female undergraduate students should be able to better appreciate issues related to menstruation and menstrual hygiene and their effect on the education of the girl child. Again since majority of the respondents reside in urban areas, used sanitary pad at menarche and not from poor families, their opinions

were not based on their experience of inaccessibility to or unaffordability of sanitary pads.

This study showed that majority (53.2%) of female university students supported the Ghanaian government policy of provision of free sanitary materials for female students in senior secondary schools. The reason adduced by two-thirds for favoring the policy was the high cost of sanitary pads. The menstrual history of respondents in this study showed that each female uses 10 pieces (Mean number of days of menstrual flow X number of sanitary used a month;  $4.484 \times 2.354$ ) of sanitary pads costing a post-pubescent female an average of 4.5 Ghana cedis (GH¢) a month. According to the Ghana Statistical Service 2014 report, about a quarter of Ghanaians are poor with annual income of less than GHC 1,314 (equivalent to USD 238.5; GHC 4: 1 USD) [30], hence many poor families may have a challenge of spending a least GHC 54 or USD 13.5 annually on each menstruating female in the household. For almost a third of respondents who did not support the free sanitary pad policy, spending such money on sanitary pads rather than infrastructure was a misplaced priority. Again, the 13.9% who questioned the sustainability of the programme are doing so since the policy was being funded by a World Bank loan. They possibility are aware of how some notable social protection programmes in Ghana such as the school feeding programme which was initially supported by donor fund is facing challenges of inadequate and slow release of funds when donor funding ceased and the government had to fund the programme.

The support for the free sanitary pad policy was not influenced by socio-demographic characteristics of respondents except their religious affiliation. Followers of Islam were significantly more supportive ( $p=0.003$ ) of the free sanitary pad policy than the Christians. According to Dunnavant and Roberts women whose religions prescribed various rituals and prohibited them from some activities have more negative attitude towards menstruation. Islam unlike



Christianity is one of such religions which consider menstruation, a period of impurity [31]. By supporting the policy, these respondents of the Islamic faith possibly believe that these school girls would be well protected from leakages of menstrual blood using inappropriate sanitary materials which may cause embarrassment and isolation.

The mean age of menarche of the respondents in this study was 13.7 ± 1.87 years when most of them were in the junior high school. If the policy is to keep the girls in school by supporting their menstrual hygiene management, then the most appropriate stage of the introduction of the policy should rather be the period immediately after menarche. The impact of this policy would be most felt when introduced at the junior high school level and not in senior high schools.

This study comes with some limitations. This study involved the use of self-administered questionnaire rather than interviews hence reliability of answers could not be verified. It is also possible that the support for the policy would have been greater if most of these students had lived in rural areas and from low income families.

## Conclusion

Majority of respondents in this study supported the free sanitary pad policy proposed by the government of Ghana. The main reason for the support was high cost of sanitary pad which is beyond the reach of poor families. Those who did not favour the policy thought it was a misplaced priority and unsustainable. Females of the Islamic faith were more supportive of the policy than Christians.

## Funding

Study was funded by the authors.

## Acknowledgement

Authors wish to acknowledge the role of Miss Patience Asupulie Akayila and Miss Fati Abdulai-Inusah both final year BSc. Nursing students of the University for Development who assisted in the piloting and collection of the questionnaires.

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