

Menstrual Hygiene Practices and Sources of Menstrual Hygiene Information among Adolescent Secondary School Girls in Abakaliki Education Zone of Ebonyi State

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Abstract

Menstruation is clouded by socio-cultural restrictions resulting in adolescent girls remaining ignorant of hygienic practices. The study was designed to ascertain the menstrual hygiene practices and sources of menstrual hygiene information among 1200 adolescent secondary school girls, who completed the questionnaire designed for the study. Out of 1200, 1191, representing about 99.3% return rate, correctly completed and returned their copies of the questionnaire. Percentages and chi-square (χ^2) statistic were used to analyse the data. Percentages were used to describe the menstrual hygiene practices and sources of menstrual hygiene information among the respondents and chi-square statistic was used to determine whether significant differences ($p < 0.05$) existed in the girls' menstrual hygiene practices and sources of menstrual hygiene information in relation to age, father's occupation, mother's occupation and number of senior sisters. Results showed that the girls' menstrual hygiene practices were not cheering and received menstrual information from undependable sources. Significant differences were found among the girls in their menstrual hygiene practices and sources of menstrual hygiene information. Menstrual hygiene should be linked to the hygiene education programme in schools with active involvement of teachers and caring environment for menstrual hygiene has to be provided both at home and in school.

Key words: Menstrual, hygiene, practices, adolescent girls, secondary schools, Ebonyi state.

1.0 Introduction

Adolescents comprise 20% of the total world population, 85% of whom live in developing countries (International Clinical Epidemiology Network, 2005). Majority of secondary school girls in Nigeria are adolescents. They represent a significant segment (44.8%) of the country's population (United Nations Development Programme, 2001). Reports suggest that adolescents, who also include those in Nigeria, face numerous challenges, which could be inimical to their health (Lee, Liao, Lee, Lu, & Chou, 1997; U.S. Department of Health and Human Services, 2003). Such problems might include those associated with hygiene during menstruation.

Menstruation is a natural process that occurs monthly in healthy adolescent girls and premenopausal adult women. Girls begin to menstruate usually between the ages of 12. During her lifetime, a woman will manage menstruation on an average of 3,000 days. Ahmed and Yesmin (2008) stated that menstruation is a phenomenon unique to the females. The onset of menstruation is one of the most important changes occurring among the girls during the adolescent years. The first menstruation (menarche) occurs between 11 and 15 years with a mean of 13 years. Adolescent girls constitute a vulnerable group, particularly in the developing world where female child is neglected one. Menstruation is still regarded as something unclean or dirty in most societies. The reaction to menstruation depends upon awareness and knowledge about the subject matter. The manner in which a girl learns about menstruation and its associated changes may have an impact on her response to the event of menarche. Although menstruation is a natural process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes.

Hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). The interplay of socio-economic status, menstrual hygiene practices and RTI are noticeable. Today millions of women are sufferers of RTI and its complications and often the infection is transmitted to the offspring of the pregnant mother (Bharadwaj, & Patkar, 2004; Dasgupta & Sarkar, 2008).

Reproductive tract infections, which have become a silent epidemic that devastate women's life, are closely interrelated with poor menstrual hygiene (American College of Obstetricians and Gynecologists, 1999). Therefore, proper menstrual hygiene can protect the womenfolk from this suffering. Before bringing any change in menstrual practices, the girls should be educated about the facts of menstruation, physiological implications, about the significance of menstruation and development of secondary sexual characteristics, and above all, about proper hygienic practices with selection of disposable sanitary menstrual absorbent (Adinma & Adinma, 2008; El-Gilany, Badawi, & El-Fedawy, 2005). This can be achieved through educational television programmes, school nurses/health personnel, teachers, compulsory sex education in school curriculum and knowledgeable parents, so that her received education would indirectly wipe away the age-old wrong ideas and make her feel

free to discuss menstrual matters including cleaner practices without any hesitation. All mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation much before the age of menarche (Sadeque, 2008). Women having better knowledge regarding menstrual hygiene and safe practices are less vulnerable to RTI and its consequences. Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may facilitate in mitigating the suffering of millions of women.

Ahmed and Yesmin (2008) observed that poor women and girls in many countries cannot afford purpose made sanitary pads or napkins. Instead, the vast majority of women and girls they studied used rags. Once used, these rags are washed quickly in a small clay pot or a plastic tub of water inside the latrine. The rags are each used several times and often no safe water and soap to wash them properly. This practice, according to Ahmed and Yesmin, is responsible for a significant proportion of illness and infection associated with female reproductive health. Unclean rags can cause urinary and vaginal infection. Very often serious infections are left untreated. This is a common picture in rural and suburban communities. Dasgupta and Sarkar (2008) noted that menstruation and menstrual practices are still clouded by taboos and socio-cultural restrictions resulting in adolescent girls remaining ignorant of the scientific facts and hygienic health practices, which sometimes result into unpleasant health effect.

Several studies guided the selection of known sources of information on health-related issues (Hogan & Palmer, 2005; Li, Lin, Gao, Stanton, Fang, Yin, & Wu, 2004; Maswanya, Moji, Aoyagi, Yahata, Kusano, Nagata, Izumi, & Takemoto, 2000). These sources of information were considered vital for inclusion in this study. Studies showed secondary school students and other young adults possess low level of knowledge regarding most health-related matters. They receive health-related information from friends, peers, TV/Video, magazines and other print media and rarely do they get information from teachers and medical personnel (Sanches, 2002; Sangowawa, Owoaje, & Faseru, 2004) and this scenario may result in unhygienic menstrual hygiene practices and other undesirable health outcomes.

Studies (Abioye-Kuteyi, 2000; Czerwinski, 2000; Drakshayani & Venkata, 1994; Irinoye, Ogungbemi, & Ojo, 2003; Moawed, 2001; Poureslami & Osati-Ashtiani, 2002; Sadeque, 2008) over the years documented aspects of menstrual hygiene practices and sources of menstrual hygiene information among adolescent girls in both developed and developing countries. However, none of these studies was conducted among secondary school girls in Abakaliki education zone of Ebonyi state. Secondly, none of these studies considered age, occupation of father and mother and number of senior sisters as important variables that could positively or otherwise impact on the hygiene practices of adolescent secondary school girls. The present study therefore was designed to ascertain the menstrual hygiene practices and sources of menstrual hygiene information among adolescent secondary schools girls in Abakaliki education zone of Ebonyi state. Two hypotheses, which stated that there is no significant difference ($p > 0.05$) in the: (1) menstrual hygiene practices, (2) sources of menstrual hygiene information among the secondary school girls in relation to age, father's occupation, mother's occupation and number of senior sisters were postulated for verification.

2.0 Methods

2.1 Respondents and setting

The descriptive cross-sectional survey was utilized to ascertain the menstrual hygiene practices and sources of menstrual hygiene information among 1200 (SS 2, $n = 600$; SS 3, $n = 600$) adolescent girls (11th and 12th graders) in secondary schools, randomly selected from 20 co-educational secondary schools in Abakaliki education zone of Ebonyi state. Purposeful elimination of all single-sexed secondary schools was made in order to control the influence of one-gender schools.

2.2 Instrument

The instrument (See Appendix) used in this study was a self-designed 21-item literature-based questionnaire called Menstrual Hygiene Practices and Sources of Information Questionnaire (MHPSIQ). The MHPSIQ was subjected to face and content validation using five experts in health education and home economics. Five items in the questionnaire enquired about age, class in school, father's occupation, mother's occupation and number of senior sisters as independent variables. The MHPSIQ covered five aspects of menstrual hygiene and eleven sources of menstrual hygiene information namely: bathing during menses, materials used during menses, frequency of changing materials during menses, activities engaged in to reduce menstrual pain and frequency of cleaning genitals during menses. The instrument also contained eleven sources of information related to health issues. Respondents were instructed to place a tick (\checkmark) in the box provided against the option that expresses their opinion.

Thirty secondary school girls (15 each from SS 2 and SS 3 classes) (graders 11 and 12) in Afikpo education zone of Ebonyi state, not included in the study were used for test of reliability. The data yielded a reliability coefficient of 0.82. A further reliability computation of each cluster (menstrual hygiene practices $r =$

0.87, sources of menstrual hygiene information $r = 0.81$) of the MHPSIQ was carried out. The reliability coefficients were higher than Ogbazi and Okpala's (1994) criteria of 0.60 acceptable for good instruments. Therefore, the instrument was deemed reliable for use in the present study.

2.3 Data collection

Permission was obtained from the principal of each secondary school included in the study. The researchers explained the procedure and method of completion of the questionnaire to the participants. Permission was granted from the principal of each secondary school participating in the study prior to data collection. A consent note with the explanation for the research purpose, method of response and assurance of anonymity was attached to each copy of the MHPSIQ. Thereafter, 1200 copies of the questionnaire were administered on the respondents in their respective classrooms. Respondents were asked not to write their names on any part of the questionnaire. The teachers in charge of the grades included in the study assisted the researchers in the administration of the instrument. Respondents were allowed 40 minutes to complete the questionnaire during a class session.

2.4 Data analysis

Out of 1200 students, 1191 (49.5%, SS 2; 49.8%, SS 3) representing about 99.3% return rate, correctly completed and returned their copies of the questionnaire. Their ages ranged from 15-17 years with a mean of 15.3 years ($SD = 1.9$). These copies of the questionnaire were used for data analysis. Employing the Statistical Package for Social Sciences (SPSS) Version 17.0 for Windows (SPSS, Inc., 2008), percentages and chi-square (χ^2) statistic were used to analyse the data. Percentages were used to describe the menstrual hygiene practices and sources of menstrual hygiene information of the respondents and chi-square statistic was used to establish whether or not significant differences existed in the menstrual hygiene practices and sources of menstrual hygiene information among the girls in relation to earlier identified independent variables of age, class in school, father's occupation, mother's occupation and number of senior sisters.

3.0 Results

Data in Table 1 show that most girls who took part in the study are of age 16, are in SS 3, have fathers who are farmers, have mothers who are farmers and have two or more senior sisters. The majority of the girls use toilet rolls (67.8%) and 46.9% use rags torn out from old soft cotton to manage menses. Results indicate that majority of the girls change materials, and clean external genitalia, respectively, once in a day. Results further indicate that most girls take pain relievers (76.3%), hot water (56.3%) and avoid food (43.6%) to reduce menstrual pain. Chi-square test indicated all differences in the menstrual hygiene practices among the girls in association with age, father's occupation, mother's occupation and number of senior sisters were significant (Table 2).

Table 1: Socio-demographic characteristics of respondents (N = 1191)

Socio-demographic Characteristics	Responses	
	<i>f</i>	%
Age (in years)		
Less than 16	406	34.1
16	511	42.9
17	274	23.0
Class		
SS 2	594	49.9
SS 3	597	50.1
Father's Occupation (FO)		
Civil servant (e.g., teaching, banking, LG staff)	307	25.8
Farming	666	55.9
Trading	203	17.0
Driving	15	1.3
Mother's Occupation (MO)		
Civil servant (e.g., teaching, banking, LG staff)	351	29.5
Farming	604	50.7
Trading	155	13.0
House wife	81	6.8
Number of Senior Sisters (NSS)		
None	217	18.2
One	441	37.0
Two and above	533	44.8

In Table 3, it could be observed that main sources of information of menstrual hygiene include radio, print media (e.g., books and newspapers), television, and friends and peers. When the girls' sources of menstrual

hygiene information were statistically compared in relation to age, father's occupation, mother's occupation and number of senior sisters, chi-square test indicated differences in all sources of menstrual hygiene information among the girls were significant.

Table 2: Menstrual hygiene practices (N = 1191)

Menstrual Hygiene	Responses		Age	FO	MO	NSS
	f	%				
Materials used during Menstruation+						
Rags (cloths torn form old soft cotton)	559	46.9	30.22*	33.91*	22.89*	44.81*
Pieces of new cloths	101	8.5	35.61*	15.21*	70.35*	17.99*
Sanitary towels (pads)	146	12.3	55.78*	44.13*	11.73*	33.63*
Napkins	120	10.1	15.74*	9.48*	56.31*	9.47*
Toilet rolls	807	67.8	21.86*	18.11*	18.97*	17.11*
Cotton wool	44	3.7	51.87*	21.62*	43.64*	40.95*
Shoulder pad foam	14	1.2	56.98	8.72*	16.21*	8.16*
Age (df = 2; χ^2 critical = 5.991), FO (df = 3; χ^2 critical = 7.815), MO (df = 3; χ^2 critical = 7.815), NSS (df = 2; χ^2 critical = 5.991)						
Change of Materials during Menses per Day			34.90*	23.66*	32.13*	18.71*
Once	618	51.9				
Two times	231	19.4				
Three times	283	23.8				
Four times	38	3.2				
More four times	21	1.8				
Age (df = 8; χ^2 critical = 15.507), FO (df = 12; χ^2 critical = 21.026), MO (df = 12; χ^2 critical = 21.026), NSS (df = 8; χ^2 critical = 15.507)						
Bathing during Menses per Day			19.17*	91.68*	24.37*	91.33*
None†	Nil	Nil				
Once	686	57.6				
Two times	301	25.3				
Three times	142	11.9				
Four times	19	1.6				
More four times	43	3.6				
Age (df = 8; χ^2 critical = 15.507), FO (df = 12; χ^2 critical = 21.026), MO (df = 12; χ^2 critical = 21.026), NSS (df = 8; χ^2 critical = 15.507)						
Cleaning of External Genital per Day			66.54*	31.65*	40.21*	35.02*
None†	Nil	Nil				
Once	719	60.4				
Two times	358	30.1				
Three times	41	3.4				
Four times	56	4.7				
More four times	17	1.4				
Age (df = 8; χ^2 critical = 15.507), FO (df = 12; χ^2 critical = 21.026), MO (df = 12; χ^2 critical = 21.026), NSS (df = 8; χ^2 critical = 15.507)						
Activities Engaged to Reduce Menstrual Pain+						
Taking pain relievers (e.g., Paracetamol)	909	76.3	19.43*	44.30*	17.96*	31.20*
Getting involved in regular exercise	139	11.7	84.67*	31.43*	22.57*	25.11*
Taking hot water	671	56.3	53.01*	16.62*	19.71*	53.71*
Taking cold water	225	18.9	12.11*	32.41*	34.32*	25.54*
Avoid food	519	43.6	16.46*	9.34*	21.14*	11.89*
Place hot water on my stomach	193	16.2	7.77*	18.03*	45.72*	71.67*
Age (df = 2; χ^2 critical = 5.991), FO (df = 3; χ^2 critical = 7.815), MO (df = 3; χ^2 critical = 7.815), NSS (df = 2; χ^2 critical = 5.991)						

+Multiple responses, †Not included in analysis because observed frequencies are zero, * $p < 0.05$

Table 3: Sources of menstrual hygiene information (N = 1191)

Sources+	Responses		Age	FO	MO	NSS
	f	%				
Radio	974	81.8	11.96*	12.96*	39.13*	12.46*
Print Media (e.g., books, newspapers)	938	78.8	6.67*	14.67*	41.95*	46.17*
School (Teacher)	427	35.9	28.14*	13.21*	80.32*	18.24*
Church (Pastor or Reverend)	422	35.4	29.23*	49.21*	18.96*	33.20*
Handbills and leaflets	351	29.5	94.77*	30.04*	24.67*	26.14*
Banners and posters	368	30.9	35.11*	15.61*	18.29*	55.61*
Family members (e.g., parents, sisters)	450	37.8	11.05*	34.43*	39.22*	35.64*
Friends and peers	801	67.3	18.76*	8.44*	20.14*	18.49*
Movies, cinema and film	346	29.1	7.67*	19.01*	55.71*	91.87*
Health workers (e.g., doctors, nurses)	361	30.3	18.12*	41.65*	54.13*	35.01*
Television	872	73.2	39.28*	8.32*	9.44*	41.91*

Age (df = 2; χ^2 critical = 5.991), FO (df = 3; χ^2 critical = 7.815), MO (df = 3; χ^2 critical = 7.815), NSS (df = 2; χ^2 critical = 5.991).

4.0 Discussion

The present study ascertained the menstrual hygiene practices and sources of menstrual hygiene information among adolescent secondary school girls in Abakaliki education zone Ebonyi state. The study showed that most girls who took part in the study are of age 16, are in SS 3, have fathers and mothers who are farmers and have two or more senior sisters. The results are not out of place especially in the area of the study where, experience shows; age of beginning secondary education has been reduced following the encouragement provided by the immediate past civilian government in the state. Secondly, that the main occupation of the girls' parents is farming may not be questioned carelessly since naturally the main occupation of the inhabitants of Ebonyi state is farming which is done on both commercial and subsistence levels. Thirdly, the girls having two or more senior sisters is not to be argued since it is the 'culture' of a typical farmer to have as many children as possible and the tendency of having more girls than boys is very high.

It is uninteresting that the majority of the girls used toilet rolls and rags torn out from old soft cotton manage the menses; changed materials, and cleaned external genitalia, respectively, once in a day. It is also astonishing that in this age enlightenment girls still practice the use of pain relievers, hot water and avoidance of food to reduce menstrual pain. This is a clear indication that the girls might still regard menstruation as an unnatural process (Adinma & Adinma, 2008; Khanna, Goyal, & Bhawsar, 2005; Moawed, 2001; Umeora & Egwuatu, 2008). These practices are unsatisfactory based on the suggestions of Ahmed and Yesmin (2008) that materials, cleaning of external genitalia and bathing during menses should be undertaken at least four times per day. Chi-square test indicated all differences in the menstrual hygiene practices among the girls in association with age, father's occupation, mother's occupation and number of senior sisters were significant. These findings, though disappointing, corroborated those of other studies that reported unsatisfactory menstrual hygiene practices among adolescent girls elsewhere (Dasgupta & Sarkar; Adinma & Adinma, 2008; Ahmed & Yesmin, 2008).

Regarding sources of information of menstrual hygiene, the girls reported their main sources of information included radio, print media, television, and friends and peers. From the results, it is evident that the vast majority of the girls received their information on menstrual hygiene from the mass media. Very little communication regarding menstruation occurred between the girls and their parents, teachers or health workers (e.g., doctors and nurses). This situation, most often, is as a result of the cultural attachment placed on the subject matter (Poureslami & Osati-Ashtiani, 2002; Umeora & Egwuatu, 2008). This suggests the importance of involving parents, teachers, health workers and even students in reproductive health education programmes. The motivation of interest in parents, teachers and health workers concerning menstruation may be of assistance to them in order to educate their children/or students regarding the subject matter. Previous studies revealed consistent findings with those of the present study (Drakshayani & Venkata, 1995; Fakeye & Egade 1994). The implication of the findings of the present study accentuates the need for a formal reproductive health education in the secondary school health education or health science curriculum where teachers might have the opportunity of providing scientific information on menstrual hygiene to the students.

5.0 Conclusion and Recommendation

The results of the study indicated that the menstrual hygiene practices among the girls were not encouraging and that the girls received menstrual hygiene information from undependable sources. Menstrual hygiene practices are important at all times, the need for more careful attention to personal cleanliness before and during menstruation will contribute to a girl's comfort and confidence. Information on menstrual hygiene is hardly ever

included in other health-related classes in the school and may or may not be discussed sufficiently at home and other settings. It is important to include the issue as mandatory and both male and female teachers should take the issue as a normal issue of discussion as like other hygiene issues. Menstrual hygiene should be linked to the hygiene education programme in schools with active involvement of female teachers and caring environment for menstrual hygiene has to be provided both at home and in school.

The results of the study may not be used in making a sweeping conclusion concerning other population groups in Nigeria and elsewhere; who may differ to a large extent in socio-economic conditions. The girls studied represent an important group of the Nigerian population and information generated will be useful in the planning of future reproductive health-related programs on menstrual hygiene in secondary schools in Nigeria and other sub-Saharan Africa countries that may have same cultural affinity with Ebonyi state.

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Appendix About the Questionnaire

This questionnaire is concerned with obtaining relevant information on the Menstrual Hygiene Practices and Sources of Menstrual Hygiene Information among Adolescent Secondary School Girls in Abakaliki Education Zone of Ebonyi State. We assure you that the response you give will be used strictly for the purpose of this study, and that no part of it will be used against you or against your school. Do not write your name or that of your school on any part of the questionnaire. You are required to place a tick (✓) where applicable.

Section A: Personal Data

Instructions: Place a tick (✓) in the box provided against the option that expresses your opinion.

1. How old are you?
 - a. Less than 16 years
 - b. 16 years
 - c. 17 years
2. In which class are you?
 - a. Senior Secondary (SS) 2
 - b. Senior Secondary (SS) 3
3. What is the occupation of your father?
 - a. Teaching
 - b. Farming
 - c. Trading
 - d. Driving
4. What is the occupation of your mother?
 - a. Teaching
 - b. Farming
 - c. Trading
 - d. House wife
5. How many senior sister(s) have you?
 - a. None
 - b. One
 - c. Two and above

Section B: Menstrual Hygiene

Instructions: Place a tick (✓) in the box provided against the option that expresses your practice during menses.

6. Which of the following materials do you use during menses? (Tick as many as apply to you).
 - a. Rags (cloths torn form old soft cotton)
 - b. Pieces of new cloths
 - c. Sanitary towels (pads)
 - d. Napkins
 - e. Toilet rolls
 - f. Cotton wool
 - g. Shoulder pad foam
7. How many times do you change the materials in a day during menses? (Tick one that is most appropriate to

- you).
- a. Once
 - b. Two times
 - c. Three times
 - d. Four times
 - e. More than four times
8. How many times do you take your bath in day during menses? (Tick one that is most appropriate to you).
- a. Once
 - b. Two times
 - c. Three times
 - d. Four times
 - e. More than four times
9. Apart from taking your bath, how many times do you clean the external genitalia per day? (Tick one that is most appropriate to you).
- a. None
 - b. Once
 - c. Two times
 - d. Three times
 - e. Four times
 - f. More than four times
10. Which of the activities do you engage in to reduce menstrual pain? (Tick as many as apply to you).
- a. Taking pain relievers (e.g., Aspirin, Paracetamol, Ibuprofen)
 - b. Getting involved in regular exercise
 - c. Taking hot water
 - d. Taking cold water
 - e. Avoid food
 - f. Place hot water on my stomach

Section C: Sources of Menstrual Hygiene Information

From which of the following sources do you receive information about menstrual hygiene? Tick (✓) as many as are applicable to you.

- 11. Radio
- 12. Print media (e.g., books, newspapers, magazines etc.)
- 13. School (Teacher)
- 14. Church (Pastor or Reverend)
- 15. Handbills and leaflets
- 16. Banners and posters
- 17. Family members (e.g., parents, sisters)
- 18. Friends and peers
- 19. Movies, cinema and film
- 20. Health workers (e.g., doctors, nurses etc)
- 21. Television