

# Perceptions and Practices on Menstruation Amongst Nigerian Secondary School Girls

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## ABSTRACT

This Cross-sectional descriptive study was conducted amongst 550 secondary school girls in southeastern Nigeria to determine their perceptions, problems, and practices on menstruation. Majority of the students, (75.6%), were aged 15-17 years. Only 39.3% perceived menstruation to be physiological. Abdominal pain/discomfort, (66.2%), was the commonest medical problem encountered by the respondents, although 45.8% had multiple problems. Medical problems were most commonly discussed with the mother, (47.1%), and least commonly discussed with the teachers, 0.4%. Analgesics, (75.6%), were most commonly used to relieve menstrual pain. Only 10% of respondents used non-pharmacologic remedies. Unsanitary menstrual absorbents were used by 55.7% of the respondents. Menstruation perceptions are poor, and practices often incorrect. A multi-dimensional approach focusing on capacity building of mothers, and teachers on sexuality education skills; using religious organizations as avenues for sexuality education; and effectively using the Mass Media as reproductive health education channels are recommended towards improving adolescents' perceptions and practices on menstruation. (*Afr Reprod Health* 2008; 12[1]:74-83).

## RÉSUMÉ

**Perceptions et pratiques concernant la menstruation chez les étudiantes du secondaire** Cette étude descriptive transversale a été menée au sein des 550 étudiantes du secondaire au sud du Nigéria afin de déterminer leurs perceptions, leurs problèmes et leurs pratiques concernant la menstruation. La majorité des étudiantes (75,6%) aient âgées de 15 – 17 ans. Seules 39,3% ont perçu la menstruation comme physiologique. La douleur / gêne abominable (66,2%), était le problème médical le plus commun auquel ont fait face les participantes, bien que 45,8% avaient des problèmes multiples. Les problèmes médicaux ont été les plus communément discutés avec la mère (47,1%) et les moindre discutés avec les professeurs (0,4%). Les analgésiques (75,6%) ont été les plus communément utilisés pour soulager la douleur menstruelle. Seules 10% des participantes utilisaient des remèdes non pharmacologiques. 55% se sont servies des absorbants non-sanitaires parmi les participantes. Les perceptions de la menstruation était mauvaise et les pratiques étaient souvent incorrectes. Nous préconisons une approche multi-dimensionnelle qui met l'accent sur le renforcement de la capacité des mères et des professeurs sur des compétences de l'éducation sexuelle ; se servant des organisations religieuses comme moyens de l'éducation sexuelle, et se servant effectivement des médias comme des voies pour l'éducation de la santé de reproduction, vers l'amélioration des perceptions et des pratiques des adolescentes à l'égard de la menstruation. (*Rev Afr Santé Reprod* 2008; 12[1]:74-83).

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## **Introduction**

The onset of menstruation represents a landmark event in pubertal development of the adolescent girl. Menstruation, and the menstrual cycle are characterized by variability in volume, pattern and regularity, which at the earlier stages of the development of the adolescent can create emotional discomfort particularly to the poorly informed girl<sup>1</sup>. Studies have shown that although most girls viewed themselves as being prepared for menarche, having ‘discussed this with their mothers’, obvious misconceptions on the true physiological process and characteristics of menstruation and the menstrual cycle is evident from these studies<sup>2,3,4</sup>. This to a large extent influences menstrual practices of these adolescent girls. It has further been observed that many girls have a faulty knowledge of the location and function of the reproductive organs and their inter-relationships — some even perceiving events like menstrual bleeding to be emanating from the abdomen, intestines, and kidneys, or occurring as a consequence of curse from god, sin, and disease<sup>1,2</sup>. There is a tendency for girls to associate a variety of negative physical and psychological changes on their body with menstruation — a situation found to be more marked in blacks compared to white girls. This may indicate an imbibition and internalization of cultural myths and stereotypes associated with menstruation in many cultures which undoubtedly influence menstrual practices amongst girls in these cultures — particularly amongst those who had no formal education on reproductive biology<sup>1,2,5</sup>.

Faulty perceptions or misconceptions on menstruation and menstrual cycle will lead to faulty menstrual practices. Either of these may engender reproductive health problems in the adolescent, such as dysmenorrhoea, gastrointestinal manifestations; depression; and reproductive tract infections which may in turn cause congestive dysmenorrhoea.

The Ibos of southeastern Nigeria comprise one of the three major Nigerian ethnic groups,

the others being the Yorubas in the southwest, and the Hausas in the north. Major cultural differences exist between these ethnic groups which to a large extent influence several characteristics and attitudes of their people. Culturally, amongst the Ibos, discussion on sexuality, including menstruation is often shrouded in secrecy, rarely is such discuss carried out even amongst adults themselves, a situation which may exert little or no influence of mothers on their daughters’ attitude to menstrual perceptions and practices. This state of affairs however is changing with increasing socialization between the mothers and their daughters consequent upon Western education, and amongst this group dis-similarities may not exist on menstrual attitudes and practices between the mothers and their adolescent daughters.

This study has been undertaken amongst adolescent secondary school girls in Onitsha, southeastern Nigeria to determine their perceptions on, medical problems associated with and key practices during, menstruation with a view to identifying information and practice gaps, and misconception on menstruation requiring address. This will be expected to enable the incorporation of correct and appropriate information on menstruation and menstrual practices into the reproductive health education programmes of schools in Nigeria.

## **Subjects and Methods**

This study was conducted amongst girls drawn from secondary schools in Onitsha, the largest commercial city in Anambra State of southeastern Nigeria. Secondary schools in Onitsha, and indeed in Anambra State as a whole, are characterized by high female enrolment ratio, the males often having dropped out to pursue commercial ventures perceived to be more lucrative. These schools are also characterized by the absence of boarding facilities with the resultant high numbers of day students, thereby exposing the students to the “outer world” of city life, and increased suscep-

tibility to unwholesome sexual practices. Of the 50 public, and government-approved private secondary schools in the register of the Zonal State Post-primary Education Board, only the homogeneous girls' secondary schools, and co-educational (mixed boys and girls) institutions in the zone were included in the study. The homogeneous boys' institutions were excluded. Only students drawn from the JSS III and SSS III classes of selected institutions, who menstruate, were included in the study. Students who had not attained menarche were excluded. The survey employed a Cross-sectional, descriptive study design. Sample selection was by multi-stage sampling technique. This technique involved the following process: - of the secondary schools that met our inclusion criteria, four schools were selected by simple random sampling technique, comprising of two each of the public, and government-approved private secondary schools, each of which also has a homogeneous girl and a co-educational institution. The JSS III and SSS III students of these institutions were selected because the classes represent the exit (final year) of the students from the institutions, and they would therefore have been expected to have imbibed some behavioural experience including menstrual over the years of sojourn in the school. The student population averaged 250 per class distributed over 4-6 streams of each class. All together 600 students were drawn following informed consent, from the JSS III and SSS III classes of the selected schools using stratified random sampling with proportional allocation of sample size to the institutions.

Using pre-tested, semi-structured, and self-administered questionnaire, information was

obtained from the study respondents, in respect of the following variables — age; perception on menstruation; practices during menstruation; and medical problems associated with menstruation together with persons with whom these problems were most discussed. Data obtained were collated, and analysis performed using EPI-info software of the computer. The results obtained were displayed using simple frequencies and comparative percentages.

## Results

A total of 550 questionnaires, out of the 600 administered were retrieved and analyzed.

Table 1 shows the distribution by age of the respondents. Overall age range was 12-20 years. Majority of the respondents, 416 (75.6%), were aged between 15-17 years, while the least age range was 12-14 years — 20 (3.6%).

Distribution by perception on menstruation amongst the respondents as shown in Table 2 indicates that 216 (39.3%) perceived menstruation as a physiological process. Two hundred (36.4%) of the respondents perceived menstruation as an assured fertility (i.e. fecundity), while 156 (28.4%) viewed menstruation as release of 'bad blood'. Amongst other perceptions on menstruation, from the respondents include cleansing of the womb, 148 (26.9%), and washing off of an undeveloped baby, 98 (17.8%). None (0.0%) of the respondents perceived menstruation to be a consequence of evil forces/curse from gods.

The commonest medical problem encountered amongst the respondents as shown in Table 3 is abdominal pain/discomfort, 364 (66.2%). Other medical problems include waist pain, 212

**Table 1. Distribution by age of respondents**

Age (Years)	No	%
12-14	20	(3.6)
15-17	416	(75.6)
18-20	114	(20.7)

Table 2. Distribution by perception on menstruation amongst respondents

Perception	No (N=818)	%
Normal physiological process	216	(39.3)
As an assured fertility (fecundity)	200	(36.4)
Release of bad blood	156	(28.4)
Cleansing of the womb	148	(26.9)
Washing off of an undeveloped baby	98	(17.8)
Due to evil forces/curse from gods	0	(0.0)

Table 3. Distribution by medical problems associated with menstruation, and persons with whom problems were most discussed

Characteristics	No	%
<b>Medical problems (N=550)</b>		
Abdominal pain/discomfort	364	(66.2)
Waist pain	212	(38.5)
Depression	134	(24.4)
Vomiting	38	(6.9)
Anorexia	10	(1.8)
Weakness	8	(1.5)
Increased appetite	6	(1.1)
Multiple problems	252	(45.8)
<b>Persons with whom menstrual problems were most discussed (N=401)</b>		
Mothers	189	(47.1)
Friends	93	(23.3)
Elder female siblings	88	(21.9)
Aunts	13	(3.3)
Health professionals	13	(3.3)
Boy friends	3	(0.7)
Teachers	2	(0.4)

(38.5%); depression, 134 (24.4%); vomiting, 38 (6.9%); anorexia, 10 (1.8%); weakness, 8 (1.5%); and increased appetite, 6 (1.1%). As high as 252 (45.8%) of the respondents had a combination of medical problems. Of the 401 respondents who discussed their menstrual problems, the commonest person with whom this was most discussed was the mother, 189 (47.1%). This is followed by peer or respondents' friends, 93 (23.3%), and elder female siblings, 88 (21.9%). The aunt, and health professionals each respectively accounted for 13 (3.3%), while boy friends, and teachers, were responsible for 3 (0.7%) and 2 (0.4%) respectively.

Table 4 shows the distribution by key practices during menstruation. Amongst materials used as menstrual absorbents, toilet tissue paper was most common, being utilized by as high as 227 (41.3%). Sanitary pad was used by 180 (32.7%) of the respondents, while 79 (14.4%), and 59 (10.7%) used clothes, and multiple materials respectively. Only 5 (0.9%) of the respondents used tampon as menstrual absorbent.

## Discussion

Menstruation as a key element of reproduction and reproductive biology has been highlighted in a recent study conducted by Omigbodun and

**Table 4. Distribution by practices during menstruation**

Practices	No	%
<b>Menstrual absorbents used (N=550)</b>		
Toilet tissue paper	227	(41.3)
Sanitary pad	180	(32.7)
Clothes	79	(14.4)
Tampon	5	(0.9)
Multiple materials	59	(10.7)
<b>Remedies for menstrual pain (N=180)</b>		
Analgesics only	136	(75.6)
Alcohol only	6	(3.3)
Analgesics and Alcohol	7	(3.9)
Non Analgesic medication (e.g. Antacid, Anti-spasmodic)	13	(7.2)
Hormonal medication (Oral Contraceptives)	0	(0.0)
Spices (Garlic, Bitter kola)	8	(4.5)
Salted water	6	(3.3)
Abdominal hot water compress	4	(2.2)

Omigbodun 6 in southwestern Nigeria. Among all the five age categories of girls ranging from childhood to late adolescence (7-21 years) studied, to ascertain the unmet need for sexuality education, concerns on menstruation constituted a recurrent issue<sup>6</sup>. The age range of girls in our study group (12-20 years) falls within the range in Omigbodun and Omigbodun study. Majority of girls in our study were aged between 15 and 17 years, 416 (75.6%). Misconceptions on menstruation, amongst adolescents, cut across cultures and countries. Studies conducted in both developed and developing countries indicate the varying degree to which adolescents exhibit a faulty perception of menstruation and menstrual cycle<sup>2,6,8,9</sup>. Only 39.3% of the respondents in this study perceived menstruation to be a physiological process. This is only slightly higher than that reported by Tiwari et al<sup>10</sup>, 31.0%, in India. These figures are surprisingly much lower than 66.2% earlier reported by Drakshayani and Venkata also from India, although the latter had conducted their survey on only 65 adolescent girls in contradistinction to Tiwari et al's 900, and our 550 adolescent school girls<sup>1</sup>.

As high as 36.4% of the respondents in this study perceived menstruation as an assurance of

fertility (i.e. fecundity). This perhaps may not be un-related to the premium to which the average African attaches to fertility and child bearing<sup>11</sup>. They will therefore go to any length to seek for the needed assurance on fertility, or remedies for infertility. Majority of our study respondents — as high as 402 (73.1%), perceived menstruation from the point of view of cleaning-up of the uterus indicated either as 'release of bad blood', 28.4%; 'cleansing of the womb', 26.9%; or 'washing off of an undeveloped baby', 17.8%. This clean-up myth may also further signify culture related impression of what an ideal pregnancy abode should be — the 'unsoiled' or 'dirt free' uterus. None of our respondents regarded menstruation to be due to evil forces/curse from gods, an important perception reported in 18.5% of respondents in the study by Drakshayani and Venkata, who in addition reported a perception of menstruation to be a consequence of disease, and sin in 7.7%, and 6.2% of their respondents respectively.

Dysmenorrhoea manifesting either as abdominal pain, 66.2%, or as waist pain, 38.5%, constituted the commonest medical problems amongst the respondents in this study. This agrees with the finding in other studies both in developed

and developing countries<sup>4, 12,13,14,15</sup>. Apart from the physical discomfort associated with dysmenorrhoea, it is also believed that when accompanied with altered frequency of the menstrual cycle, may represent a manifestation of functional anomalies of the female reproductive system<sup>16</sup>.

O'Connell et al reported an associated nausea and vomiting in 55%, and 24% respectively of adolescents with dysmenorrhoea<sup>14</sup>. Our study also observed similar associated gastro-intestinal symptoms, which include vomiting, anorexia, and increased appetite, in 6.9%, 1.8%, and 1.1% respectively of the study population. It is not clear as to the relationship between dysmenorrhoea and gastro-intestinal symptoms — some of which seem paradoxical (e.g. anorexia vs. increased appetite). Basically, fall in level of progesterone associated with the onset of monthly menstrual period, stimulates the arachidonic acid cascade with the activation of the prostaglandin synthetase enzymes to produce prostaglandins which give rise to the pain of menstruation. It is therefore tempting to suggest that alteration in hormonal levels controlling the menstrual cycle and menstruation may constitute a trigger mechanism to neuro-physiological interactions that may account for physical gastro-intestinal manifestations. It is also possible that gastro-intestinal symptoms may be a manifestation of the side effects of pharmacological agents taken to relieve dysmenorrhoea. Pharmacologic agents constitute the most common remedy for dysmenorrhoea amongst our study respondents, and include analgesics, 75.6%, and non-analgesics, 7.2%, medications either alone or in combination with other non-specific agents. The efficacy of pharmacologic agents in the relief of menstrual pain was highlighted in a recent study by Davis et al who reported the effectiveness of low-dose oral contraceptives in the relief of dysmenorrhoea amongst adolescent girls<sup>17</sup>. Oral contraceptives use for the relieve of menstrual pain was not observed in this study.

This conforms with the finding in a previous report from the study area where oral contraceptive usage was reported to be low, the pill being perceived by most of the students studied to be associated with 'damage to the uterus'; 'infertility'; and 'amenorrhoea'<sup>18</sup>. However there is no doubt whatsoever that analgesics, and indeed many of the other pharmacologic agents purported to have been used by our respondents offered a sufficiently soothing effect to warrant their continued use. Other remedies employed to relieve dysmenorrhoea, observed in this study, are non-pharmacologic, and include spices (garlic, bitter kola), 4.5%; salted water, 3.3%, and abdominal hot water compress, 2.2%. These are non-specific remedies which use may perhaps not be unconnected to mythical beliefs and misconceptions related to menstruation. Hot water compress and the application of heat to relieve menstrual pain have for example been believed to operate by dissolving clotted blood perceived to be the origin of dysmenorrhoea<sup>6</sup>. The relatively lower efficacy of non-pharmacologic remedies in the treatment of dysmenorrhoea has been reported by O'Connell et al<sup>14</sup> who observed higher morbidity and negative social consequences such as school absenteeism amongst adolescent girls employing non-pharmacologic agents for the relief of dysmenorrhoea.

Apart from dysmenorrhoea and gastro-intestinal symptoms, depression also constituted a significant encountered medical problem, occurring in 24.4% of the respondents. It is however pertinent to note that as high as 45.8% of the study population had multiple problems which undoubtedly may be inter-related. Depression is a major component of premenstrual syndrome (PMS) which has in fact been observed to be the most prevalent menstrual disorder reported by Houston et al<sup>19</sup>. It is important therefore to be always mindful of the presence of depression, which can present even as bizarre symptom, when handling consultations on menstrual disorders from adolescents.

Of the 401 respondents who claimed to have discussed their medical problems associated with menstruation, the most common person with whom this was done was the mother who accounted for 47.1% (189). Similar observation was made by Lee et al<sup>4</sup> who reported that mothers constituted the source of information on menstrual disorders in as high as 80%, in their study population, and also other reports<sup>1,2,10</sup>, in which the mother was the most common source of information on menstruation generally. This observation is not surprising since mothers are often the closest informant and “teacher” of the growing adolescent girl, and this was probably responsible for the glaring similarity in menstrual attitudes between mothers and their daughters following studies on the “generational differences in perception of menstruation and attitudes to menstruation” conducted by Strauss et al<sup>20</sup>. Unfortunately information on menstruation given by mothers are often incomplete and incorrect, usually being based on cultural myths, and therefore probably constitutes a major factor towards the negative and distorted perception and practice of menstruation. Peer group or friends, another important group with whom the adolescents most commonly discussed their menstrual problems in this study, have been reported by previous authors to also constitute an unreliable source of information for the adolescent, they being also poorly informed on human sexuality issues<sup>6,18,21</sup>. The aunt, and the health professional, each was person with whom menstrual problems were discussed in 3.3% of the respondents respectively. Many growing adolescent girls live with close relatives especially aunts under the extended family culture in many parts of Nigeria. The 3.3% assigned to the aunt seems relatively low when compared to reports from southwestern Nigeria where Abioye-Kuteyi had observed the “family” to be the most common source of information on menstruation amongst the adolescents<sup>3</sup>.

Lee et al in Malaysia observed that only 11.1% of adolescent school girls in their study sought

medical consultations for menstrual disorders<sup>4</sup>. Ours, 3.3%, is even lower. This low medical consultation for menstrual matters may perhaps be related to the fact that majority of our respondents, 39.3%, perceived menstruation to be a normal physiological process, not requiring medical consultation. Teachers trailed the list as the most common source of consultation for menstrual problems. Teachers and formal education in general have been observed to play little role as source of information on reproductive health<sup>18,21</sup>, a situation considered worrisome in view of the important position of teachers as formal instructors in the teaching process of the growing adolescence.

Approximately 33.6% of the girls in this study used sanitary materials (sanitary pad, and tampon) as menstrual absorbents. As high as 55.7% used unsanitary methods. This is similar to the observation of Abioye-Kuteyi<sup>3</sup> who reported the use of unsanitary methods of menstrual absorbencies in 66.3% of girls studied in southwestern Nigeria. The type of menstrual absorbent used constitutes a foremost component of menstrual hygiene since unsanitary materials such as toilet tissue paper and clothes may harbour infection agents which often thrive under blood culture medium, and may therefore constitute a source of pelvic infection. Toilet tissue paper was the most commonly used menstrual absorbent amongst our respondents, 41.3%. This menstrual absorbent seems to be popular amongst Nigerian girls and its safety may be a source of concern as expressed by girls in Omigbodun and Omigbodun study, who sought to know whether or not the material could constitute a source of infection<sup>6</sup>. 14.4% of the girls in this study used clothes as menstrual absorbents. This figure is relatively low when compared with 98.5% reported by Drakshayani and Venkata in an Indian study<sup>1</sup>. The implication of using clothes is the tendency towards their being re-cycled, which had been observed to be the case in 38.5% of the girls in Drakshayani and Venkata study, a situation which may highly predispose to pelvic infection.

The use of unsanitary and sub-standard menstrual absorbents has also been observed amongst the rural girls, and of low socio-economic class, in Egypt<sup>22</sup>. Poverty and low social class which is highly prevalent in Nigeria therefore undoubtedly play a major role towards the use of unsanitary materials as menstrual absorbents among Nigeria girls, and women in general. It is likely that poor financial resources may have contributed immensely to the use of 'multiple material' as menstrual absorbents amongst the girls in this study.

The effective modification of perception on menstruation amongst adolescent girls is a major prerequisite towards effecting the necessary behavioural change on menstrual practices amongst them. This will involve a multi-dimensional approach that focuses on the adolescent girl on one hand, and key actors and activities that may influence her sexuality life on the other. The mother and the family have been identified in this study, and in fact in other similar studies, to be of foremost influence on the reproductive health attitude and practices of the adolescent girl. The lack of knowledge of and misconceptions on menstruation, characteristic of the 'mother' has been earlier highlighted. It is therefore important that mothers be armed with the correct and appropriate information on reproductive health, to give to their growing girl child on a 'dose-related' continuous basis. Since mothers themselves are often shy to discuss sexual matters with their young children, appropriate capacity must be built towards their acquisition of the necessary skills for this task through group workshops for mothers on family life education at every opportunity such as women's meetings e.g. town union meetings; religious organization meeting — Mothers' Guild, Catholic Women Organization, etc; and social clubs' meeting.

After the family, teachers constitute the next most important group to whom in-school adolescent girls come in contact on day-to-day basis. Unfortunately teachers were found to constitute the least group with whom menstrual problems were most discussed in this study, 0.4%,

and in similar reproductive health studies<sup>18, 21</sup>. Apart from including family life and reproductive health education into the formal school curriculum at all levels, as a matter of policy, the teachers who may in fact not have the necessary skills to impart this education to their pupils should have the requisite skills on this given to them — usually through workshops.

El-Gilany et al have suggested the need to link vital activities related to menstruation such as instruction on menstrual hygiene to an expanded programme of health education in schools, and further highlighted the relevance of the provision of a supportive environment for menstrual hygiene both at home and in the school.

The out of school adolescent girls may perhaps constitute a hard to reach for the purpose of adolescent reproductive health education services. The Churches, and similar religious organizations have recently exhibited interest and commitment towards family life education of the adolescents and youths, a situation which had hitherto not been so<sup>6,23,24,25</sup>. Reproductive health experts should grab this opportunity to carry out reproductive health education services to adolescences, who in these Church gatherings often comprise an admix of both in-school and out-of-school youth and adolescents. Such Church gatherings usually occur in the form of crusades, conferences, and meetings. Omigbodun and Omigbodun conducted a reproductive health research and information service amongst adolescent girls in a Christian Summer Camp in southwestern Nigeria. To this end, Religious Youth Organizations which abound amongst many religious organizations such as Catholic Youth Organization of Nigeria, and Boys' and Girls' Brigades, may be considered to be vital allies towards the dissemination of reproductive health information amongst adolescents and youths.

The Mass media have been observed to play a prominent role in the dissemination of reproductive health information<sup>18, 21, 22</sup>. The Radio for

instance is widely listened to by Nigerians — whether in the urban or rural areas, and can be employed in the dissemination of reproductive health education. Media stations and media practitioners should therefore be encouraged to seek for support and sponsorship for reproductive health education programmes which can be aired at periods when adolescents are mostly at home.

These suggested measures if judiciously carried out will in no distant future positively influence the perception of adolescents on menstruation, and ultimately achieve the desired behavioural change in menstrual practices, and indeed reproductive health practices as a whole.

In conclusion, this study has revealed that perceptions on menstruation amongst adolescent secondary school girls in Onitsha urban are poor, and practices often incorrect. The reproductive health implications of these are many and invariably call for an urgent address by all stakeholders in reproductive activities in order to entrench correct menstrual perceptions, and practices amongst this vital segment of our population. This will assure the overall reproductive wellbeing of our future generation.

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