



[www.ajbrui.org](http://www.ajbrui.org)

*Afr. J. Biomed. Res. Vol. 24 (September, 2021); 363- 369*

*Research Article*

## **Attitudes, Beliefs and Perception of Menstruation Related Socio-Cultural Practices and Menstrual Hygiene Management among In-School Adolescent Girls in Cross River State, Nigeria**

**Edet O.B.<sup>1</sup>, Bassey, P.E.<sup>2</sup>, Esienmoh E.E.<sup>1</sup> and Ndep, A.O.<sup>2</sup>**

<sup>1</sup>*Department of Nursing Science, Faculty of Allied Medical Sciences, University of Calabar, Nigeria*

<sup>2</sup>*Department of Public Health, Faculty of Allied Medical Sciences, University of Calabar, Nigeria*

### **ABSTRACT**

Menstruation and its management in developing countries including Nigeria are often shrouded in inhibitory cultural myths, taboos and stigma. The study examined the perceptions of adolescent in-school girls about the teaching of menstruation and sexuality education in schools, socio-cultural practices associated with menstruation and management of menstruation was determined. A cross-sectional questionnaire-based survey was carried out among 1006 randomly selected urban and rural-based adolescent schoolgirls from both public and private secondary schools in Cross River State, Nigeria. Most (72.8%) of the respondents supported discussions about menstruation and the teaching of sexuality education in schools. Over 70% of the respondents were opposed to the prohibitive practices associated with menstruation, 80% of the girls used sanitary pads as menstrual absorbents. The teaching of contextual sexuality education in Nigerian schools to address existing myths, beliefs and misconceptions about menstruation and its management should be encouraged and sustained.

**Keywords:** *Beliefs, Education, Menstruation, Menstrual Hygiene Management, Myths*

\*Author for correspondence: Email: [bamideleedet@yahoo.com](mailto:bamideleedet@yahoo.com); Tel: +2348039775596

*Received: January 2021; Accepted: July 2021*

### **INTRODUCTION**

Menstruation is a normal physiological process that begins at menarche and stops at menopause (Archibald, Graber & Brooks-Gunn, 2003; Brennan, 2019). In parts of Africa, South/Southeast Asia and the Pacific Region, the onset of menstruation in pubertal adolescent girls is often celebrated with ceremonies, rituals and cultural rites that symbolize the coming of age, femininity and fertility (Belayneh & Mekuriaw, 2019; Garg & Anand, 2015; Nayak, Toppo, Tomar, & Kasar, 2016; Santana, Wehbe, Ziade, & Nehme, 2013).

In contrast to the celebrations that herald the onset of menstruation and the rites of passage into womanhood, the establishment of the regular monthly cyclical menstrual flow and its management particularly in some low and middle income countries (LMICs), is often associated with restrictive cultural beliefs, myths, taboos, and stigmatizing practices which are underpinned by entrenched social, cultural and religious norms and gender stereotypes (Belayneh & Mekuriaw, 2019; Santana, Wehbe, Ziade, & Nehme, 2013; Baumann, Lhaki & Burke, 2019).

There is a wide spectrum of cultural beliefs and practices associated with menstruation, spanning from simple seemingly harmless rituals such as the “Mikvah”, in Judaism, a form of ritual bathing performed by women at the end of the

menstrual period (Adler, 1976, Wenger, 2009) or the cultural/religious taboos in some Hindu societies in India that forbid menstruating women from going to places of worship, the farm or even cooking food during menses (Garg, Sharma & Sahay, 2001; Kaundal & Thakur, 2014); to the more inimical and debasing practice of “Chaupadi”, which is the confining of menstruating women in dark huts as was the practice in Nepal (Baumann, Lhaki & Burke, 2019; Thapa, Bhattarai & Aro, 2019).

Regardless of the type of myth or taboo, so long as the practice affects the psycho-social well-being of the women, it is an infringement on their rights of womanhood. Moreover, the world has for a long time grappled with culturally defined norms and misconceptions about menstruation and menstrual hygiene practices. The problems are especially acute in conservative societies in the Middle East, Asia and Africa where gender discrimination is still highly prevalent and access to education for the girl child may be lacking. Issues related to womanhood and sexuality are usually not openly discussed but shrouded in secrecy and hushed discussions (Maruapula, 2016; Tal, 2019).

Generally, in developing countries, rural dwellers tend to be more disadvantaged in terms of access to health information compared with urban dwellers and this disparity could also impact negatively on the access to needed information for

improved menstrual hygiene management (MHM) for rural dwellers (Tal, 2019).

Nigeria is a country with different ethnic groups, each with their distinct cultures, traditions and norms. Cross River State, the study location, located in the South-South geopolitical zone of Nigeria, is noted for its unique rites of passage for adolescent girls and their preparation for womanhood. Circumcision of pubertal /adolescent girls as part of the rites of passage into womanhood was widely practiced in Cross River State until it was prohibited in the year 2000 (Cross River State, 2000) and criminalized in line with the National Violence Against Persons (Prohibition) Act that came into force in May 2015 (Federal Government of Nigeria, 2015).

To the best of our knowledge, the beliefs, myths and cultural practices associated with menses and menstrual hygiene management (MHM) have not been explored among girls /women in the State. This study was therefore undertaken to examine the attitudes, cultural beliefs /practices and misconceptions about menstruation and menstrual hygiene that have been inculcated or imbibed by these adolescent in-school girls that could affect their sexual and reproductive health development.

## MATERIALS AND METHODS

**Study Design /Setting:** A cross-sectional design was employed for this study. The study setting comprised eight secondary schools randomly selected from two Local Government Areas in Cross River State.

**Study Population and Sampling procedures:** A multi-stage sampling technique was adopted. One urban (Calabar) and one rural (Akpabuyo) LGA were randomly selected from the rural and urban LGA clusters respectively. The secondary schools in the selected LGAs were then disaggregated by ownership (Public and Private). Simple random sampling method was applied to select two Public- and two Private-owned schools from the urban LGA. For the rural LGA however, due to the paucity of privately owned secondary schools, two public schools were randomly selected, while the only two private secondary schools available were purposively included. The respondents were in-school adolescent girls in Junior Secondary 2 (JSS2) to Senior Secondary (SSS) 2, aged 10 to 18 years selected from the eight secondary schools using a systematic sampling method.

**Sample size determination::** The sample size was calculated by using Cochran's formula (Cochran, 1963)

$$\text{Sample size} = n \text{ per group; } n = \frac{2(Z_{\alpha} + Z_{\beta})^2 p(1-p)}{\Delta^2}$$

A critical value ( $Z_{\alpha/2}$ ) of 1.96 for (0.05) level of significance (95% confidence interval) was adopted; The Power was set at 80%; with a margin of error of 15%; while the prevalence (P) of menstrual hygiene practice of 40% was obtained from a previous study (Abioye-Kuteyi, Ojofeitimi, Aina, Kio, Aluko, & Mosuro, 1997). The parameters were imputed into the formula that follows:

$$n = \frac{2(1.96 + 0.84)0.40(0.60)}{0.15^2} = \frac{3.18}{0.0225} = 141$$

With a 6% increase to make up for non-response, the final sample size was 150 per school.

**Data Collection:** The researchers explained the procedure for the completion of the questionnaire to the study participants before administering the instrument. The questionnaires were completed in the classrooms within a period of 40 minutes.

**Instrument for data collection:** The questionnaire was in three parts; the socio-demographic variables of the respondents, information on beliefs/attitudes towards socio-cultural practices associated with menstruation/ menstrual hygiene practices and information on menstruation management among adolescents. The questionnaire was pre-tested among students from urban and rural schools in non-participating LGAs, using a test-retest approach to establish the reliability of the instrument. A Cronbach's Alpha (Coefficient Alpha) of 0.704 was obtained and considered satisfactory for the study (Kellar & Kelvin, 2013). Findings from the pre-test were used to adjust and improve the questionnaire.

**Ethical Consideration:** Ethical approval for the study was granted by the Cross River State Ethical Review Board, referenced CROSS RIVER STATE/MH/CGS/E-H/018/Vol.II/122. Administrative permit was also obtained from the two Local Government Councils. At the study sites, permission was sought and obtained from the school principals of each of the selected secondary schools. Informed consent was obtained from the parents of the students as well as from the students. The purpose of the study was fully explained to the students and assurance of anonymity of respondents was given, names were not written on the questionnaire.

## RESULTS

### Demographic characteristics of the respondents

Of the 1200 copies of the questionnaire distributed, 1006 were complete enough for analysis, thus giving a response rate of 84%. Of the 1006 respondents, 600 (59.6%) were in the urban LGA, while 406 (40.4%) were based in the rural LGA. Of these, 556 (55.3%) of the respondents were from public schools while 450 (44.7%) were from private schools. Detailed results of the demographic characteristics of the respondents have earlier been published (Edet, Bassey, Esienmoh & Ndep, 2020).

### Perceived attitude of the respondents towards discussing menstruation in schools

On perceived attitude of the respondents about discussion of menstruation in schools, majority 495 (82.5%) and 237 (58.4%) in urban and rural locations respectively disagreed with the notion that discussions on menstruation in schools should be discouraged. More 92 (22.7%) rural-based respondents were in support of discouraging discussions about menstruation compared to their urban counterparts 84(14.0%) (Table 1)

**Table 1:**

Respondents' attitude and beliefs towards socio-cultural practices of menstruation and menstrual hygiene by location

Attitudinal / Beliefs Variables	Responses	Location		Total Frequency (%)
		Urban	Rural	
		Frequency (%)	Frequency (%)	
Discussion on menstruation should be discouraged in schools	Agree	84 (14.0)	92 (22.7)	176 (17.5)
	Disagree	495 (82.5)	237 (58.4)	732 (72.8)
	Undecided	21(3.5)	77 (19.6)	98 (9.7)
Sexuality education would make girls loose or immoral	Agree	107 (17.8)	75 (41.2)	182 (18.1)
	Disagree	429 (71.5)	223(34.2)	652 (64.8)
	Undecided	64 (10.7)	108(26.6)	172(17.1)
Girls should not be allowed to visit places of worship during menstruation	Agree	46 (7.7)	51(12.6)	97 (9.6)
	Disagree	509 (84.8)	276 (68.0)	785 (78.0)
	Undecided	45(7.5)	79(19.5)	124(12.3)
Girls should not be allowed to pluck vegetables during menstruation	Agree	60 (10.0)	49 (12.1)	109 (17.5)
	Disagree	495 (82.5)	260 (64.0)	755 (72.8)
	Undecided	45(7.5)	97(23.9)	142 (14.1)
Girls should not be allowed to cook during menstruation	Agree	57 (9.5)	57 (14.0)	114 (11.3)
	Disagree	503 (83.8)	266(65.5)	769 (76.4)
	Undecided	40(6.7)	83(20.4)	123(12.2)

**Table 2:**

Chi-Square statistical analysis of the difference in opinion between teaching of menstruation and sexuality education in schools, prohibition of menstruating girls from visiting places of worship by location. n=1006

Opinion of respondents	School Location				Total		df	X <sup>2</sup> Cal	P Value
	Urban		Rural		N0	%			
	N0	%	N0	%					
<b>Discourage discussion of menstruation in schools</b>									
Agreed	84	14.0	92	22.7	176	17.5	2	33.45	0.001*
Disagreed	495	82.5	237	58.4	732	72.8			
Undecided	21	3.5	77	19.0	98	9.7			
<b>Sexuality education will promote immorality among girls</b>									
Agreed	107	17.8	75	18.5	182	18.1	2	46.27	0.001*
Disagreed	429	71.5	223	54.9	652	64.8			
Undecided	64	10.7	108	26.6	172	17.1			
<b>Menstruating Girls should not be allowed to visit places of worship</b>									
Agreed	46	7.7	51	12.6	97	9.6	2	42.92	0.001*
Disagreed	509	84.8	276	68.0	785	78.0			
Undecided	45	7.5	79	19.5	124	12.3			

\*p<0.05 is considered significant

The result of the Pearson Chi-Square analysis indicated that there was a statistically significant difference in the perception between rural and urban adolescent in-school girls in Cross River State towards discouraging the discussions on menstruation in schools.  $\chi^2(2) = 33.45, p = <0.001$ . This is indicative that location (urban vs. rural) is strongly associated with a positive attitude or disposition towards the discussion of menstruation in schools (Table 2).

The result also showed that 652 (64.8%) of the respondents disagreed that sexuality education in schools will encourage immorality, while 182 (18.1%) of them expressed their belief that sexuality education would encourage immorality. Furthermore, 429 (71.5 %) and 223 (54.9 %) of the respondents in the urban and rural schools respectively disagreed with the notion that teaching sexuality education will encourage immorality among girls (Table 1). The data suggests that location (urban vs. rural) is associated with the belief that sexuality education would promote immorality

among adolescent in-school girls in the State;  $\chi^2(2) = 46.27, p = 0.001$ . (Table 2). The finding regarding the students' perception of the cultural practice that prohibits menstruating women /girls from visiting places of worship, showed that overall, most 785 (78.0%) of the respondents, disagreed with this prohibitive cultural practice. Further analysis showed that 509 (84.8%) of the urban-based students and 276 (68.0%) respondents from the rural schools were opposed to the practice (see Table 1). The data however indicated that while those opposed to the prohibition practice were higher in urban schools, those in support of it were slightly higher among rural-based students, 51 (12.6%) compared to the urban-based students, 46 (7.7%) (see Table 1). The data therefore suggests that the location of the respondents is associated with the girls' opinion about the socio-cultural practice that prohibits menstruating girls / women from visiting places of worship,  $\chi^2 = 42.92$ , with a p-value of 0.001 (Table 2).

**Table 3:**

Chi-Square statistical analysis of the difference between urban and rural based school girls in their opinion regarding the prohibition of menstruating girls from cooking / plucking vegetables (n = 1006)

Opinion of respondents		School Location				Total		df	X <sup>2</sup> Cal	P Value
		Urban		Rural		N0	%			
		N0	%	N0	%	N0	%			
<b>Menstruating girls should not be allowed to pluck vegetables</b>	Agreed	60	10.0	49	12.1	109	17.5	2	58.05	0.001*
	Disagreed	495	82.5	260	64.0	755	72.8			
	Undecided	45	7.5	97	23.9	142	14.1			
<b>Menstruating girls should not be allowed to cook</b>	Agreed	57	9.5	57	14.0	114	11.3	2	52.62	0.001*
	Disagreed	503	83.8	266	65.5	769	76.4			
	Undecided	40	6.7	83	20.4	123	12.2			

P<0.05

**Table 4.**

Distribution of respondents by Menstrual absorbent utilized by in-school adolescents in urban and rural secondary schools in Cross River State

S/N0	Menstrual Material used	Location				TOTAL		P Value	
		Urban		Rural		No	%		
		No	%	No	%	No	%		
1.	Sanitary Pad	550	91.7	261	64.3	811	80.6	0.001	
2.	Piece of Cloth	164	27.3	106	26.1	270	26.8	0.001	
3.	Tissue / Toilet paper	84	14.0	38	9.4	122	12.1	0.001	
4.	Tampons	57	9.5	25	6.2	82	8.2	0.001	
5.	Pieces of Towel	31	5.2	21	5.2	52	5.2	>0.05	
6.	Handkerchief	29	4.8	18	4.4	47	4.7	0.001	
7.	Cotton Wool	25	4.2	19	4.7	44	4.4	0.001	

**Table 5:**

Chi-square statistical analysis of the difference between Urban and Rural Secondary students by menstrual hygiene practice

Location	MENTRUAL HYGIENE PRACTICE				Total		df	X <sup>2</sup> Cal	X <sup>2</sup> Table	P Value
	Appropriate		Inappropriate		N	%				
		N	%	N	%	N	%			
Urban	516	86.0	84	14.0	600	59.6	1	111.96	3.84	0.001*
Rural	228	56.2	178	43.8	406	40.4				
<b>Total</b>	<b>774</b>	<b>74.0</b>	<b>262</b>	<b>26.0</b>	<b>1006</b>	<b>100.0</b>				

Chi-Square result: \* P< 0.05; Table value (3.84) at df (1)

**Menstrual hygiene management (MHM) absorbents utilized by in-school adolescents in urban and rural secondary schools in Cross River State:**

As shown in Table 4, the predominant material used during menses by majority of the respondents is the sanitary pad 811(80.6%). A significantly higher 550(91.7%) proportion of students in urban schools use the sanitary pad compared to 261 (64.3%) of their counterparts in rural settings (p=0.001). The result also showed that more urban-based students 164 (27.3%) compared with rural-based students 106 (26.1%) used a piece of cloth for absorbing their menstrual flow (p=0.001). The use of tissue/toilet paper ranked third while cotton wool was the least used material 44(4.4%).

The results of the analysis presented in Tables 5, shows that menstrual hygiene practice was significantly different among urban and rural students in Calabar and Akpabuyo LGAs, Cross River State;  $\chi^2(1) = 0.111.96, p = 0.001$ .

**DISCUSSION**

Culture is expressed in terms of shared knowledge, beliefs, and values that can be associated or linked with a given social group or people (Baker, 2012). Research has shown that to a large extent, cultural and religious prejudices define perceptions about menstruation in most developing countries (Garg et. al, 2015; Nayak et al., 2016; Baumann et al., 2019; Adler,1976; Wenger,2009; Thapa et al., 2019). In certain cultures, girls are exposed to negative messaging about their bodies from an early age, so they grow up with the notion that menstruation is unhealthy and is a source of embarrassment (Scheve, 2009). These age-long socio-cultural prejudices around menstruation and menstrual hygiene practices have resulted in its stigmatization, therefore women in certain cultures whisper or discuss in hushed tones about it, while the men distance themselves from it (Maruapula, 2016).

The current study found that majority of the girls, 495 (82.5%) and 237 (58.40%) in both urban and rural settings respectively were open to discussing menstruation in schools. Of the 1006 respondents, only 176 (17.5%) expressed a contrary opinion. Globally, the lack of education about menstruation is considered one of the many barriers to achieving adequate menstrual hygiene worldwide (Rios, 2019). A 2017 study in the United Kingdom (UK) assessing girls' experiences of menstruation found that 1 in 7 (14%) of the girls /young women were naïve about their menarche experience. A quarter of the young women were unprepared for that experience (UK, 2017). The girls who reported having learned about menstruation in school, observed that their education was solely focused on the biology of the menstrual cycle, and that the lessons left out important information relating to their bodies' anatomy and the use of sanitary products (UK, 2017).

The perception of our respondents on the acceptability or otherwise of teaching sexuality education in schools, showed that both rural- and urban-based schools' respondents agreed that teaching sexuality education in schools will not promote immorality among girls. This thinking among these respondents indicate an evolving shift in the social and cultural orientations about issues on sexuality in developing countries, as opposed to the prevalent aversion towards discussing sex/sexuality-related issues in public. The aversion to the public discussion of sex and sexuality had bred pervasive atmosphere of secrecy about sexuality and promoted self-consciousness and shame whenever the subject is raised or discussed.

The lack of openness about issues of sexuality in most African societies is fueled by the belief that such issues might encourage moral laxity among youths (Onoyase, 2018). Parents may pretend to be oblivious of the fact that in contemporary times, easy access to social media has exposed children to nudity, sex and suggestive innuendos in popular music (Barth, 2005). A study by Talib et al. (2012) among in-school teenagers in Malaysia, revealed that 44% of the teenagers learnt about sex from their friends, 35% was through watching DVDs, while 27% was from reading pornographic materials. It is therefore not surprising that the prevalence of teenage and unwanted pregnancies is so high in developing countries, particularly in sub-Saharan Africa (Darroch et al., 2016; UNFPA, 2015). Chin et al. (2012), reviewed 66 sexual risk reduction health education programs. The result of the meta-analyses for comprehensive risk reduction showed favorable effects for all of the outcomes, which led to the conclusion that sexual health education programs was an effective public health strategy that has helped young people adopt positive health behaviors.

Evidences from several reports (Belayneh et al., 2019; Santina et al., 2013; Baumann et al., 2019; Garg et al., 2001; Thapa et al., 2019) attest to the fact that the culture/religion of some countries exclude menstruating girls/women from socializing, cooking and performing other household chores. Stigma, coupled with the feeling of embarrassment and the covert secrecy about the subject of menstrual periods in certain social and cultural contexts, makes little room for dialogue thereby precluding constructive engagement in

changing attitudes and behaviors around the issue (Thapa et al., 2019).

The myths, beliefs and practices passed from one generation to another are closely guarded and accepted as the norm in most contemporary African, Asian and Middle Eastern societies. These taboos have been entrenched for so long that they determine the most socially acceptable traditions, cultural rites and practices in defining womanhood and gender roles in these societies.

Although there are no overt taboos associated with menstruation among the ethnic groups in Cross River State, one cannot however exclude the existence of covert attitudes, beliefs and practices about menstruation and menstrual hygiene practices. The result of the current study regarding respondents' perception about the cultural practice that prohibits women having their period from visiting places of worship, showed that most of the respondents 509(84.8%) in urban location and 276(68.0%), resident in the rural location were opposed to the practice. On their perception regarding the prohibition of menstruating women from performing household chores, 495(82.5%) respondents in urban schools and 260(64.0%) of their rural counterparts were opposed to the practice. Their opinion about the practice that forbids menstruating women from cooking also reflected their disapproval; 503(83.8%) urban-based students and 266(65.5%) of their counterparts in rural-based schools opposed the practice.

These findings indicate that although our respondents have not experienced any hostile prohibitive menstrual practices, they however acknowledged that unreasonable taboos and stigma against menstruating women that happen in other climes was inimical to the full expression of a woman's sexuality. The occurrence of these prohibitive practices was assessed in a study by Bachloo et al. (2016) involving 358 school going adolescent girls in rural and urban areas of Ambala Haryana District in India. The result of that study showed that 86(25.3%) of adolescent girls were restricted from physical activities, 307(90.3%) of them were restricted from visiting religious places, while 110(32.35%) of them avoided doing kitchen chores. The average number of restrictions during menstruation among the schoolgirls in the rural areas was (2.1) compared to (1.75) for their counterparts in urban areas.

In recent times however, the agitations by several women rights' movements campaigning for gender equality have recorded some success in changing these inimical narratives. For instance, in Asia and particularly Nepal, progress has been made through a legislation that has addressed the banishment of "Chhaupadi", a practice that confines menstruating women to the so-called "menstruating huts" usually mud huts to avert bad luck to their families(Tal, 2019; News, 2017).

With regards to the menstrual hygiene products and absorbents used by the adolescent school girls for absorbing their menstrual flow, the sanitary pad was the most preferred absorbent by both urban and rural-based students, however fewer rural-based students compared to urban-based students used the sanitary pad. Garba, et al., (2018) in their study on menstrual hygiene management among 219 adolescent school girls in Kano metropolis, North Western Nigeria found that 202 (92.2%) of the adolescent girls used sanitary pads as their



primary menstrual absorbent. Other menstrual absorbents used were toilet roll, 11 (5.0%) and cloth, 5 (2.3%). The high prevalence of sanitary pad use among the girls can be deduced from the fact that all the schools are located in the urban centers and large proportions of the girls' parents were businessmen, 84 (38.5%); professionals /executives, 73 (33.5%), and teachers, 28 (12.8%), respectively, who have the resources to help their daughters manage their periods.

A related study by Thakre et al. (2011) on the knowledge and practice of menstrual hygiene among 387 adolescent schoolgirls of Saoner city, in the Nagpur District of India, observed that overall, 191(49.35%) of the girls used sanitary pads for their menstrual hygiene, while 177(45.74%) and 19(4.90%) girls used old and new pieces of cloths respectively. The use of sanitary pads among urban girls, was 60.6% and 30.8% among rural girls, this difference was found to be statistically significant ( $p = 0.001$ ). The use of old cloths was 62.3% among the rural girls, and 35.7% among the urban girls. This difference was also found to be statistically significant ( $p = 0.001$ ).

In a similar study by Tegegne et al. (2014) conducted among 574 female adolescent students in Northeast Ethiopia, using a mixed-method approach. The researchers found that during the last menstrual period of the girls, most of them 253(55.6%) used homemade cloth; while 161(35.4%) and 41(9.0%) of them used sanitary napkins and underwear as menstrual absorbents respectively. And that compared with their rural-based counterparts, the urban-based girls who had mothers that have attained secondary education and above, as well as those who came from families with higher expenditure per month had a higher chance of using sanitary napkins.

In conclusion, evidences from studies have shown that location, parental level of education and socio-economic status are among the critical determinant factors that underpin unfettered access to sanitary materials for MHM by adolescent girls in Low- and Middle-income countries (LMICs), and more especially sub-Saharan Africa. It is therefore imperative that in addition to addressing issues of gender-based stigma and cultural taboos against females and the promotion of girl child education, the problem of poverty in LMICs should also be addressed as a means of enabling women and girls in developing countries leverage resources through women empowerment schemes for the effective management of their overall reproductive health needs.

Sexuality education targeted at educating both boys and girls about the sanctity of this natural physiological experience of menstruation should be vigorously pursued especially at the secondary school level where students can best intellectually appreciate how the human body functions and would be better positioned to advocate for change in existent social and cultural norms that degrade womanhood and stigmatize menstruation.

#### Acknowledgement:

We acknowledge that this study was supported by Tertiary Education Trust Fund (TETFUND) Institutional Based Research (IBR) Projects, Abuja, Nigeria, Ref: UC/AP.185

#### REFERENCES

- Abioye-Kuteyi, Ojofeitimi, Aina, Kio, Aluko, & Mosuro, (1997):** The influence of socioeconomic and nutritional status on menarche in Nigerian school girls. *Nutrition and Health*, 11(3), 185-195.
- Adler, R. (1976):** "Tuma and Tahara: Ends and Beginnings." Archibald, A. B., Graber, J. A., & Brooks-Gunn, J. (2003). Pubertal processes and physiological growth in adolescence. *Blackwell handbook of adolescence*, 24-47.
- Bachloo, T., Kumar, R., Goyal, A., Singh, P., Yadav, S. S., Bhardwaj, A., & Mittal, A. (2016).** A study on perception and practice of menstruation among school going adolescent girls in district Ambala Haryana, India. *Int J Community Med Public Health*, 3(4), 931-7. DOI: <http://dx.doi.org/10.18203/2394-6040.ijcmph20160931>.
- Baker J. (2012).** Contemporary Health Issues, Culture, Beliefs, Attitudes, and Stigmatized Illnesses. Retrieved from <https://courses.lumenlearning.com/suny-diseaseprevention/chapter/culture-beliefs-attitudes-and-stigmatized-illnesses/>
- Barth, R. (2005).** Sex Education in the Public Schools. *AMA Journal of Ethics*, 7(10), 701-704.
- Baumann, S. E., Lhaki, P., & Burke, J. G. (2019).** Assessing the role of caste/ethnicity in predicting menstrual knowledge, attitudes, and practices in Nepal. *Global public health*, 14(9), 1288-1301.
- Belayneh, Z., & Mekuriaw, B. (2019).** Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. *BMC public health*, 19(1), 1595.
- Brennan, D. (2019).** All About Menstruation. Retrieved from <https://teens.webmd.com/girls/all-about-menstruation#1> September 18 2020).
- Chin, H. B., Sipe, T. A., Elder, R., Mercer, S. L., Chattopadhyay, S. K., Jacob, V., ... & Chuke, S. O. (2012).** The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: two systematic reviews for the Guide to Community Preventive Services. *American journal of preventive medicine*, 42(3), 272-294. DOI: 10.1016/j.amepre.2011.11.006
- Cochran, W. G. (1963).** Sampling techniques (2<sup>nd</sup> Ed.). New York. Cross River State (2000). The Girl-Child Marriages and Female Circumcision (Prohibition) Law No.2 of 2000. Calabar, Nigeria. p. 1-28.
- Darroch, J. E., Woog, V., Bankole, A., Ashford, L. S., & Points, K. (2016).** Costs and benefits of meeting the contraceptive needs of adolescents. *Guttmacher Institute*.
- Edet, O. B., Bassey, P. E. M., Esienumoh, E. E., & Ndep, A. O. (2020).** An Exploratory Study of Menstruation and Menstrual Hygiene Knowledge Among Adolescents in Urban and Rural Secondary Schools in Cross River State, Nigeria. *African Journal of Biomedical Research*, 23(3), 321-326.
- Federal Government of Nigeria (2015).** Violence Against Persons (Prohibition) Act (2015). p. 1-33.
- Garba, I., Rabi, A., & Abubakar, I. (2018). Menstrual hygiene among adolescent school girls in Kano. *Trop J Obstet Gynaecol* 2018; 35: 153-157.
- Garg, S., & Anand, T. (2015).** Menstruation related myths in India: strategies for combating it. *Journal of family medicine and primary care*, 4(2), 184.
- Garg, S., Sharma, N., & Sahay, R. (2001).** Socio-cultural aspects of menstruation in an urban slum in Delhi, India. *Reproductive health matters*, 9(17), 16-25.
- Kaundal, M., & Thakur, B. (2014).** A dialogue on menstrual taboo. *Indian Journal of Community Health*, 26(2), 192-195.
- Kellar, S. P., & Kelvin, E. A. (2013). *Munro's statistical methods for health care research*. Wolters Kluwer Health/Lippincott Williams & Wilkins

- Maruapula, L. K. (2016).** Menstruation myth: why are African women still paying for it? World Economic Forum on Africa. Retrieved from <https://www.weforum.org/agenda/2016/05/menstruation-myth-why-are-african-women-still-paying-for-it> May 30 2020.
- Nayak, S., Toppo, N., Tomar, S. P., & Kasar, P. (2016):** A Study on Socio-Cultural Practices during Menstruation among Adolescent Girls of Jabalpur District. *JMSCR* 2016; 04: 9679-9683. DOI: <http://dx.doi.org/10.18535/jmscr/v4i3.15>.
- News B. (2017).** Nepal criminalises banishing menstruating women to huts. Retrieved from <https://www.bbc.com/news/world-asia-40885748> August 20 2020.
- Onoyase, A. (2018).** Teachers' Attitude towards Teaching of Sexuality Education in Federal Government Colleges in Nigeria - Implications for Counselling. *High Educ Stud*, 8.
- Rios, G. R. (2019).** Menstrual Health, The Importance of Menstrual Health Education. Retrieved from <https://www.girlsglobe.org/2019/05/28/importance-menstrual-health-education/> August, 2020.
- Santina, T., Wehbe, N., Ziade, F. M., & Nehme, M. (2013).** Assessment of beliefs and practices relating to menstrual hygiene of adolescent girls in Lebanon. *Int J Health Sci Res*, 3(12), 75-88.
- Scheve, T. (2009).** Female Puberty Rituals around the World, Retrieved from <https://health.howstuffworks.com/sexual-health/female-reproductive-system/female-puberty6.htm> September 21 2020).
- Tal, C. (2019).** Period drama: how Asian women broke the menstruation taboo, Retrieved from <https://www.scmp.com/week-asia/society/article/3005765/menstrual-misconceptions-how-asian-attitudes-towards-periods-are> August 30 2020)
- Talib, J., Mamat, M., Ibrahim, M., & Mohamad, Z. (2012).** Analysis on sex education in schools across Malaysia. *Procedia-Social and Behavioral Sciences*, 59, 340-348.
- Tegegne, T. K., & Sisay, M. M. (2014).** Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC public health*, 14(1), 1118.
- Thakre, S. B., Thakre, S. S., Reddy, M., Rathi, N., Pathak, K., & Ughade, S. (2011).** Menstrual hygiene: knowledge and practice among adolescent school girls of Saoner, Nagpur district. *J Clin Diagn Res*, 5(5), 1027-33.
- Thapa, S., Bhattarai, S., & Aro, A. R. (2019).** 'Menstrual blood is bad and should be cleaned': A qualitative case study on traditional menstrual practices and contextual factors in the rural communities of far-western Nepal. *SAGE open medicine*, 7, 2050312119850400.
- UK, P. I. (2017).** Break the Barriers: Girls' experiences of menstruation in the UK. Retrieved from <https://plan-uk.org/file/plan-uk-break-the-barriers-report-032018pdf/download?token=Fs-HYP3v>
- UNFPA (2015).** *Girlhood, not motherhood: Preventing adolescent pregnancy*. New York.
- Wenger, B. (2009).** "Mikveh." Jewish Women: A Comprehensive Historical Encyclopedia, Retrieved from <https://jwa.org/encyclopedia/article/mikveh> November 2 2020).