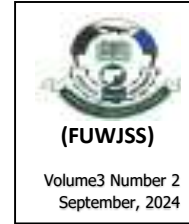


# KNOWLEDGE OF SANITARY PADS USE AND MENSTRUAL HYGIENE AMONG WOMEN IN KATSINA STATE, NIGERIA



**Anifat Abdurraheem<sup>1</sup>**

**Ilim, Moses Msughter<sup>2</sup>**

**Safiyya Lawal Danmusa<sup>3</sup>**

<sup>1&2</sup>Department of Sociology,

Federal University Dutsin-Ma, Katsina State

<sup>3</sup>Centre for Gender Studies, Federal University, Dutsin-Ma, Katsina State

Email: *aabdurraheem@fudutsinma.edu.ng*

*milil@fudutsinma.edu.ng*

*sldanmusa@fudutsinma.edu.ng*

## **Abstract**

Access to sanitary pads remains a huge challenge to women in developing countries including Nigeria and Katsina State. In addressing this challenge, this study investigates the level of knowledge women in semi-urban communities of Katsina State have on menstruation and different sanitary pads use practices that these women adopt in order to maintain menstrual hygiene. A multistage sampling procedure was used and data were collected quantitatively from 221 women using questionnaire in Daura (49); Dutsinma (25); Kankara (31); Katsina (42); Funtua (33) and Malumfashi (41). Data analysis involves the use of descriptive statistics to describe knowledge, use of sanitary pad and menstrual hygiene practices in Katsina State. Chi-square was used to establish the relationship between education, income, age and knowledge, use as well as menstrual hygiene practices among women in Katsina State. The study results show that most women of menstruating age in Katsina lack awareness about the health risks of unhygienic menstrual products and their menstrual cycle. They also lack access to safe and affordable sanitary pads, leading to infrequent pad changes and use of unhygienic alternatives. Result from the tested hypotheses revealed statistically significant relationship between income, marital status, age, educational level of women and their use of sanitary pads. The study concludes that women with higher level of education appropriately use sanitary pads than women with lower level of education. The study recommends that there is need for government and non-governmental organizations (NGOs) to collaborate and make sanitary pads available and accessible to women in Katsina State.

**Keywords:** Knowledge, reproductive health, sanitary pads, menstruation, hygiene practices

## Introduction

Menstruation, a natural biological process experienced by half the world's population, remains shrouded in secrecy and stigma in many parts of the world, particularly for women in low-income societies. In Katsina, Nigeria, this reality takes center stage, where limited access to knowledge, sanitary pads, and proper menstrual hygiene practices can have a profound impact on girls' menstrual hygiene management and overall well-being. Mubarick, Abdulai, Gifty and Waliu (2022) submitted that in order to maintain a healthy menstrual or period, women and adolescent girls must use sanitary pads, which are clean and can be changed in private, to absorb or collect blood. They also need to wash their bodies with soap and water as needed and have access to facilities where they can discard used menstrual management materials. For any female who has reached menarche, this is crucial. Regretfully, Obrist, Pearson, Stöckl and Zimmermann (2017) observed that over 1.2 billion women globally do not have access to basic period management products when they are menstruating. Sanitary pads, commonly referred to as menstrual pads, are absorbent items that women who menstruate wear to absorb menstrual blood during their period. They come in different sizes shapes and to be used at different stages to manage periods (Onyeji 2019). Different flow rates can be accommodated using sanitary pads. They are designed to be changed frequently in order to prevent leaks and maintain good menstrual hygiene. For most women, a situation simply refers as period poverty prevents them from having unhindered access, changing pads as often as they should. For some particularly in rural areas or low socioeconomic background, they resort to cheaper alternatives or other using other potential harmful absorbent like rags, toilet paper among others depending on what is available at the point of need. Suneela, Nidhi, Mongjam, Saurav, Amod, Yamini, Falak, Yomri and Indu (2022) in their nationally representative, multistage random, cross-sectional survey in India, reported that 50.2% of adolescent girls aged 15 to 19 years reported to have utilized clothes in order to meet menstrual needs. According to UNESCO (2020), menstruating women in developing countries such as Sub-Saharan Africa, lack adequate knowledge of menstrual management and are more likely to use makeshift pads which involve using materials like pieces of old clothes, cotton wool, paper or leaves to make a temporary absorbent for menstrual blood

instead of using more regular menstruation items like disposable or reusable pads, tampons.

According to Lahme, Stern and Cooper (2018), one of the reasons for poor access to knowledge and access to menstrual products is partly due to location, education and other sociocultural related factors. Period poverty has resulted to poor access to sanitary products for most women in Nigeria. While the price for a pack of Always Sanitary pad in 2013 was N250, the same pack is going for N700 in 2023. Consequently, more than 37 million girls and women in Nigeria cannot afford sanitary pad. That means every month, a significant number of women and girls are unable to safely manage their periods, limiting their ability to study, work and live. While this is an unfortunate situation that has become normal in Nigeria, it still does not make the situation less alarming particularly in rural areas where the influence of sociocultural factors is stronger in influencing access and utilization of sanitary pads (Aladeselu, 2023). Lack of proper knowledge and access to hygienic menstrual products can lead to poor menstrual hygiene, for instance, wearing one menstrual pad for too long is unhealthy, absorbing menstrual blood with newspapers or dirty clothes, and not washing or washing the vagina with dirty water regularly during menstrual flow can cause sexual and reproductive health challenges to the woman (Sen, Karmakar, Sikdar and Roy, 2023). These unhealthy practices can also create a favourable environment in the body for things like fungal and bacterial infections, yeast infections, and Urinary Tract Infections (UTIs). These infections have the capacity to cause infertility, cervical cancer and other reproductive health challenges (Mubarick et al., 2022). The negative experiences of menstruation can equally lead to discomfort, distraction, absenteeism and even dropping out of school. While there are a lot of studies on menstrual health management in other parts of the world and other parts of Nigeria, such studies are scarce in Northern Nigeria, and the few available ones focus more on the Adolescent excluding older women. This is partly because menstruation is often seen as a taboo issue and private matter that should be discuss in public. Moreover, a lot of the studies that exist on menstrual health focus more on adolescents. Suneela et al., (2022) for instance discovered that girls who were out of school, and those from Muslim religious community in India were more likely to use clothes for Menstrual Hygiene Management. Lebene et al., (2022) studied the socio-cultural factors associated with knowledge, attitudes and menstrual hygiene practices among Junior High School Adolescent girls in the

Kpando district of Ghana and submitted that social and religious beliefs indicate that menstruation is evil and unclean.

This study explores significant gap in understanding the experiences and needs of women who have transitioned out of adolescence. The study utilizes women's adolescence experiences with menstruation. Expanding our knowledge beyond adolescents is crucial for a comprehensive understanding of menstrual health challenges and inequalities in Katsina. By addressing this research gap, we can gain a deeper understanding of the menstrual health needs and challenges faced by women across different life stages in Katsina. This knowledge can inform culturally sensitive interventions, raise awareness, and contribute to creating a more supportive and equitable environment for women to manage their menstrual health with dignity and well-being. This study thus seeks to understand the nature and limit of knowledge of menstruating women and how and where they access and use sanitary pad (or not) to manage their menstrual health in Katsina state. While this study hypothesizes that women with higher level of education are less likely to use sanitary pads than women with lower level of education; married women are less likely to use sanitary pads than single girls; older women who are menstruating are less likely to manage their menstruation better than younger girls; and income of women are less likely to influence their use of sanitary pads. The research questions posed by the study includes what do adolescent women in rural communities of Katsina State know about menstruation; do women have access to safe and hygienic sanitary pads; what are the existing barriers to menstrual hygiene product access and use; and how do women in rural communities of Katsina State manage their menstruation?

### **Reproductive Health Services in Rural Nigeria**

Abiodun, Olu-Abiodun, Ani, and Sotunsa (2016) found out in their study that 64.7% of the respondents have heard about reproductive health services within Nigeria, while 51% had ever used such services, hence the study concluded that reproductive health knowledge of adolescents in Nigeria can be affirmed to be fair, however some level of misconceptions still exists, thus they considered this percentage to be low. The study recommended that veritable tools such as telephone and the internet should be adopted in designing interventions that will increase awareness of reproductive health issues; showcase and increase available reproductive services and correct existing misconceptions. Menstruation is a natural process, it is linked with several perceptions

and practices, which sometimes results in adverse health outcomes (Dasgupta and Sarkar, 2008). The vast majority of girls use cloth pads, usually torn from old cloths, instead of sanitary towels/napkins (Dasgupta and Sarkar, 2008). The most challenging problems are related to menses in girls. Therefore, 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 (Deo & Ghattargi, 2005)

### **Research Methodology**

This study is set in Katsina State, a state located in the northwestern region of Nigeria with Katsina city as the state capital of the state. It shares borders with the Republic of Niger to the North, Kano State to the east, Jigawa State to the southeast, Kaduna State to the south, and Zamfara State to the west. Census data from 2006 census put the population of Katsina at over 7 million people, although this has risen to over 10, 826,966 according to recent figures from National Population Commission (NPC). The main ethnic groups in Katsina state are the Hausa and Fulani ethnic groups. The main language spoken in the state is Hausa and Fulfulde although English is also widely used, especially in formal and educational settings. The major urban towns in Katsina state are Katsina, Daura and Funtua for the purpose of the study, Dutsin-Ma town will be added to the list as a semi-urban town. The study population is made up women of reproductive ages (15-59 years). The number of women is about 50.2% of the total estimated population. The number of women who are within the age bracket of sexually active age (15-59) in Katsina state is 2,720,191. This is based on a population projection by the National Population Commission (NPC) of Nigeria.

The study used survey research technique using quantitative method of data collection and analysis. A multi-stage sampling procedure was used where a number of suitable sampling techniques were employed at different stages. In the first stage, the researcher used cluster sampling technique to divide the population of Katsina state into three clusters namely; Cluster 1 (Katsina North), Cluster 2 (Katsina Central) and Cluster 3 (Katsina South). Two urban towns were selected from each of the clusters. In Cluster 1 (Katsina North), Katsina and Daura towns were selected. In Cluster 2 (Katsina Central), Kankara and Dutsin-Ma were selected and in Cluster 3 (Katsina South), Malumfashi and Funtua were selected. A total of six urban centers were selected using simple random sampling by balloting. The local government headquarters alongside a semi-urban area in each of the local government were selected. A total of

221 women were purposively selected from the nine sampled areas. The major instrument for data collection in this study is questionnaire. The questionnaires were divided into sections according to the objectives of the study. The first section covered information on the socio-demographic characteristics of the respondents. The questions and the layout of the questionnaire was designed to generate unambiguous information on women experiences in accessing and using sanitary pads in their rural communities.

The researcher administered the questionnaires to the women to assess their knowledge and use of sanitary pads and menstrual hygiene. The researcher recruited research assistants who are fluent in Hausa and English languages. The rationale for choosing research assistants who can speak English language was to help the researcher with the respondents who could not speak English very well. The concepts and methods of gathering survey data were properly explained to the research assistants. They were put through on the aims and methods of data collection, as well as on the instruments for data collection in order to ensure that the instruments are completed appropriately. All the questionnaires were other-administered because of the likelihood of having illiterate respondents in some communities. Finally, this study employed quantitative method of data analysis. Descriptive statistic was used to examine the knowledge, use of sanitary pad and menstrual hygiene practices. Using the Statistical Package for Social Sciences (SPSS), the chi-square was used to establish the relationship between knowledge, use and menstrual hygiene practices among women in Katsina state.

### **Theoretical Framework**

The Health Belief Model (HBM) has five (5) constructs, and these consists of perceived threat and net benefits; supposed vulnerability; supposed cruelty; supposed profits and supposed barriers. This study adopts the HBM, as the perceived vulnerability construct will help women to understand menstrual cycle and enhances their knowledge of menstrual cycle.

## Results

**Table 1: Socio-demographic characteristics of respondents**

<b>Variable</b>	<b>Frequency (n=221)</b>	<b>Percent (%)</b>
<b>Age Bracket</b>		
15-30 years	142	64.3
31-45 years	58	26.2
49-59 years	21	9.5
<b>Level of Monthly Income (₦)</b>		
Below 20,000	72	32.6
21,000-40,000	54	24.4
41,000-60,000	75	33.9
61 above	20	9.0
<b>Marital Status</b>		
Single	99	44.8
Married	121	54.8
Widowed	1	0.5
<b>Educational Level</b>		
Non-formal Education	83	37.6
FSLC	86	38.9
SSCE	42	19.0
Tertiary education	10	4.5
<b>Location</b>		
Daura	51	22.7
Dutsin-Ma	25	11.1
Kankara	32	14.2
Katsina	42	18.7
Funtua	33	14.7
Malumfashi	42	18.7

Among the 225 copies of questionnaire distributed, 221 were retrieved and used for analysis. Result in table 1 shows the socio-demographic information of the respondents. The table displays the age bracket of the respondents where majority of the respondents 142(64.3%) were between the ages of 15-30 years, 58(26.2%) were between the age of 31-45 year and the remaining 21 (9.5%) of the respondents were between 49-59 years. In terms of level of monthly income, 72(32.6%) earned below ₦20, 000, 54(24.4%) earned between ₦21, 000 – ₦40, 000, 75(33.9%) earned between ₦41, 000 – ₦60, 000, and the remaining 20(9.0%) of the respondents earned above ₦61, 000.

The table displays the marital status of the respondents where 99(44.8%) were single, 121(54.8%) were married and the remaining

1(0.5%) were widowed. In terms of educational level, 83(37.6%) of the respondents had no formal education, majority 86(38.9%) had FLSC, 42(19.0%) had SSCE and the remaining 10(4.5%) had tertiary education. In terms of location, 49(21.17%) of the respondents were from Daura, 25(11.31%) were from Dutsin-Ma, 31(14.03%) were from Kankara, 42(19%) were from Katsina, 33(14.93%) were from Funtua and the remaining 41(18.55%) were from Malumfashi.

**Table 2: Knowledge of menstruation among adolescent girls in Katsina**

<b>Variable</b>	<b>Frequency (n=221)</b>	<b>Percent (%)</b>
<b>Do you know the causes of menses?</b>		
Yes	60	27.1
No	161	72.9
<b>Do you know the channel through which menses flows?</b>		
Yes	98	44.3
No	123	55.7
<b>Do you know the intervals between menses?</b>		
Yes	190	84.4
No	35	15.6
<b>Are women in Katsina aware of the potential health risks associated with using unhygienic menstrual products?</b>		
Yes	20	9.0
No	201	91.0

*Multiple responses*

Table 2 displays the knowledge about menstruation among adolescent women in Katsina. Majority of the respondents 161(72.9%) do not know the causes of menses. Also, majority 123(55.7%) of the women do not know the channel through which menses flows. However, majority 190(84.4%) of the respondents know the intervals between menses. Majority 201(91.0%) of the respondents were not aware of the potential health risk associated with using unhygienic menstrual product. This implies that their level of knowledge of menstruation is very low.



**Table 3: Access to safe and hygienic sanitary pads among women in Katsina**

<b>Variable</b>	<b>Frequency (n=221)</b>	<b>Percent (%)</b>
<b>Do women in Katsina have access to safe and hygienic sanitary pads?</b>		
Yes		98
No		123
<b>How frequently do women in Katsina change their sanitary pads during menstruation?</b>		
Every 2-4 hours		
Every 4-6 hours	18	8.1
Whenever they feel uncomfortable or notice leakage	42	19.0
Less frequently due to limited access to sanitary pads	48	21.7
	113	51.1
<b>Do you think limited access to sanitary pads results in the use of alternative, less hygienic materials?</b>		
Yes	221	100.0
<b>Where do women in Katsina typically obtain their sanitary pads?</b>		
Local stores		
Government-sponsored distribution programs	103	46.6
Homemade alternatives, like cloth pads or folded pieces of fabric	6	2.7
NGOs	83	37.6
Schools	9	4.1
	20	9.0
<b>What factors influence women's choice of sanitary pads in Katsina?</b>		
Price and affordability		
Brand reputation and quality	188	85.1
Availability of specific features (e.g., absorbency, comfort)	8	3.6
	25	11.3

44.3

55.7

*Multiple responses*

Table 3 displays the result of analysis to examine whether women have access to safe and hygienic sanitary pads. Deducing from the result, majority 123(55.7%) of the women do not have access to safe and hygienic sanitary pads. Few 18(8.1%) women change their pads every 2-4 hours, 42(19.0%) change theirs every 4-6 hours, 48(21.7%) change theirs whenever they feel uncomfortable or notice leakage, while majority 113(51.1%) change their pads less frequently due to limited access to sanitary pads. All 221(100.0%) of the respondents agreed that

limited access to pads result in the use of alternative less hygienic materials. Deducing from the study, majority 103(46.6%) of the respondents obtain their sanitary pads from local stores, followed by homemade alternatives like cloth pads or folded pieces (37.6%). Very few 6(2.7%) of the women got theirs from government sponsored distribution programme. Among the factors influencing women's choice of sanitary pads, majority 188(85.1%) of the respondents mentions price and affordability, followed by availability. This implies that there is limited access to sanitary pads among women in the study area.

**Table 4: Existing barriers to menstrual hygiene product access and use**

<b>Variable</b>	<b>Frequency (n=221)</b>	<b>Percent (%)</b>
<b>Do cultural beliefs and norms impact on women's ability to access and use menstrual hygiene products in Katsina?</b>		
Yes	174	78.7
No	47	21.3
<b>What are the existing barriers to menstrual hygiene product access and use among women in Katsina?</b>		
Limited availability	80	36.2
Cultural taboos and stigma	32	14.5
Lack of awareness	39	17.6
Inadequate access to clean water	16	7.2
Financial constraints	54	24.4

*Multiple responses*

Among the existing barriers to menstrual hygiene product access and use, table 4 shows that majority 174(78.7%) of the respondents reported that cultural beliefs and norms impact on women's ability to access and use menstrual hygiene products in Katsina. Other barriers include limited availability, cultural taboos and stigma, lack of awareness, inadequate access to clean water and financial constraints.

**Table 5: Menstrual Hygiene Management Practices by Women in Katsina**

Variable	Frequency (n=221)	Percent (%)
<b>How do women in Katsina typically manage their menstrual hygiene needs in the absence of access to sanitary pads?</b>		
They use homemade alternatives, such as cloth pads or folded pieces of fabric	74	33.5
They rely on traditional methods, such as using leaves or other natural materials	12	5.4
They borrow sanitary pads from friends or family members	93	42.1
They resort to unhygienic practices, such as reusing old pads or not changing menstrual products frequently	42	19.0

*Multiple responses*

Table 5 displays the result of analysis on ways by which women manage their menstruation in the absence of access to sanitary pads. The respondents mentioned the following ways: they use homemade alternatives, such as cloth pads or folded pieces of fabric, they rely on traditional methods, such as using leaves or other natural materials, they borrow sanitary pads from friends or family members and they resort to unhygienic practices, such as reusing old pads or not changing menstrual products frequently.

**Table 6: Women with higher level of education are less likely to use sanitary pads than women with lower level of education**

		Do women in Katsina have access to safe and hygienic sanitary pads?			Total
			Yes	No	
Educational level	No formal education	Count	0	83	83
		% of Total	0.0%	58.0%	37.6%
	FLSC	Count	36	50	86
		% of Total	46.2%	35.0%	38.9%
	SSCE	Count	42	0	42
		% of Total	53.8%	0.0%	19.0%
Tertiary education	Count	10	0	10	
	% of Total	7.0%	0.0%	4.5%	
Total	Count	88	133	221	
	% of Total	100.0%	100.0%	100.0%	

$X^2$  (Chi square) = 29.35; df = 3;  $p < 0.05$  (Significant)

The table above displays the Pearson Chi-square analysis to test the null hypothesis ( $H_0$ ) that women with higher level of education are less likely to use sanitary pads than women with lower level of education. From the result obtained, the p-value (0.000) was found to be less than the level of significance (0.05), thus we reject the null hypothesis and conclude that women with higher level of education are more likely to use sanitary pads than women with lower level of education.

**Table 7: Married women are less likely to use sanitary pads than single girls**

		Do women in Katsina use safe and hygienic sanitary pads?			Total
			Yes	No	
Married	Count		78	21	99
	% of Total		100.0%	14.7%	44.8%
Widowed	Count		0	1	1
	% of Total		0.0%	0.7%	0.5%
Single	Count		0	121	121
	% of Total		0.0%	84.6%	54.8%
Total	Count		78	143	221
	% of Total		100.0%	100.0%	100.0%

$X^2 = 48.55$ ; df = 2;  $p < 0.05$  (Significant)

The table above displays the Pearson Chi-square analysis to test the null hypothesis ( $H_0$ ) that married women are less likely to use sanitary pads than single girls. From the result obtained, the p-value (0.000) was found to be less than the level of significance (0.05), thus we reject the null hypothesis and conclude that married women are more likely to use sanitary pads than single girls.

**Table 8: Older menstruating women are less likely to manage their menstruation better than younger girls**

		How do women in Katsina typically manage their menstrual hygiene needs in the absence of access to sanitary pads?				Total	
		They use homemade alternatives	They rely on traditional methods	They borrow sanitary pads from friends or family members	They resort to unhygienic practices,		
Age	15-30 years	Count	74	12	50	6	142
		% of Total	100.0%	100.0%	53.8%	14.3%	64.3%
Age	31-40 years	Count	0	0	33	25	58
		% of Total	0.0%	0.0%	35.5%	59.5%	26.2%
Age	41-50 years	Count	0	0	10	11	21
		% of Total	0.0%	0.0%	10.8%	26.2%	9.5%
Total		Count	74	12	93	42	221
		% of Total	100.0%	100.0%	100.0%	100.0%	100.0%

$X^2 = 98.70$ ;  $df = 6$ ;  $p < 0.05$  (Significant)

The table above displays the Pearson Chi-square analysis to test the null hypothesis ( $H_0$ ) that older women who are menstruating are less likely to manage their menstruation better than younger girls. From the result obtained, the p-value (0.000) was found to be less than the level of significance (0.05), thus, while older women who are menstruating are more likely to manage their menstruation better than younger girls, we conclude that women generally do not typically manage their menstrual hygiene well

**Table 9: Income of women are less likely to influence their use of sanitary pads**

		How frequently do women in Katsina change their sanitary pads during menstruation?				Total
		Every 2-4 hours	Every 4-6 hours	Whenever they feel uncomfortable or notice leakage	Less frequently due to limited access to sanitary pads	
Level of Monthly Income	Above 61,000	Count 18 % of Total 100.0%	42 100.0%	2 4.2%	10 8.8%	72 32.6%
	41,000 - 60,000	Count 0 % of Total 0.0%	0 0.0%	46 95.8%	8 7.1%	54 24.4%
	21,000 - 40,000	Count 0 % of Total 0.0%	0 0.0%	0 0.0%	75 66.4%	75 33.9%
	below 20,000	Count 0 % of Total 0.0%	0 0.0%	0 0.0%	20 17.7%	20 9.0%
	Total	Count 18 % of Total 100.0%	42 100.0%	48 100.0%	113 100.0%	221 100.0%

$$X^2 = 34.68; df = 9; p < 0.05 \text{ (Significant)}$$

The table above displays the Pearson Chi-square analysis to test the null hypothesis ( $H_0$ ) that income of women are less likely to influence their use of sanitary pads. From the result obtained, the p-value (0.000) was found to be less than the level of significance (0.05), thus we reject the null hypothesis and conclude that income of women are more likely to influence their use of sanitary pads.

This study examined the knowledge, use of sanitary pads and menstrual hygiene among women in Katsina. Generally, the level of knowledge of menstruation among women is very low in Katsina. Contrary to this findings of a low level of knowledge among women in Katsina, Okafor-Terver and Chuemchit (2017) in their study discovered that majority (73.3%) of them knew that menstruation is a normal

biological process. Moreover, a majority (78.6%) of them knew that the menstrual cycle is monthly and that older women experience menopause (65.8%). However, the findings is in consonance with the study done by Tegegne and Sisay (2014) which found that less than half of the girls knew that hormones regulates the menstrual cycle. This calls for the intensification of reproductive health education in schools in Katsina and the need to urgently improve their knowledge about menstrual hygiene.

Access to sanitary pads was found to be very limited as majority 123(55.7%) of the women do not have access to safe and hygienic sanitary pads. Majority 113(51.1%) change their pads less frequently due to limited access to sanitary pads. The study found that limited access to pads result in the use of alternative less hygienic materials. The study also found that price and affordability, as well as availability hinder access to sanitary pads by women. This is in line with the findings of a study conducted in Pakistan by Rizvi and Ali (2016) which revealed that most school girls did not use sanitary pads due to the high cost compared to reusable cloths. The use of sanitary pads was also found to be significantly higher in those whose mothers were of a higher level of education.

Among the existing barriers to menstrual hygiene product access and use, the study found that cultural beliefs and norms impact on women's ability to access and use menstrual hygiene products in Katsina. Other barriers include limited availability, cultural taboos and stigma, lack of awareness, inadequate access to clean water and financial constraints. This resonates with findings among adolescent female students in rural Kenya by McMahan et al., 2014. This situation is partly due to the fact that majority of them are below the legal age of employment, thus do not have an independent income. Their lack of independent income reinforces their dependence on parents and male friends for funds to buy pads. Other findings were made by McMahan et al., 2014, among adolescent female students in rural Kenya where stigma was a major cause of psychosocial problems associated with menstruation.

In terms of how the women manage their menstruation, the study found that they use homemade alternatives, such as cloth pads or folded pieces of fabric, they rely on traditional methods, such as using leaves or other natural materials, they borrow sanitary pads from friends or family members and they resort to unhygienic practices, such as reusing old pads or not changing menstrual products frequently. These findings are line with the study of Okafor-Terver and Chuemchit (2017) who found that the commonest menstrual material used by the adolescent girls is cloth

(57%). In addition, Upashe et al. (2015) and Tegegne (2014) made similar findings that majority of adolescent female students in Ethiopia use pieces of cloth to manage menstruation. More so, Chandra Mouli and Patel, (2017) and Kuhlmann et al. (2017) came to the same conclusion that most adolescent girls in developing countries use cloth to manage menstruation. Since old cloth/rags are sometimes used by the adolescents, they may not be hygienic enough to prevent infection. As reported by Trinies et al. (2015) in neighbouring Mali some of them dry the washed pieces of cloths indoors to avoid a spiritual attack on their fertility, which increases the risk of infection.

While our study concludes that married women are more likely to use sanitary pads than single girls. Dasgupta and Sarkar (2008) revealed that majority of the girls prefer cloths pieces rather than sanitary pads as menstrual absorbants. Therefore, Jogdand and Yerpude (2011) affirm that only 11.27% of girls use sanitary pads during menstruation. Their study suggests that poverty, high cost of sanitary pads and ignorance may be the reasons for using materials other than sanitary pads. However, UNICEF (2008) started that change of napkins/pads at an interval of 3-4 hours is considered as a healthy behaviour for comfort and to prevent odour, regardless of the extent of staining as cited in Devi and Jaya (2019)

### **Conclusion and Recommendations**

This study revealed that a considerable portion of the women lack adequate knowledge about menstrual hygiene practices and the importance of using sanitary pads. This lack of awareness can lead to various health issues and discomfort during menstruation. Also, the research highlighted that many women face challenges in accessing affordable and high-quality sanitary pads, which further exacerbates their menstrual hygiene management difficulties. To address these issues effectively, interventions focusing on education, awareness-raising, and improving access to affordable menstrual hygiene products are crucial. Implementing comprehensive menstrual health education programs in schools, communities, and healthcare facilities can help bridge the knowledge gap and promote healthy menstrual hygiene practices. Furthermore, initiatives aimed at providing subsidized or free sanitary pads to women, especially those from low-income backgrounds, can significantly improve their access to menstrual hygiene products and alleviate financial burdens associated with menstruation.



There is need for educational campaigns that address the importance of using sanitary pads, proper disposal methods, and debunk myths surrounding menstruation. There is need to ensure the availability and affordability of sanitary pads in both urban and rural areas of Katsina by collaborating with local businesses, NGOs, and government agencies to subsidize or provide free sanitary products to women and girls, especially those from low-income households. There is need to develop and improve waste management infrastructure to facilitate the safe disposal of used sanitary pads. There is need to improve existing healthcare services to include menstrual health education, counseling, and access to reproductive health services by encourage women and girls to seek medical advice for menstrual-related concerns and provide adequate support to manage menstrual disorders or complications. There is need to foster community involvement by engaging local leaders, religious institutions, and women's groups in promoting menstrual hygiene awareness in Katsina.

## References

- Abiodun, O., Olu-Abiodun, O., Ani, F., & Sotunsa, O. (2016). Sexual and reproductive health knowledge and service utilization among in-school rural adolescents in Nigeria
- Aladeselu, M (2023). Menstrual Hygiene Day:37 million Nigerian Females are in period Poverty. In The Cable Online News. Access 17th June 2023.
- Asumah, M.N, Abubakri, A, Aninanya, G.A & Salisu, W.J (2022). Perceived factors influencing Menstrual Hygiene Management among Adolescent Girls: a Qualitative Study in the West Gonja, Municipality of the Savannah Region, Ghana. *Pan-African Medical Journal* 41(1)
- Chandra-Mouli V, Patel S, V., (2017). Mapping the knowledge and understanding of menarche, menstrual hygiene and menstrual health among adolescent girls in low- and middle-income countries. *Reproductive Health* 14(1):30.
- Dasgupta, A and M Sarkar (2008). Menstrual Hygiene: How Hygienic is the Adolescent Girl? *Indian Journal Community Med.* 2008 Apr; 33(2):77-80. doi: 10.4103/0970-0218.40872.
- Deo, D.S and Ghattargi. C.H (2005) Perceptions and Practices Regarding Menstruation: A Comparative Study in Urban and Rural Adolescent Girls. *Indian Journal of Community Medicine.* 30(1)
- Keerti Jogdand and Pravin Yerpude (2011) A community based study on menstrual hygiene among adolescent girls. *Indian Journal of Maternal and Child Health* 13 (3)

- Kuhlmann A, S., Henry K, Wall L, L., (2017) Menstrual Hygiene Management in Resource-Poor Countries. *Obstetrical & gynecological survey* 72 (6): 356-76.
- Lahme AM; Stern R; and Cooper D. (2018). Factors impacting on menstrual hygiene and their implications for health promotion. *Global Health Promotion* 25(1): 54-62. doi: 10.1177/1757975916648301. Electronically published 2018 Jul 5. PMID: 27380769.
- McMahon S, A. George A, S. Chebet J, J. Mosha I, H. Mpembeni R, N. & Winch P, J. (2014). Experiences of and responses to disrespectful maternity care and abuse during childbirth; a qualitative study with women and men in Morogoro Region, Tanzania. *BMC pregnancy and childbirth*, 14 (1); 1-13
- Mutum Silpa Devi and Jaya, S (2019) *Impact of reproductive health education program (RHEP) among adolescent girls- An intervention study* Archers & Elevators Publishing House, Bangalore, India
- Obrist, E.M; Pearson, S.S; Stöckl, R.A & Zimmermann, U.E (2017). Menstrual taboos and their impact on the health and well-being of girls and women: A comprehensive review. *NCBI* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5743657/>
- Okafor-Terver I, S. & Chuemchit M., (2017). Knowledge, belief and practice of menstrual hygiene management among in-school adolescents in Katsina state, *Nigeria. Journal of Health Resources* 31 (Suppl. 2): S179-87.
- Onyeji E. (2019). Period Poverty: How menstruation makes Nigerian girls miss school. *Premium Times*. 2019. <https://www.premiumtimesng.com/health/healthnews/331979-period-poverty>.
- Rizvi, N. & Ali, T. S. (2016). Misconceptions and Mismanagement of Menstruation among Adolescents Girls who do not attend School in Pakistan. *Journal of Asian Midwives* 3(1):46-62.
- Sen, P., Karmakar, S., Sikdar, T., Roy, R. (2023). Understanding the Menstrual Hygiene Practices Among Women: An Indian Perspective. In: Alam, A., Rukhsana, Islam, N., Sarkar, B., Roy, R. (eds) *Population, Sanitation and Health. Springer, Cham*. [https://doi.org/10.1007/978-3-031-40128-2\\_21](https://doi.org/10.1007/978-3-031-40128-2_21)
- Suneela G; Nidhi B; Mongjam, M.S; Saurav B; Amod B; Yamini M; Falak A; Yomri D; & Indu B. (2022). Menstrual hygiene management and its determinants among adolescent girls in low-income urban areas of Delhi, India: a community-based study. *Onsong Public Health Research Perspectives* ISSN 2210-9099 ISSN 2233-60 <https://doi.org/10.24171/j.phrp.2022>.
- Tegegne T, K., Sissay M, M., (2014). Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health* 14 (1): 1118.
- Trinies V, Caruso B, A., Sogore A, Toubkiss J, Freeman M, C., (2015). Uncovering the challenges to menstrual hygiene management in schools in Mali. *Waterlines* 34 (1): 31-40.

- UNESCO (2020). Global Education Monitoring Report Team. GEM REPORT.  
Retrieved from <https://en.unesco.org/gem-report/report/2014/teaching-and-learning-achieving-quality-all>
- Upashe S, P., Tekelab T, Mekonnen J., (2015). Assessment of knowledge and practice of menstrual hygiene among high school girls in Western Ethiopia. *BMC women's health*, 15 (1): 84.
- Becker MH, Nancy JK (1997). *The Health Belief Model and Personal Health Behavior*. Thorofare. New Jersey: Charles B. Slanckinc