



## **Menstrual Hygiene Management Amidst COVID-19 Pandemic in Nigeria's Epicentre: The Reality of Girls and Women in a Low-Income Community**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

Menstrual Hygiene Management (MHM) is typically a constant reality for post menarche and premenopausal females globally. However, unlike other natural routine physiological experiences, a healthy monthly MHM comes with considerable financial implications. Hence, this study examines the financial ability of girls and women in a Nigerian low-income community to access materials needed for MHM monthly. The possible implication of the COVID-19 pandemic was also

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considered. Semi-structured questionnaires were administered to 130 respondents selected via systematic-random sampling. Data were analyzed using SPSS version 20. The respondents' age ranged between 14 to 40 years, while 82.3% worked informal jobs. Half of the respondents reported they were unable to purchase sanitary pads and other items required for monthly MHM. Over 65% of the respondents revealed they suffered anxiety thinking about the financial burden associated with monthly MHM, while about one-third of the respondents were more financially capable before the pandemic. Common alternatives to sanitary pads used were tissue paper, cloth napkins, old sanitary towels, and newspapers. Moreover, 64% of the respondents reported had at least a form of vaginal/urinary tract infection in the past 3 months. The results clearly show that period poverty remains a barrier to achieving gender equality. The fact that 1 out of every 2 females in the study area reportedly suffered period poverty shows the dire need for socio-economic interventions. Local and State Governments must consider subsidizing products required for MHM to improve and maintain the health of girls and women in low-income communities.

*Keywords: Menstrual hygiene management; period poverty; COVID-19; women; girls; financial stress; low-income.*

## 1. INTRODUCTION

Many girls and women face significant difficulties in maintaining good menstrual management due to concerns as regards the choice of the best feminine menstrual hygiene products to use, how often, and when to change these products [1,2]. Cleanliness during the time of the feminine cycle is principal to the nobility and prosperity of young ladies and an issue that each young lady needs to manage once menstruation begins [3,4]. During this period, ladies utilize menstrual hygiene products such as tampons, sanitary pads, menstrual cups, clothes, papers, or leaves to retain menstrual blood and to keep up close to home cleanliness [5]. The inaccessibility of ladies to these basic menstrual hygiene management materials leaves them susceptible to unhygienic practices such as the utilization of paper, old clothes, dried leaves, or socks to collect menstrual blood and deal with their periods [6]. Products like this put menstruators at a heightened risk for urogenital infections, such as urinary tract infections and bacterial vaginosis [7]. These products have resulted in outcomes such as skin irritation, vaginal itching, and white or green discharge [8]. Also, period poverty, which is lack of access to menstrual health products due to poor financial resources, inadequate water, and sanitation amenities, particularly in public places such as schools and workplaces, as well as education on good hygiene during the menstrual period can cause discomfort, bad odour, and shame on the matured female [2,9].

Managing the cost of the expense of Menstrual Hygiene Management (MHM) is not simple for menstruators universally. Some can hardly afford the cost, and others cannot manage the cost by

any stretch of the imagination. There is no broad agreement on the number of African menstruators who fall into the last class; however, the announced figures are reliably high. It has been noted that a high figure of about 60% of the menstruating populace worldwide cannot afford the cost of good hygiene practices during their menstrual period, which could increase if relatively older menstruating ladies were also considered [10,11]. Studies conducted in Uganda, as well as the United Kingdom, have reported cases of period poverty among young women [12,13]. Financial, social, cultural, and political issues have been identified as factors that hinder matured females from adequate access to menstrual products, menstrual education, and access to healthcare services.

The COVID-19 emergency has uncommonly adjusted all spheres of life globally of which menstrual hygiene management and period poverty are not left out. According to UNICEF, the COVID-19 pandemic will have indirect impacts on the ability of females to manage their periods, leaving the poor unavoidably affected [14]. Even in the best of times when there are no emergencies and pandemics, menstrual wellbeing and hygiene needs go unmet due to period poverty, in a moment of a pandemic as this, deprivations from period needs and menstrual health can be aggravated [14]. Failure to address the menstrual hygiene needs of women and young ladies can have far-reaching aftermaths for basic hygiene, health, and wellbeing, eventually affecting progress as regards the Sustainable Development Goal (SDG) of gender equality and dignity for all [14].

Nonetheless, the COVID-19 pandemic undermines the manageability and improvement of these endeavors. To date, there is limited evidence on the direct impacts of the COVID-19 pandemic on menstrual hygiene management. On this note, this study examines the financial ability of girls and women in a Nigerian low-income community to access materials needed for MHM monthly and the impact of the COVID-19 pandemic was also considered.

## 2. METHODOLOGY

The study was conducted at Mafoluku Community, Oshodi, Lagos State, Nigeria, a low-middle class community in Lagos, Nigeria. The study population consisted of females of menstruating age residing in the community. The study employed a cross-sectional survey, solely utilizing a structured questionnaire. The sample size (N) was obtained via the formula:

$$(4 \times q \times p) / l^2$$

Where p was 50% due to the absence of data on the local prevalence of period poverty, q was 50% (100-p), allowable error l was 10%

$$N = 4 \times 50 \times 50 / 10^2 = 100 \text{ young female respondents}$$

Due to the peculiarity of the COVID-19 era, a 30% non-response rate was added to ensure all the respondents were reached. A total of 130 young female respondents participated in this survey. Data was obtained in June 2019 when the lockdown was lifted, via a house-to-house survey within the study community. The research enumerators were kitted with their PPEs and observed all COVID-19 regulations during the data collection process. The questionnaire was designed to obtain the respondents' socio-demographic data, their menstrual hygiene management practice during the pandemic, and their mental wellbeing. The mental wellbeing of the respondents was assessed using the WHO-5 wellbeing index which has been appraised for its accuracy.

### 2.1 Data Analysis

Data was entered and analyzed using SPSS version 20. The data was represented in descriptive statistics like measures of proportions

and frequencies and inferential statistics like chi-square and t-test which were measured at 0.05 level of significance.

## 3. RESULTS

A total of 130 females were considered for this study, the ages of which ranges from 14 years to 40 years with a mean age of  $27.51 \pm 7.84$ . The response rate was 100% as all 130 respondents participated. The majority of the respondents were within the age range 18-29 (47.7%) whilst only 14 (10.8%) of the respondents were less than 18 years of age (<18). A larger proportion of the respondents 59 (45.4%) received a monthly income that ranged between #33,000 to #50,000 whilst just a few of the respondents 16 (12.3%) received the least monthly income of range #4,000 to #10,999. The majority of the participants had a form of vocational work 107 (82.3%), while the rest 17.7% were unemployed. The dominant occupation in the study was fashion designing (26.2%), while 16.9% were caterers.

Further details about the other socio-demographic variables are shown in Table 1.

### 3.1 Financial Capability towards Menstrual Hygiene Management

All the respondents (100%) that participated in the study were recorded to have purchased Sanitary pads at one point or the other in their lifetime. An equal percentage of the respondents could afford to purchase sanitary pads and other items required for menstrual Hygiene management every month (50%) whilst the other half (50%) could not, this implies that 1 in every 2 females in this community was facing period poverty. Furthermore, a significant proportion (64%) of the respondent reported having had some vaginal/urinary tract infection in the past 3 months as shown in Table 2. Further details about the other financial capabilities of the respondent are shown in Table 2.

As shown in Fig. 1 below, 42.3% of respondents already lacked financial capability in purchasing necessary items for menstrual hygiene management before the COVID-19 pandemic, while 27.7% had enough funds to purchase essential menstrual products. Additionally, 30% of the respondents reported no difference in financial capability in acquiring needed items for menstrual hygiene management before and during the pandemic.

**Table 1. Distribution of Socio-Demographic Variables amongst the respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage Total</b>
<b>Age</b>		
Less than 18	14	10.8
18 to 29	62	47.7
30 to 40	54	41.5
<b>Income</b>		
#4,000 to #10,999	16	12.3
#11,000 to #21,999	30	23.1
#22,000 to #32,999	25	19.2
#33,000 to #50,000	59	45.4
<b>Dependent on parents</b>	72	55.4
<b>Level of Education</b>		
Primary	37	28.5
Secondary	27	20.8
Tertiary	38	29.2
No education	28	21.5
<b>Marital status</b>		
Single	38	29.2
Married	46	35.4
Co-habiting	46	35.4
<b>Occupation</b>		
Unemployed	23	17.7
Hairdresser	21	16.2
Trader	30	23.1
Fashion designer	34	26.2
Cook/baker	22	16.9
<b>Family structure</b>		
Monogamous	67	51.5
Polygamous	63	48.5
<b>Ethics</b>		
Yoruba	50	38.5
Igbo	37	28.5
Hausa	43	33.1
<b>Religion</b>		
Christian	28	21.5
Islam	32	24.6
Traditionalist	37	28.5
Atheist	33	25.4

**Table 2. Financial capability towards menstrual hygiene management**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage Total</b>
<b>Purchase of Sanitary Pads</b>	130	100.0
<b>Alternative Pads Used</b>		
Reusable cloth	61	46.9
<b>Financial Resources for Sanitary Pads and Other Items Required for Menstrual Hygiene Management</b>		

Variable	Frequency	Percentage Total
<b>Every Month</b>		
Yes	65	50.0
<b>Difference on How Often Sanitary Pads are Being Changed before the COVID-19 Pandemic and Now</b>		
Yes	57	43.8
No	73	56.2
<b>Will a subsidy on the cost of sanitary pads relieve your financial burden?</b>		
Yes	75	57.7
<b>Are there moments you have to use alternatives to sanitary pads because you cannot afford to buy regular hygienic pads?</b>		
Yes	59	45.4
<b>Have you had any vaginal/urinary tract infections in the past 3 months?</b>		
Yes	64	49.2
Lower abdominal pain	65	50.0
Abnormal discharge	71	54.6
Pain in urination	60	46.2
Increase in urination frequency	63	48.5
Cloudy, dark, bloody, or strange-smelling urine	71	54.6
<b>Do you feel anxious thinking about how much you will spend on items for your menstrual period every month?</b>		
Yes always	47	36.2
Yes sometimes	42	32.3
No	41	31.5
<b>Do you get anxious worrying about the occurrence of leaks and stains during your menstrual periods?</b>		
Yes always	39	30.0
Yes sometimes	47	36.2
No	44	33.8

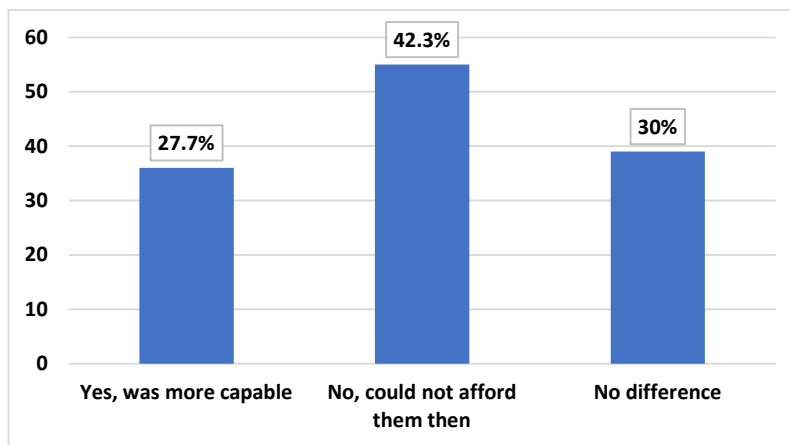
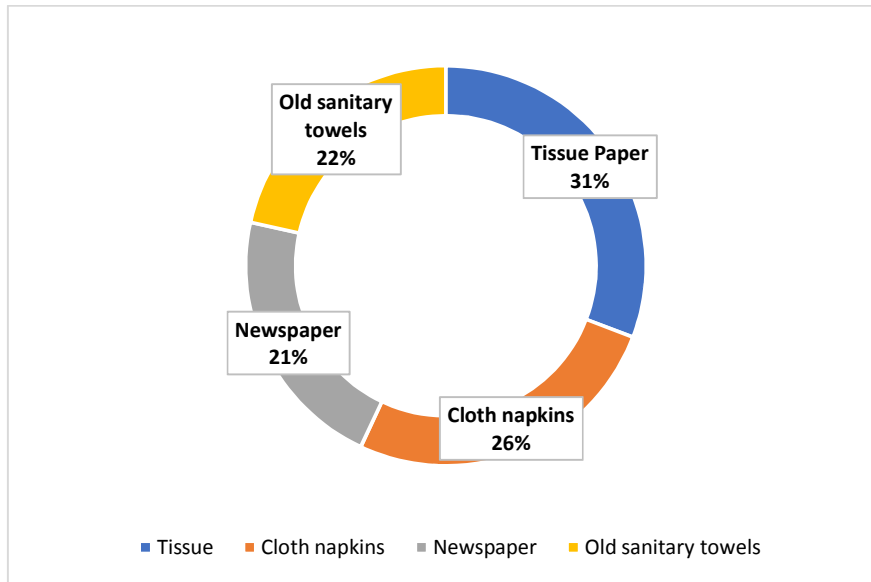


Fig. 1. Financial resources to purchase required items for menstrual hygiene management before COVID-19



**Fig. 2. Alternatives to Sanitary Pads during the COVID-19 Pandemic**

Due to the COVID-19 pandemic, some of the respondents used alternatives to sanitary pads because they cannot afford to buy regular hygienic pads. As shown in Figure 2, over 30% of the respondents alternate sanitary pads with tissue paper, while 26% use cloth napkins and 22% use old sanitary towels and newspapers.

#### 4. DISCUSSION

Inadequate menstrual hygiene management is a major issue for young girls and women in low-income resource countries like Nigeria, which harmfully impacts their health and well-being. This study found that approximately 60% of the global population cannot afford the cost of practising good hygiene during menstrual cycles due to lack of financial resources, and inadequate water and sanitation facilities [2,10]. The emergence of the COVID-19 pandemic has brought about period poverty and struggle with maintaining good menstrual hygiene, though the impacts of the pandemic on period poverty and menstrual hygiene management differ across nations based on their peculiarities and ability to respond through social protection and health systems [14].

Around half (46.9%) of the respondents in our study reported using reusable clothes or tissue paper and newspapers as a substitute for sanitary pads due to the lack of financial capacity posed by the COVID-19 pandemic. Furthermore, a comparable number (57.7%) of respondents in

our study reported that subsidy on the cost of sanitary pads would relieve the financial burden. This means that the cost of maintaining sanitary hygiene is perceived as burdensome, which is why they resort to other options for sanitary pads. Additionally, anxiety is significantly associated with thoughts on of monthly cost of purchasing menstrual hygiene items, which is possibly due to the increased prices of various commodities, including that of menstrual products during the COVID-19 lockdown.

A report on Kenyan girls found that 65% of females in Kibera, one of the largest slums in Kenya trade sex for sanitary pads, due to period poverty prevalence, shame, stigma, and public health misinformation that surround menstruation [15]. A study of Ghana adolescents by Mohammed et al. [16] found that a greater number of the girls used commercial sanitary pads as compared to other menstrual absorbent materials, while in Ethiopia [17] and Mali [18], adolescent girls used clothes, old cotton fabric, and rags as absorbent materials. Statistics derived from a smartphone survey showed that only 37% of women (aged 15-59) in Nigeria had necessary items such as clean materials to prevent leakages and stains, WASH facilities for proper menstrual hygiene management, pain relievers, and places to dispose of used products [19].

Several studies have reported that unhygienic menstrual hygiene practices and the use of

hazardous sanitary materials as absorbents during the menstrual cycle expose adolescent girls and women to reproductive tract infections with potential long-term impacts on their conceptive well-being [18,20-22]. Report from our study shows that about half (49.2%) of the respondent has had vaginal or urinary tract infection in the past 3 months, with more complaints of abnormal discharge and cloudy, dark, bloody, or strange-smelling urine in 54.6% of respondents. This report also corroborates the survey in five sub-Saharan African countries including Ethiopia that showed that the majority of adolescent girls reported a lack of safe, private, and clean toilets with washing facilities at schools, which is important for Menstrual Hygiene Management (MHM) practices [23].

Education is another feature for good menstrual hygiene, as our study reveals that 21% of respondents have no education, while 28.5% have primary education. This shows that the majority of the respondents may not have been equipped with essential knowledge about menstruation and hygiene management, which could empower the girls and adolescents to keep their hygiene during menstruation. A higher number of them are only involved in one form of vocational learning or the other. Hence, better knowledge about menstruation and its hygiene management will result in good MHM practices of the menstruators.

## 5. CONCLUSION

This study reveals that there is a relatively high percentage of mature females who could not afford sanitary pads sometimes, an important women's hygiene product during menstruation. Also, nearly half of the respondents (43.8%) claimed to have changed the frequency with which they change their sanitary pads before and during COVID-19. Therefore, the economic meltdown during the COVID-19 lockdown has increased period poverty the more. This has in turn prevented women from maintaining good menstruation hygiene.

Menstrual hygiene ought to be advanced by executing a seminar on menstruation and menstrual hygiene management. Subsidies should be given on menstrual products so that every girl/woman can bear the cost of them without any problem. Non-government organizations should come forward to educate rural people about menstruation, menstrual hygiene management, the significance of toilets at homes, hand washing, sicknesses identified

with reproductive tract due to poor hygiene, and so forth.

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## CONSENT

All the respondents voluntarily participated in this survey. There was no form of coercion or undue compensation. Consent was obtained from guardians of respondents under 18 years of age.

## ETHICAL APPROVAL

Ethical approval was obtained from Ekiti State University Teaching Hospital Ado-Ekiti, Nigeria (Protocol Number- EKSUTH/A67/2020/12/005).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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