Global Journal of Medicine & Public Health

Sexual and Reproductive Health Challenges during the COVID-19 lockdown among female undergraduates in a Nigerian University

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ABSTRACT

Background

The COVID-19 pandemic led to a lockdown in Nigeria, worsening the already existing sexual and reproductive health (SRH) challenges among female undergraduates. This study determined and compared access to SRH services, risky sexual behavior (RSB), rape, intimate partner violence (IPV), and access to sanitary menstrual care products before and during the COVID-19 lockdown among female undergraduates in Obafemi Awolowo University (OAU), Ile Ife, Nigeria.

Methods

This comparative, cross-sectional study was conducted in Obafemi Awolowo University, with 450 female undergraduates selected via multi-stage sampling. A pretested, electronic, self-administered questionnaire was used. Data were analyzed using SPSS version 20, while McNemer's Chi Square was used to test the differences in certain variables before and during the lockdown. Statistical significance was set at $p<0.05$. Ethical approval was obtained from the Institute of Public Health, OAU. Recall bias may have been a limitation.

Results

Most respondents (70.2%) were 20 to 24 years of age, and single (56.4%). There was a statistically significant increase during the lockdown in RSB (66.3% vs 92.1%, $p<0.001$), rape (4.9% vs 9.3%, $p=0.044$) and IPV (17.6% vs 24.3%, $p=0.043$); and a statistically significant decrease in access to SRH services (79.8% vs 61.8%, $p=0.003$), and sanitary menstrual care products (98.7% vs 96.9%, $p=0.043$).

Conclusion

The COVID-19 lockdown aggravated existing SRH challenges of respondents, with the movement restriction, closure of stores and lack of fund as contributing factors. The government should ensure that everyone has adequate access to SRH services always and culprits of sexual violence are prosecuted.

Keywords: Sexual and Reproductive Health, Challenges, COVID-19 lockdown, female, undergraduates

GJMEDPH 2023; Vol. 12, issue 6 | OPEN ACCESS

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Conflict of Interest—none | Funding—none

INTRODUCTION

Sexual and reproductive health and rights (SRHR) constitute 2 of the 17 Sustainable Development Goals (SDGs) which represent the United Nations' latest roadmap to improve the lives of people around the world from 2015 to 2030.[1,2] Specifically, target 3.7 aims to ensure universal access to sexual and reproductive healthcare services and the integration of reproductive health into national strategies and programs; while target 5.2 aims to end all forms of violence against women and girls in public and private spaces, including human trafficking, sexual exploitation, and other forms of exploitation.[1,2]

Some of the SRHR indicators utilized by the United Nations include: the proportion of girls and women aged 15 years and above who were physically, sexually, or psychologically abused by a current or former intimate partner in the previous 12 months; and the proportion of girls and women aged 15 years and above who were sexually abused by persons other than an intimate partner in the previous 12 months.[1,2]

In addition, menstrual hygiene is an important aspect of the sexual and reproductive health (SRH) of women. Women spend approximately a total of three to eight years of their lifetime menstruating, and in lower and middle-income countries, over 800 million females between the ages of 15-49 years menstruate every day globally.[3,4] Consequently, adequate access to menstrual hygiene products is important for good SRH of women.

Public health emergencies such as epidemics and pandemics have been shown to have adverse effects on the sexual and reproductive health of populations in significant ways.[5] This is often due to a shift of focus, attention, and resources away from sexual and reproductive healthcare to the current public health crisis.[6] Expectedly, the COVID-19 pandemic negatively affected the delivery of SRH services globally, and resulted in a significant setback in the improvement of SRH of people worldwide, particularly women.[7]

On March 11, 2020, COVID-19 was declared a pandemic.[8] In order to combat the spread of COVID-19, most countries instituted a lockdown with the restriction of movement, as well as the cessation of most economic and social activities.[9]

Nigeria's federal and state governments responded to the pandemic by shutting down all academic institutions across the country followed by a nationwide lockdown.[9]

The restriction of movement, fear of law enforcement agents, and closure of pharmacies and stores resulted in poor access to contraception, especially condoms, leading to increased prevalence of risky sexual behavior such as unprotected sexual intercourse which may result in sexually transmitted infections (STIs) unwanted pregnancy and unsafe abortion, poor access to treatment for STIs, and poor access to menstrual care products.[6,10–12] Furthermore, as a result of the prolonged length of stay at home, and in situations of domestic violence or with abusive intimate partners, the prevalence of rape and intimate partner violence increased during the lockdown.[13–15]

For most young people in Nigeria who already have poor SRH indices,[16,17] the COVID-19 lockdown may have exacerbated their SRH challenges. While there are studies that have reported the various adverse effects of the COVID-19 lockdown on Nigerians generally,[10,14,18] it is also pertinent to know the SRH challenges that were experienced by young female students before the lockdown, and if these challenges were aggravated during the lockdown.

Consequently, the aim of this study was to determine the SRH challenges experienced during the COVID-19 lockdown among female undergraduates in Obafemi Awolowo University, Ile Ife, Nigeria. The objectives of the study were to determine and compare the access to SRH services, prevalence of risky sexual behavior, prevalence of rape and intimate partner violence, and access to sanitary menstrual care products before and during the COVID-19 lockdown among female undergraduates in Obafemi Awolowo University (OAU), Ile Ife, Nigeria.

The findings from this study will help the government and school management to put measures in place to improve the current state of SRH services in tertiary institutions in the country, as well as plan and prepare adequately to cater for the sexual and reproductive health needs of female undergraduates, and indeed everyone if any similar public health emergency occurs in the future.

ISSN# 2277-9604

Materials and Methods

This study was a comparative cross-sectional study carried out among female undergraduates of Obafemi Awolowo University, Ile Ife, Nigeria. Consenting female undergraduates who were physically present in Nigeria for at least 12 months before the COVID-19 lockdown, and throughout the lockdown were included in the study. Since there was no restriction of movement per se within the university campus, and university health center and pharmacy were in operation to some extent, female undergraduates who were residing within the campus during the lockdown were excluded from the study.

The minimum sample size for this study was 383 which was calculated using the Leslie Fisher's formula for a single proportion, with a 95% confidence level, 5% margin of error, and a p value of 47% (0.47) obtained from a Nigerian study which was the proportion of undergraduates who reported that consistent use of condoms as a SRH challenge.[19] A non-response rate of 10% was included due to the sensitive nature of the study, increasing the sample size to 422. However, 450 respondents were used for the study.

A multi-stage sampling technique was used to select the respondents for this study, thus:

Stage 1 - Ten faculties were selected from the 13 faculties in Obafemi Awolowo University using the simple random sampling technique (balloting).

Stage 2 - From each of the 10 faculties, three departments were chosen also by simple random technique (balloting), making a total of 30 departments. Then, proportional allocation was used to determine the number of respondents to be sampled from each of the 30 departments and the various levels in each department.

Stage 3 – Simple random sampling (computer-generated random numbers) was used to select the final respondents from each level in each department using the class list as a sampling frame.

The research instrument was a purpose developed, electronic, semi-structured questionnaire, which was pretested for reliability with 45 female undergraduates from Oduduwa University Ipetumodu, Nigeria. The questionnaire was self-administered. The questionnaire consisted of 5 sections which assessed the socio-demographic characteristics of the respondents, respondents' access to reproductive health services before and during the lockdown, risky sexual behavior among respondents before and during the lockdown, sex-related and intimate partner violence among respondents before and during the lockdown, and respondents' access to sanitary menstrual care products before and during the lockdown, as well as the factors that affected respondents' access to sanitary menstrual products during the lockdown.

Data collection was done electronically using the Kobo Collect software, a humanitarian toolbox developed for collecting field data by the Kobo Toolbox Committee comprised of the Harvard Humanitarian Initiative, International Organization for Migration (IOM), United Nations High Commissioner for Refugees (UNHCR), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), and the United Nations International Children's Emergency Fund (UNICEF).[20]

The submitted questionnaires were downloaded from the Kobo Collect Cloud to a Microsoft Excel spreadsheet, while the data extracted were exported to IBM Statistical Package for Service Solutions (SPSS) version 20 for data analysis.

Frequency distribution tables and charts were generated for the measured variables at the univariate level. The McNemer's chi-square test was used to compare the proportions of the measured variables before and during the COVID-19 lockdown, while the level of statistical significance was set at a p-value less than 0.05.

Access to SRH services (condoms and other modern contraceptives) before and after the lockdown was measured using a 4-point Likert scale in which respondents who chose "very easy" and "easy" were categorized as having good access to RH services, while respondents who chose "difficult" and "very difficult" were categorized as having poor access to SRH services.

Risky sexual behavior before and during the lockdown was measured with activities such as having multiple sexual partners, having unprotected sexual intercourse, sex under the influence of alcohol and/or drugs, and transactional sex. Respondents who engaged in any of these activities were categorized as having risky sexual behavior, while respondents who did not engage in any of these activities were categorized as not having risky sexual behavior.

Rape (by a non-intimate partner) before and during

the lockdown was measured by a "yes" or a "no" response. Intimate partner violence (physical, emotional, sexual economic or psychological) before and during the lockdown was also measured by a "yes" or a "no" response, and in this case, if it was perpetrated by an intimate partner (husband, fiancé or boyfriend).

Access to sanitary menstrual products before and after the lockdown was also measured using a 4-point Likert scale in which respondents who chose "very easy" and "easy" were categorized as having good access to sanitary menstrual care products, while respondents who chose "difficult" and "very difficult" were categorized as having poor access to sanitary menstrual care products. Ethical approval was provided by the Ethics and Research Committee of the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. A thorough explanation of the objectives of the study, justification and methods used was provided. Then, informed consent was obtained virtually from all the respondents before proceeding to the questionnaire, as participation in the study was voluntary. No identifiers of the participants were required and all information provided was kept strictly confidential.

Recall bias and social desirability bias may have served as limitations to this study as respondents had to recall events before the lockdown, and due to the sensitive nature of the study. These were mitigated by encouraging the respondents to think well and be sure of their responses as well as assuring them of the anonymity of their identities, and confidentiality of their responses.

Table 1: Socio-demographic Characteristics of Respondents

Characteristics	Frequency n = 450	Percent (%)
Age at last birthday (in years)		
15-19	105	23.3
20-24	316	70.2
25-29	29	6.5
Ethnicity		
Hausa	1	0.2
Igbo	29	6.5
Yoruba	396	88.0
*Others	24	5.3
Relationship status (at the time of the survey)		
Dating	187	41.6
Married	8	1.8
Separated or divorced	1	0.2
Single	254	56.4
Relationship status (during the lockdown)		
Intimate partner	148	32.9
No intimate partner	302	67.1

**Others: Urhobo, Efik, Ibibio, Bini, Eshan, Ijaw.*

Table 1 shows the sociodemographic characteristics of the respondents. Majority were aged 20-24 years (70.2%), of Yoruba ethnicity (88.0%), and single (56.4%) at the time of the survey, while 148 (32.9%) had intimate partners during the lockdown.

Table 2: Respondents' SRH Variables Before and During the COVID-19 Lockdown

Sexual Activity		Before the Lockdown		Total n = 450 (%)	Statistics
		Not sexually active n (%)	Sexually active n (%)		
During the Lockdown	Not sexually active	360 (80.0)	1 (0.2)	361 (80.2)	X^2 = 16.02 (McNemer)
	Sexually active	21 (4.7)	68 (15.1)	89 (19.8)	df = 1
Total		381 (84.7)	69 (15.3)	450 (100.0)	*p < 0.001
Access to SRH Services		Poor Access n (%)	Good Access n (%)	Total n = 89 (%)	
During the Lockdown	Poor Access	13 (14.6)	21 (23.6)	34 (38.2)	X^2 = 8.70 (McNemer)
	Good Access	5 (5.6)	50 (56.2)	55 (61.8)	df = 1
Total		18 (20.2)	71 (79.8)	89 (100.0)	*p = 0.003
Risky Sexual Behaviour		Yes n (%)	No n (%)	Total n = 89 (%)	
During the Lockdown	Yes	55 (61.8)	27 (30.3)	82 (92.1)	X^2 = 16.04 (McNemer)
	No	4 (4.5)	3 (3.4)	7 (7.9)	df = 1
Total		59 (66.3)	30 (33.7)	89 (100.0)	*p < 0.001
Rape		Yes n (%)	No n (%)	Total n = 450 (%)	
During the Lockdown	Yes	15 (3.3)	27 (6.0)	42 (9.3)	X^2 = 11.03 (McNemer)
	No	7 (1.6)	401 (89.1)	408 (90.7)	df = 1
Total		22 (4.9)	428 (95.1)	450 (100.0)	*p = 0.001
Intimate Partner Violence		Yes n (%)	No n (%)	Total n = 148 (%)	
During the Lockdown	Yes	21 (14.2)	15 (10.1)	36 (24.3)	X^2 = 4.02 (McNemer)
	No	5 (3.4)	107 (72.3)	112 (75.7)	df = 1
Total		26 (17.6)	122 (82.4)	148 (100.0)	*p = 0.044
Access to Sanitary Menstrual Care Products		Good Access n (%)	Poor Access n (%)	Total n = 450 (%)	
During the Lockdown	Good Access	434 (96.5)	2 (0.4)	436 (96.9)	X^2 = 4.10 (McNemer)
	Poor Access	10 (2.2)	4 (0.9)	14 (3.1)	df = 1
Total		444 (98.7)	6 (1.3)	450 (100.0)	*p = 0.043

**Statistically significant*

Table 2 shows the comparison of respondents' SRH variables before and during the COVID-19 lockdown. There was a statistically significant increase in the proportion of respondents that were sexually active ($p < 0.001$), risky sexual behaviour ($p < 0.001$), rape cases ($p = 0.001$), and intimate partner violence ($p = 0.044$). On the other hand, there was a statistically significant decrease in the proportion of respondents that had good access to SRH services ($p = 0.003$) and sanitary menstrual care products ($p = 0.043$).

Table 3: Reasons for poor access to SRH services during the lockdown

Reason	Frequency n = 34	Percent (%)
Restriction of movement	30	88.2
No means of transportation	27	79.4
Closure of health facilities	23	67.6
Lack of finance	20	58.9
Fear of contracting COVID-19	15	44.1
Fear of law enforcement agents	8	23.5

Table 3 shows that the restriction of movement during the lockdown was the most reported reason for poor access to SRH services (88.2%), followed by lack of transportation (79.4%), and closure of health facilities (67.6%).

Table 4: Perpetrators of Rape Cases During the Lockdown

Perpetrators	Frequency n = 42	Percent (%)
Neighbour	15	35.7
Family member	13	31.0
Friend	9	21.4
Stranger	5	11.9

Table 4 shows that most of the rape cases were perpetrated by neighbours (35.7%), followed by family members (31%).

Table 5: Pattern of Intimate Partner Violence During the Lockdown

ISSN# 2277-9604

Pattern	Frequency n = 36	Percent (%)
Psychological	24	66.7
Physical	19	52.8
Sexual	8	22.2

Table 5 shows that emotional violence (66.7%) was the most frequent pattern of IPV reported by the respondents, followed by physical (52.8%) and sexual (22.2%) violence.

Table 6: Reasons for Poor Access to Menstrual Care Products During the Lockdown

Reason	Frequency n = 14	Percent (%)
Lack of finance	8	57.1
Restriction of movement	6	42.9
Closure of stores	5	35.7
Fear of contracting COVID-19	4	28.6
Fear of law enforcement agents	4	28.6

Table 6 shows that finance (57.1) was the most reported reason for poor access to sanitary menstrual care products during the lockdown; followed by the restriction of movement (42.9%), and the closure of stores (35.7%).

DISCUSSION

There was a significant increase in the proportion of respondents that were sexually active before the lockdown and during the lockdown. This may be due to the fact that all students in the country were at home at that time, with a possible increase in the level of idleness and boredom; hence, the propensity to engage in unwholesome activities, including sex. This may not have been the case if they were in school and fully engaged in academic work. This finding was in keeping with the result from a similar study in Delta State, Nigeria,[21] but at variance with another study in the United Kingdom,[22] probably due to the differences in the impact of the COVID-19 lockdown in both countries. More than one-third of the respondents that were sexually active during the lockdown had poor access to SRH services with a significantly lower proportion having the same before the lockdown. In other words, the COVID-19 lockdown worsened the access to SRH services among the respondents, with the restriction of movement and lack of a means of transportation as the most reported challenges that led to poor access to SRH services. Some respondents who needed the SRH commodities especially condoms and other contraceptives may not have had access to them. This may have resulted in an increased rate of unprotected sexual intercourse, with the potential

complications of contracting STIs, unwanted pregnancy and unsafe abortion. This finding was similar to the results from related studies carried out in Nigeria,[23] Uganda,[24] and Egypt.[25]

There was also a significant increase in the proportion of respondents that engaged in risky sexual behavior before the lockdown and during the lockdown. Risky sexual behavior is associated with a higher prevalence of contracting STIs, unwanted pregnancy and unsafe abortion. Unprotected sexual intercourse as a pattern of risky sexual behaviour may have resulted from the fact that some respondents had decreased access to condoms during the lockdown. This finding is in agreement with the results from related studies in Nigeria[26] and Italy,[27] with the Italian study reporting a spike in the incidence of syphilis during the lockdown when compared to related figures between 2016 and 2019.[27]

This study also revealed a significant increase in the proportion of rape cases among the respondents before and during the lockdown, with cases perpetrated by known and unknown persons to the victims. Rape is known to cause physical, mental, emotional and social trauma to the victims, with some of the aftermaths persisting for a long time. There were over 3600 reported cases of rape in Nigeria during the COVID-19 lockdown, with a call for urgent attention by the Minister of Women Affairs and Social Development.[28] There were even some cases of femicide after rape.[29] Other related studies in Nigeria buttress this finding.[28–30]

In terms of Intimate Partner Violence (IPV), there was a significant increase in its prevalence among the respondents before and during the lockdown, with psychological violence and physical violence as the most experienced patterns respectively. This may have resulted from the victims spending more time at home with abusive partners, unlike if such partners were away in school or at work and spent less time at home. In addition, it is possible that the other difficulties most men experienced at that time, especially financial, may have contributed to the increase in intimate partner violence during the lockdown.

Psychological violence is thought to be the most common pattern of intimate partner violence experienced by women, and even men.[31]

Intimate Partner Violence, just like rape, has also resulted in far-reaching physical, mental and social effects that left some victims devastated, while others lost their lives in the process. These findings on IPV were corroborated by other studies in Nigeria and Ethiopia.[14,32–34]

With regards to access to sanitary menstrual care products, there was a significant reduction in the proportion of respondents who had good access before the lockdown and during the lockdown, with financial constraint and the restriction of movement as the leading reasons respectively. In other words, more respondents used unsanitary menstrual care products during the lockdown, thereby aggravating the period poverty that existed before the lockdown. This may have resulted in a higher prevalence of the untoward consequences of using unsanitary menstrual care products such as poor menstrual hygiene, discomfort and low self-esteem, vulvar and vaginal irritation and inflammation, urinary tract infection and reproductive tract infection, with possible pelvic inflammatory disease. A similar result was reported by a related Nigerian study.[35]

CONCLUSION

In as much as there were SRH challenges before the COVID-19 lockdown among female undergraduates of Obafemi Awolowo University Ile Ife, these challenges were exacerbated during the lockdown as manifested by the decrease in access to SRH services and sanitary menstrual care products; as well as the increase in the cases of rape and intimate partner violence during the lockdown.

These SRH challenges may have resulted in consequences that the participants in this study, and possibly other female undergraduates in Nigeria would have dealt with. Such consequences may include contracting sexually transmitted infections, unwanted pregnancy, unsafe abortion, physical and psychological trauma of rape and intimate partner violence, poor menstrual hygiene, urinary and genital tract infections from using unsanitary menstrual care products. Most of these SRH challenges and consequences could have been prevented if proactive measures were put in place to overcome them by the government.

RECOMMENDATIONS

The government at all levels should ensure adequate access to SRH services and sanitary menstrual care products at all times, and if any public health emergency

occurs in the future that requires a lockdown as part of its control measures. This should be done as much as possible without breaching the protocols of the lockdown. The government should also make sanitary menstrual care products affordable at all times through effective pricing policies, and possible subsidies.

Parents, lecturers, health workers, the school management and the government should ensure that undergraduates are adequately and properly educated on the dangers of risky sexual behavior and the benefits of abstinence, sexual fidelity or the correct and consistent use of barrier methods of contraception especially condoms. This will go a long way in reducing the prevalence of STIs, unwanted pregnancy and unsafe abortion among undergraduates.

The government, non-governmental, civil society and religious organizations should ensure adequate education and sensitization on the issues of rape and intimate partner violence. Victims should be encouraged to speak out and report such incidents while seeking immediate medical attention. The law enforcement agents should ensure that perpetrators of rape and sexual violence are prosecuted, while the judiciary ensures that convicted culprits are sentenced accordingly under the full weight of the law.

ISSN# 2277-9604

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ISSN# 2277-9604