Original Research Article

The Effects of COVID-19 Pandemic on Family Planning Access and Use at Primary Health Centres in Rivers State, Nigeria

ABSTRACT

Introduction: The COVID-19 pandemic has posed challenges especially to health systems and population health. Many countries enforced border closures and implemented lockdown restrictions which affected many sectors of the society. Increasing case load has led to many health authorities reassigning healthcare professionals and reorganizing existing health services to combat COVID-19 which, this may have affected routine and essential healthcare services, including family planning.

Aims: This study aimed to assess the impact of COVID-19 pandemic and restrictions on the access and use of family planning among clients in primary health facilities in Rivers State, Nigeria.

Study design: CA cross sectional survey design was adopted.

Place and Duration of Study: Participants were recruited from eighteen primary health centres across six Local Government Areas (district) of Rivers State. Data was collected between 7th July and 9th August 2021.

Methodology: 759 wWomen of reproductive age attending family planning clinic, antenatal sessions, post-natal clinic and immunizations sessions were interviewed using systematic random sampling. Descriptive statistics were reported as frequency and proportions for categorical variables while continuous variables were reported as means with standard deviations.

Results: In this study, tA total of 759 women were interviewed and tThe mean age of participants was 32.19 (SD±7.49). 44.3% of respondents had met need of family planning before the pandemic which increased to 64.8% post-lockdown. Unmet need for family planning was higher than the State average during the lockdown. 21.0% had an unmet need for child birth spacing while 10.5% had an unmet need for limiting. 34.2% of respondents reported unintended pregnancies. There was a family planning method shift post-pandemic to long-acting reversible contraception being preferred.

Conclusion: The lockdown and restrictions had impacted the met and unmet need for family planning. Also, there was a method shift of family planning method seen. These findings can be taken into consideration in cases of any public health emergencies.

Keywords: Covid-19, family planning, contraception, lockdown, pandemic

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1. INTRODUCTION

~~The index case of the corona virus disease 2019 (COVID-19) was reported in Wuhan China on December 8, 2019 [1]. The Chinese health authorities notified the World Health Organization (WHO) on December 31, 2019. With the rapid spread and increasing incidence of the disease, the COVID-19 outbreak was declared a public health emergency of international concern [2] and subsequently declared a pandemic in mid-March 2020 by the WHO [3]~~

~~COVID-19 is caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus whose ecological reservoir is the bat. It is believed that the virus jumped the species barrier to humans from an intermediate animal host [4]. Since its detection, the infection rate of the SARS-CoV-2 virus has been high, crossing international borders and leading to an infectious and multi-systemic disease.~~

~~The emergence of the COVID-19 pandemic has revealed again the challenges and weaknesses of health systems in different settings especially in low-and middle-income countries (LMICs) [5]. Current statistics from the WHO show over 426.6 million confirmed cases and 5.8 million deaths globally [6].~~ In response to the COVID-19 pandemic, many countries enforced border closures, limited mass gatherings, and implemented lockdown restrictions that has affected many sectors of the society including schools, businesses and markets. The growing number of COVID-19 cases has also forced many national health authorities to reassign available healthcare professionals and reorganize existing health services to combat COVID-19. In the rush to contain the spread of the pandemic and in handling pandemic related emergencies, some routine but essential healthcare has been neglected.

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Globally, reproductive health services such as family planning and abortion services were either shut down or not accessible [7]. In previous large infectious outbreaks such as the recent Ebola epidemic in Sierra Leone, the Democratic Republic of Congo and Liberia, contraception and routine maternal health care dropped significantly [8]. The “three delays” model in obstetric care which are the delays in: deciding to seek care, reaching the healthcare facility and receiving care after reaching the health care facility were exacerbated during the infectious outbreaks. Similarly, with the COVID-19 outbreak, there appears to be a reoccurrence as women are refraining from visiting the health facilities due to movement restrictions and fears of exposure to COVID-19. In addition, disruptions to global manufacturing and supply chains of contraceptive commodities may lead to their shortages. The United Nations Population Fund (UNFPA) estimates that due to the measures taken to contain COVID-19, about 46 countries that receive supplies from them might run out of stock of one or more modern methods of contraception including copper intrauterine devices, depot medroxyprogesterone acetate (DMPA) intramuscular (IM) and subcutaneous (SC) and oral contraceptives [9]. Due to the stock-outs and unavailable providers, a study by Riley et al. 2020, used mathematical modelling to project that world-wide, about 48 million women will have an unmet need for family planning resulting in over 15 million unintended pregnancies, 1.7 million women will experience obstetric complications without care and 3.3 million additional women resorting to unsafe abortions and increased maternal mortality [10]. This would constitute a set-back internationally of the progress made from the Millennium Development Goals and make the task of meeting objective 3.1 of the 2030 Sustainable Development Goals more challenging.

While concerted effort is being made to mitigate the effect of the novel COVID-19, more knowledge of its impact on sexual and reproductive health to minimize the effect of the pandemic on maternal and perinatal health is needed. Given the nascence of the pandemic, there are some studies that have examined the effect of COVID-19 on family planning, however, they are mostly in the form of commentaries and reviews. Vora et al. 2020, studied

the impact of COVID-19 on family planning services in India [11] where they concluded COVID-19 has worsened the already high unmet need for family planning. Sharma et al. 2020, published a review article where they looked at the effect of COVID-19 on family planning and abortion services also in India. They went further to analyse its impact over the course of pregnancy and to make recommendations on policy changes such as a shift to telemedicine in order to facilitate access to family planning during the pandemic [12]. In Africa, Mathew et al. 2020 [13] explored the impact of COVID-19 on women, however, it was not specific to family planning as it targeted the socio-economic impact more.

In Nigeria, there appears to also be a paucity of data with regards to the impact of COVID-19 pandemic on family planning. Akaba et al. 2020 [14] published a study protocol where they will study the impact of COVID-19 on the utilization of maternal, new-born and child health services in Nigeria. Furthermore, there is no study on the effect of COVID-19 on family planning in Rivers State. Therefore, this study aims to assess the impact of COVID-19 pandemic on the access and use of family planning amongst clients in primary health centres in Rivers State. Data from this study will provide information that can be used to strengthen measures which will ensure access to essential reproductive health services during pandemics, lockdowns and the easing of restrictions.

2. METHODS

2.1 Study design and sample

The study adopted a cross sectional survey design across Rivers State, Nigeria. Multi-stage sampling was used to select participants for the study. The State was divided into three clusters corresponding to its three constituent senatorial zones. Subsequently, two Local Government Areas (LGAs) were randomly selected from each senatorial zone to be surveyed. From the six LGAs (Ikwerre, Degema, Port Harcourt, Bonny, Andoni and Khana), three primary health centres were randomly selected from where participants for the study were recruited using systematic random sampling. A total of 18 primary health centres were used as study sites.

Study respondents were women aged 15-49 years attending family planning clinic, antenatal sessions, post-natal clinic and immunizations sessions in the chosen health facilities. Also, women who got pregnant after the index case of COVID-19 in Nigeria were included. Pregnant and nursing mothers who were not residents in Nigeria during the incidence of the index case and subsequent lock downs across the State were not included.

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Using the Cochran's sample size calculation formula, the minimum sample size was 334. Given the cluster sampling used, a design effect of 2 was used to adjust the sample size, to correct the estimated sampling variance. In addition, an estimated invalid and non-response rate of 10% was included in the calculation to give the final minimum sample size of 735. The total minimum sample size of 735 was proportionally allocated across the selected health facilities.

2.2 Data collection

An interviewer- administered questionnaire was used for data collection. The data tool was adapted from the Research for Scalable Solution standardized questionnaire for assessing the impact of Covid-19 restrictions on family planning and other reproductive health services.

Before commencing the study, the questionnaire was checked for reliability using Cronbach's alpha analysis. Pretesting of the questionnaire was conducted in a different LGA which was not included in the study. Based on the findings from the pretest, questions that were ambiguous were reviewed for clarity.
Data was collected electronically from 7th July to 9th August 2021 using the Kobo Humanitarian response tool. Data collectors underwent a one-day training prior to the survey. During the data collection, back checks were done for quality assurance.

2.3 Data analysis

Data from the survey was exported from the Kobo site to SPSS 25 for statistical analysis after cleaning and coding. ~~Binomial outcomes were coded yes = 1 and no = 0~~. Descriptive statistics were reported as frequency and proportions for categorical variables while continuous variables were reported as means with standard deviations.

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3. RESULTS

3.1 Socio-demographic characteristics of study respondents

A total of 759 women were interviewed aged between 17 and 63 years. The m~~M~~ajority of the respondents (n=x, 49.9%) were between 25- 34 years. More than three-quarters (n=x, 78.9%) were married while xx (17.4%) reported to be single. The majority (n=x, 96.4%) of all participants were Christians while only 3.6% were M~~m~~uslim~~s~~. Of the women surveyed, the majority (n=x, 69.8%) were employed~~, while 21% were unemployed~~. About a quarter of the participants (n=x, 25.4%) earned less than #10 000 monthly while majority, 49.9%, earned between #10 000 and #50 000. Only 24.7% earned above #50 000 per month (Table 1).

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Table 1. Socio-demographic characteristics of study respondents

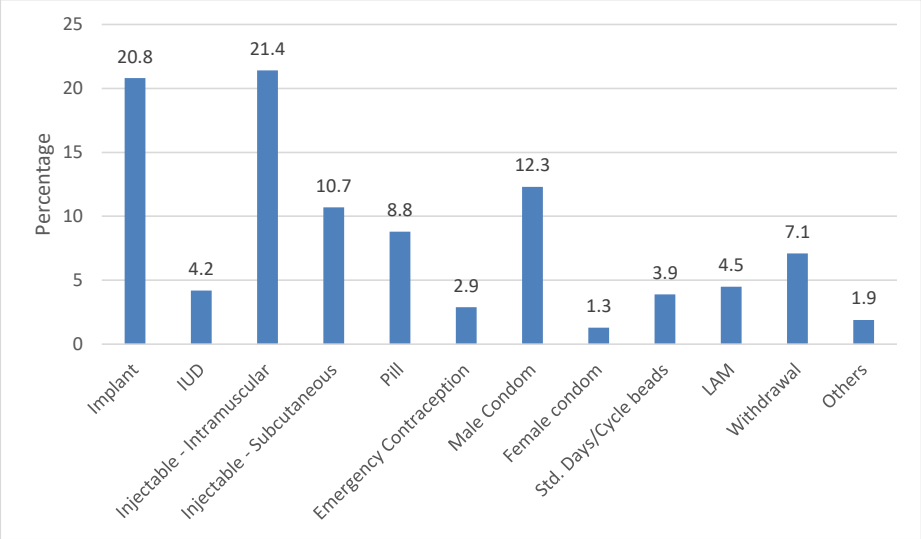
Characteristics	Frequency	Percentage
Age at last birthday		
<25	116	15.3
25-34	379	49.9
35-39	123	16.2
>40	141	18.6
Mean age (SD)	32.19±7.49	
Marital status		
Single	132	17.4
Married	599	78.9
Divorced/Separated	15	2.0
Cohabiting	3	0.4
Widow	10	1.3

Employment status		
Employed	517	69.8
Unemployed	156	21
Student	68	9.2
Income		
<10 000	176	25.4
10 000- 50 000	345	49.9
>50 000	171	24.7

3.2 Met need for family planning

Prior to the COVID-19 index case and subsequent lockdown, 44.3% (n=x) of the women reported either they or their partner were using a family planning method to prevent pregnancy while 55.7 -% (n=x) were not using any form of contraception. For those using a method of family planning, injectables, implant and male condoms were the most common (at 21.4%, 20.8% and 12.3% respectively). Figure 1 shows all contraceptive methods in use before the lockdown.

Fig. 1. Method used when COVID-19 restrictions began



For those using any form of contraceptive, 79.9% had their commodity delivered to their home, 7.1% obtained it from a pharmacy while 4.1% received it from a friend or relative. Among the respondents using injectables, 86.9% obtained it from a health care provider while 9.1% were self-administered.

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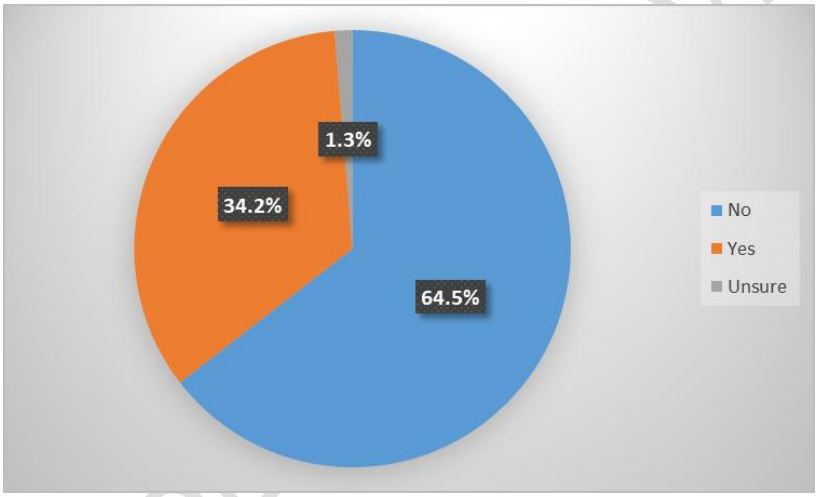
3.3 Unmet need for family planning and pregnancy during the pandemic

Of~~For~~ the women interviewed, just over a third (n=x, 35.6%) ~~were currently pregnant while 63.1% were not pregnant, and however,~~ 1.3% (n=x) ~~the participants~~ were not sure of their pregnancy status. Among the pregnant women, 97.6% conceived~~got pregnant~~ after the beginning of the COVID-19 outbreak and ensuing lockdowns while 1.2% were unsure about their time of conception. When asked if their current pregnancy was planned, 68.5% of the pregnant participants reported theirs was planned at the time while 21.0% planned to be pregnant but had wanted to wait for a later time. In contrast, 10.5% of the expectant mothers had not planned to become pregnant at all. More than half of the women (64.5%) said the COVID-19 outbreak and social restrictions did not affect their ability to avoid or delay pregnancy while 34.2% said they were affected by the lockdowns and social restrictions in their ability to avoid pregnancy (Figure 2).

Fig. 2. Percentage of respondents whose ability to avoid or delay pregnancy were affected by the pandemic



3.4 Post- COVID family planning methods

There was ~~appears to be~~ an increase in the use of family planning after the lockdown. The majority of respondents (n=x, ~~as~~ 64.8%) ~~of the respondents~~ reported that either they or their partner were currently doing something to prevent pregnancy as opposed to 44.3% before the lockdown (Table 2). Implants, injectable (intramuscular) and male condoms still remained the methods of choice as 28.0%, 20.7% and 11.2% reported ~~to be~~ using these methods respectively (F~~f~~igure 3).

Table 2: Use of family planning to prevent pregnancy

Use of family planning	Before COVID-19 outbreak (%)	After COVID-19 outbreak (%)
No	55.7	35.2

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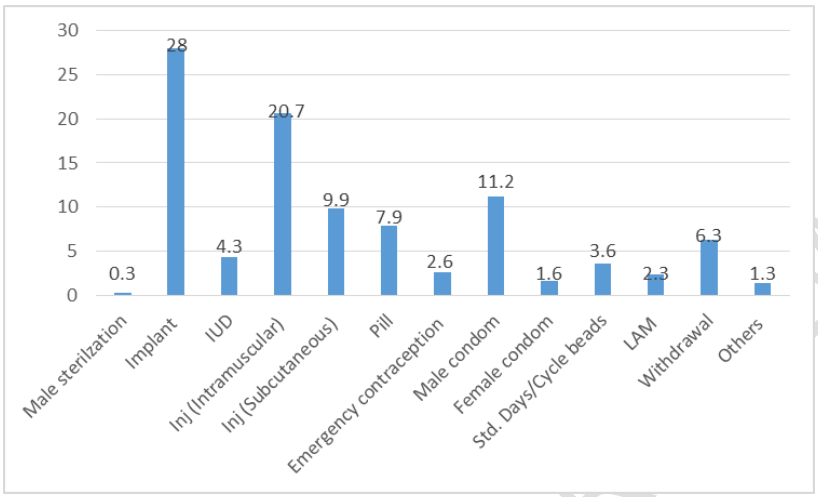
Yes	44.3	64.8

Fig. 3. Post-COVID-19 family planning methods



A comparison ~~of the family planning method of choice after the pandemic showed an increased preference for implants. Whereas some~~ of the other family planning methods of choice showed a slight decrease in most of their use, except for implants which showed an almost 10% increase in utilization (Figure 4). IUD and the use of female condoms showed slight increase in usage while there was an introduction of male sterilization which was not recorded pre-COVID-19 outbreak.

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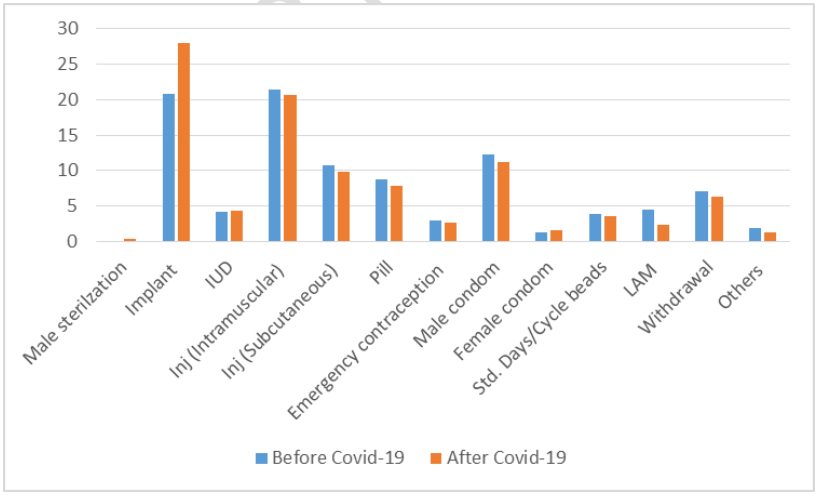
Figure 4: Comparison of pre-covid and post-covid family planning methods



3.5 Self-use family planning services

With efforts being made to improve the use of contraceptives amongst women of child bearing age, it is understood that some women may be interested in the use of these contraceptives without the need of seeing a healthcare provider. When probed for which of the services they would like more knowledge about~~on~~ so they could self- administer, 37.1% said they would be very interested in the knowing how to use oral contraceptives (pills), 30.2% wanted to know more about subcutaneous injections, while emergency contraception was the third highest method of interest (n=x, ~~at~~ 28.3%). In contrast, respondents were quite disinterested in gaining further knowledge on how to use pregnancy test strip and pregnancy checklists (Table 3).

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Table 3: Interest in self-use family planning services

Service	Very disinterested (%)	Fairly disinterested (%)	Neither interested nor disinterested(%)	Fairly interested (%)	Very interested (%)
Pregnancy test	84.5	9.0	1.5	1.8	3.1
Pregnancy checklist	83.2	10.9	1.3	2.2	2.4
Lactational amenorrhea (LAM)	68.2	11.4	4.6	6.1	9.7
Condoms	46.7	12.6	4.2	8.2	28.2
Pill	29.7	10.9	8.3	14.0	37.1
Emergency contraception	37.7	15.5	5.7	12.8	28.3
Subcutaneous injection	43.5	9.7	6.7	9.9	30.2
Cycle beads	48.4	12.3	8.9	11.0	19.4
Actions if side effects occur	72.5	13.4	4.0	4.3	5.8
Actions if there is a change in period cycle	74.3	12.8	2.3	6.3	4.4

4. DISCUSSION

This study investigated the impact of COVID-19 on access and utilization of family planning services among clients of primary health centres in Rivers State. The research was focused on primary health centres given that they are the entry point into the Nigerian health care system targeted at providing affordable and equitable access to health services for all

citizens [15,16]. TWith respect to the use of family planning services, this study showed that there was an increase in the number of women using contraceptives after the lockdowns compared to the pre-pandemic period. This increase in women's access to, and use of, family planning was unexpected given the mostly deleterious effect of COVID-19 outbreak on family planning services reported by other studies [17, 18]. However, the result aligns with a study conducted in four African countries where they found that the COVID-19 outbreak was associated with a marginal increase in women's need for contraception with corresponding larger increases in women's contraceptive use [19]. This increase in the use of contraception may possibly be due to avoidance of associated financial expenses of pregnancy and childbirth given the economic dip during the pandemic lockdowns.

Regarding the unmet need for family planning during the lockdown among PHC users, 21.0% reported that they did want to get pregnant but would have preferred it to be later. In addition, 10.5% of the respondents did not want to be pregnant at all. The most common reasons for using family planning are usually to regulate child spacing and prevent further conception. These needs for spacing and limiting pregnancy, where they are not met, contribute to the unmet need for family planning. In this study, the unmet need for family planning was 31.5% during the lockdown phase. Comparatively, it is higher than what is obtainable for the State as the unmet need for Rivers State is estimated to be 23.0% [20]. These results show that the lockdowns engineered by the pandemic is associated with an increase in the unmet need for family planning. The findings are in corroboration with previous research which showed that the Covid-19 pandemic had disrupted access to family planning [21, 22, 23, 24]. This impact in unmet need for family planning may potentially indicate a lack of time of clinical staff to provide services due to being occupied with Covid-19 response, susceptibility to stock-outs, periodicity of renewal of commodities and global supply chain disruptions during the pandemic [25] .The clients may also be afraid of exposure to Covid-19 if they visit the health facilities as some studies have shown [26, 27].

Furthermore, the impact on unintended pregnancies was analyzed. Among the pregnant women, 34.2% said the COVID-19 restrictions had affected their ability to avoid or delay pregnancy. A pregnancy is termed unintended when it is either mistimed or unwanted. A mistimed pregnancy is mainly when the expecting mother got pregnant before her desired time whereas it was needed later. Unwanted pregnancy on the other hand occurs when no more child or children is desired [28]. In a study conducted in Ethiopia, results also showed a high rate of unintended pregnancies. 47.1% of the women had reported that the stay at home and other preventive strategies of the COVID-19 had impacted their ability to prevent or avoid pregnancy [29]. Given that health-care staff may have been of limited access or re-purposed to other COVID-19 related duties, lack of health care provider support may have been a contributory factor to this increase in unintended pregnancy as a previous study had shown that women with a lack of health-care provider support were 2.4 times more likely to experience unintended pregnancy compared to those who had support [29].

From the results of this study, the COVID-19 lockdown and restrictions appear to have also influenced the choice of family planning method. Before the lockdowns and social restrictions, the family planning methods of choice in order of most used were injectable (intramuscular), implant, male condom and injectable (sSubcutaneous). Female condoms, emergency contraception and cycle beads were among the lowest commodities used. All the methods mentioned are modern contraceptive methods except the cycle beads and withdrawal methods that are traditional methods of family planning. At the end of the covid-19 restrictions however, there was a significant increase in the use of implants, intrauterine device (IUD) and female condoms. Additionally, male sterilization which was not mentioned as being used at the pre-covid-19 period, was listed as one of the family planning options now in use. There appears to have been a method shift towards long-acting reversible contraception (LARCS). This may be associated with the fact that LARCS are of particular

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value during the pandemic given their low failure rates. They also offer greater user independence and do not require women using it to go for constant re-supply [30]. It is safe for family planning providers to insert implants and IUDs for those that choose with appropriate personal protective equipment, despite the pandemic. In addition, for women who choose either implants or IUDs after taking cognizance of the possible side effects, they can provide three and up to ten years of contraception respectively [31]. Finally, these methods have the added advantage of sometimes resulting in amenorrhoea, which can be a welcome break for some women or beneficial for women who suffer from heavy menstrual bleeding [31].

T~~In a bid t~~o increase demand and utilization of family planning services, women being able to use some family planning methods without the need to meet a service provider is being explored. This study looked at some services the participants would like to have more knowledge on that would enable them to self-administer some family planning services. A significant proportion said they would like to have more knowledge about the use of pills, subcutaneous injections and emergency contraception while low interest was recorded for knowledge on the use of pregnancy test strips and associated side effects of family planning. This information could be useful in the planning of demand generation activities for family planning uptake.

A main strength of this study was adjusting the minimum sample size using a design effect of 2. This increased the sample size and as such increased the precision of results obtained from the study. A limitation for this study is the possibility of recall bias when answering the questionnaire as the questions interrogates events that have happened in the recent past. Nevertheless, despite the limitations, it is hoped that findings from this research will aid in planning a comprehensive and resilient sexual and reproductive health service in ways that can withstand public health crisis caused by disease outbreaks.

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5. CONCLUSION

The COVID-19 outbreak and subsequent lockdowns impacted the access and use of family planning services by clients using the primary health centres across Rivers State. There was an increase in the met need for family planning post-lockdown as the number of women using any form of contraception increased after the easing of the restrictions. During the lockdowns however, there was an increase in the unmet need for family planning. Unmet needs for limitation and spacing increased, thus impacting the ability of some clients to prevent pregnancy. In addition, a method shift for the choice of family planning adopted was noticed after the lockdown restrictions as more clients now preferred long-acting reversible contraception. These findings indicate that in periods of public health emergencies, adequate attention may need to be given to ensuring sexual and reproductive health services are available and accessible to clients to reduce unwanted pregnancies. Furthermore the family planning commodity of choice under such circumstances should be put into consideration when planning in order to meet any demand that may arise.

CONSENT

Following international standards, the purpose and any associated risk was explained in detail to each of the participants. The participants were also informed that participation was voluntary and they were able to withdraw at any time in the course of the survey. Thereafter everyone that agreed to take part in the survey signed a consent form. All data from the study were handled following standard processes while maintaining confidentiality and anonymity.

ETHICAL APPROVAL

The research was approved by the Rivers State Health Research Ethics Committee with registration number RSHMB/RSHREC/11.21/VOL.8/082.

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ABBREVIATIONS

COVID-19 : Corona Virus Disease 2019
IUD : Intrauterine Device
LAM : Lactational Amenorrhea
LARC : Long-Acting Reversible Contraception
LGA : Local Government Area
WHO : World Health Organization