



# Inaccessibility to Healthcare Services amidst COVID-19 Pandemic: Threat to Universal Health Coverage among Sub-saharan African Countries

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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

**Background:** The COVID-19 pandemic is still a major global public health hazard, posing a threat to healthcare availability and accessibility. It is of importance for researchers to contribute towards the achievement of the SDG goal 3.8.1 by keeping an eye on any potential threats to universal health coverage. This study aim to document the rate and pattern of inaccessibility to healthcare services during the COVID-19 pandemic as well as the factors associated with the likelihood of healthcare services inaccessibility during the pandemic in three selected sub-Saharan African countries (Burkina Faso Congo Democratic Republic, and Nigeria).

**Methods:** We analysed a secondary data collected by the Performance for monitoring Action (PMA), the cross-sectional survey was carried out among women of reproductive age 15 – 49 years. Dataset with valid responses to question on healthcare accessibility were extracted from the dataset for Burkina Faso (1486), CDR (402), and Nigeria (322). The outcome variable was Healthcare services accessibility (Inaccessible=1, accessible=0). Descriptive statistics were analysed and presented, chi-square and logistics regression were used to explore associated factors of inaccessibility. Stata MP 16 was used for the Analysis. P values were considered significant at P <0.05.

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**Results:** On the overall, about 13.6% (7.5% in Burkina Faso, 19.2% in CDR, and 14.0% in Nigeria) women had no access to healthcare services. Women in CDR (AOR= 2.56, 95%CI:1.74 - 3.77), and Nigeria (AOR=1.94, 95%CI: 1.28 – 2.95) were more likely to encounter inaccessibility to healthcare services during the pandemic compared to women from Burkina Faso. Also, women who visited for ANC (AOR=0.54, 95%CI:0.32 – 0.91), Child's health (AOR=0.59, 95%CI: 0.41 – 0.84), and Immunization (AOR: 0.63, 95%CI: 0.37 – 1.05). The COVID-19 pandemic threatened the SDG goal for Universal health coverage as the pandemic led to inaccessibility to healthcare services in the Burkina Faso, Congo Democratic Republic and Nigeria. This study recommends that policies and measures to ensure that access to healthcare are not disrupted during the COVID-19 pandemic.

*Keywords: Health care access; healthcare coverage; COVID-19; antenatal care; postnatal care; child's health; sub-Saharan Africa.*

## 1. INTRODUCTION

The COVID-19 pandemic is still a major global public health hazard, posing a threat to healthcare availability and accessibility. Even countries with many healthcare facilities, cutting-edge technologies, and a lot of healthcare workers have been affected. As a result, regardless of region or continent, all have had to alter their systems to allow for quick access and determine the best course of action in the face of this virus [1,2,3]. There are four components to health care access: Coverage: It makes it easier to get into the health-care system. People who are uninsured are less likely to receive medical care and are more likely to be in bad health. Adults who have a regular source of care are more likely to receive recommended screening and preventative treatments. Timeliness: the ability to deliver health care as soon as the need arises [4].

The ease with which people can acquire needed healthcare is referred to as healthcare access. It is broadly described as the ability to access suitable services in relation to healthcare requirements [5,6]. If services are available, there is a chance to get medical help; however, there are other obstacles to overcome, such as financial, organizational, social, and cultural challenges [7]. In this way, the level of access effects the utilization of medical services and, as a result, the population's health. Prior to the epidemic, access was a difficulty. There is preliminary evidence of racial and socioeconomic differences in the population impacted by COVID19 because of decreased access to and utilization of healthcare services as of today. As a result, there are insufficient or inaccessible resources [8]. Many resources and personnel are being diverted from their regular duties in order to test and treat COVID-19

cases [9,10]. People are afraid of accessing healthcare professionals since supplies are restricted [10]. The public is beginning to be concerned about the COVID-19 vaccine's side effects. As a result, ensuring access to medical care is critical to preventing diseases and fatalities caused by COVID-19 and non-COVID-19 cases in already weakened health systems [11]. To reduce the consequences and spread of COVID-19, it is critical to reinforce policies and put in place preventive measures to ensure that access to healthcare is not disrupted [12]. As a result, telemedicine has been used to treat a variety of disorders that manifest symptoms. Telemedicine has risen in popularity as a viable technique for maintaining patient care while also lowering the risk of COVID-19 infection in patients, healthcare professionals, and the general public [13]. There is evidence of patients who were handled utilizing telemedicine and indicated satisfaction with the services received, suggesting that telemedicine assisted in assessing, diagnosing, triaging, and managing COVID-19 patients while avoiding a trip to the emergency room or an outpatient clinic [14].

Specifically in the Low-Middle-Income countries (LMICs), the epidemic has had substantial mental health consequences, including increased psychological distress in people of all ages [15]. This is especially true now, because the virus' spread has had a considerable impact on local economies because of the rigorous measures put in place to stop it. In the effort to improve health among all, the Sustainable Development goal (SDG) 3.8.1 focused on "coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most

disadvantaged population”[16]. It is of importance for researchers to contribute towards achievement of the SDG goals by keeping an eye over any potential threats of the universal health coverage. In this same spirit coupled with the documented occurrence and reports about the COVID-19 pandemic, we hypothesize that the COVID-19 pandemic has increased the level of inaccessibility to health care services and thereby threatened the universal health coverage goal. Currently, there is paucity of information on the level, extent, and pattern of inaccessibility to health care services during COVID-19 pandemic in many of the sub-Saharan countries. Hence this study aims to document the rate and pattern of inaccessibility to healthcare services during the COVID-19 pandemic in Burkina Faso, Congo Democratic Republic (CDR) and Nigeria. Also we explored the associated factors of inaccessibility to healthcare services as well as the factors associated with the likelihood of healthcare services inaccessibility during the pandemic in Burkina Faso, CDR, and Nigeria.

## 2. MATERIALS AND METHODS

This was an analysis of secondary data collected by the Performance for Monitoring Action (PMA) in the year 2020. PMA collects household representative samples nationally and sub-nationally, the major focus of the data collection was to estimate family planning and other health indicators in 9 pledging countries among female aged 15 to 49 years. Also, a probability sample of health facilities, pharmacies, and retail outlets that offer family planning services to the selected communities were selected. The female respondents were asked questions about their background, their birth history and fertility preferences, their use of family planning methods, and other information that is helpful to policymakers and program administrators in health and family planning improvement.

### 2.1 Sampling Techniques

The survey sample in each country was based on a multi-stage cluster design, typically using urban-rural and major regions as the strata. Embedded in each household survey is the female respondent survey, with a series of questions for all women of reproductive age (15-49) living at each household. Respondents for the service delivery point survey are

management staff answering on behalf of the facility.

### 2.2 Data Collection

The household and female surveys were carried out by female data collectors, known as resident enumerators (REs). Each RE collected data from all selected households, eligible women, and service delivery points over the period of six weeks.

### 2.3 Data Extraction

For the purpose of this study, data were extracted for all the three countries (Burkina Faso, Congo democratic Republic, and Nigeria) that were included in the PMA 2020 survey.

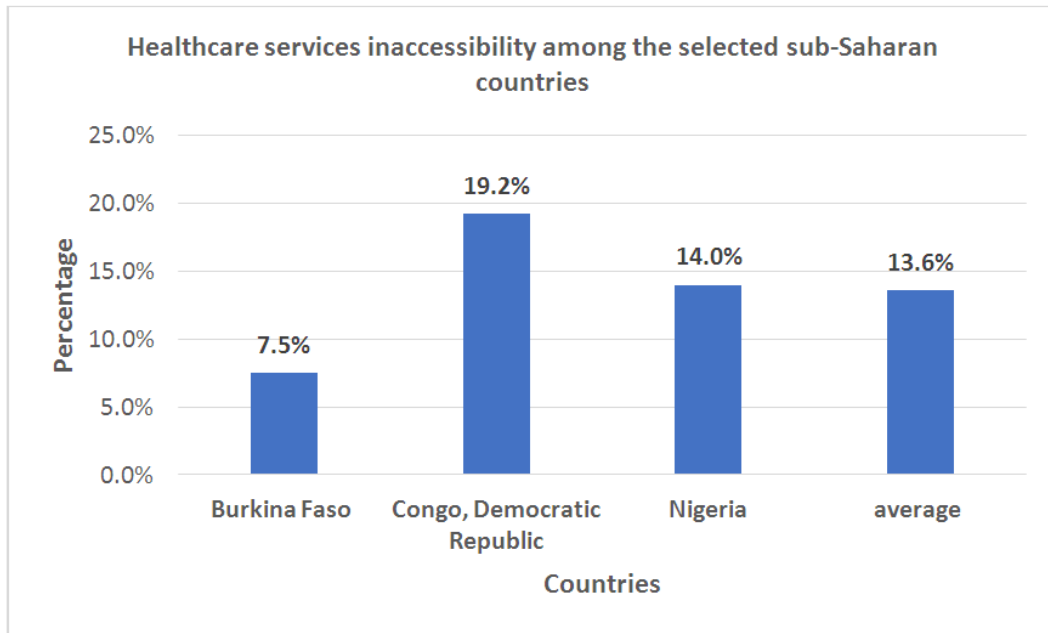
### 2.4 Data Analysis

Descriptive statistics were analysed and presented, the outcome variable was defined as “Successfully accessed healthcare services needed?” respondent who successfully accessed healthcare services were coded 0 “i.e accessed”, while respondents who were not able to access were coded as 1 “i.e inaccessible”. Chi square test was used to determine the association between inaccessibility and other factors. Variables that were significant at 5% level of significance were included in a binary logistic regression to explore the factors associated with the likelihood of inaccessibility of healthcare services. Stata MP 16 was used for the Analysis. P values were considered significant at  $P < 0.05$ .

## 3. RESULTS

### 3.1 Rate of Healthcare Services Inaccessibility among Women of Reproductive Age in Three Selected Sub-Saharan Countries during COVID-19 Pandemic

The rate of healthcare services inaccessibility among women of reproductive age in the three selected sub-Saharan Countries (Burkina Faso, CDR, and Nigeria) was presented in Fig. 1. There were 1486 samples from Burkina Faso, 402 from Congo democratic republic and 322 from Nigeria. On the overall, about 13.6% (7.5% in Burkina Faso, 19.2% in CDR, and 14.0% in Nigeria) women had no access to healthcare services in the three selected sub-Saharan countries during the COVID-19 pandemic.



**Fig. 1. Rate of healthcare services inaccessibility among women of reproductive age in three selected sub-Saharan Countries during COVID-19 pandemic**

**3.2 Pattern of Health Care Services Inaccessible to Women of Reproductive Age in Three Selected sub-Saharan Countries during COVID-19 Pandemic**

The Pattern of Health care services that were inaccessible to women of reproductive age in three selected sub-Saharan Countries during COVID-19 pandemic was presented in Table 1. Inaccessibility was more in the CDR (19.2%) compared to the level in Nigeria (14.0%), and Burkina Faso (7.5%),  $P<0.001$ . About 4.4% in Burkina Faso, 7.3 in CDR, and 8.7% in Nigeria used emergency contraception because of COVID-19 restriction,  $P=0.082$ . Only 1 (3.7%) in CDR reported inability to use FP during the COVID-19 pandemic because of closed facility or no appointments. Also, 5.4% in Burkina Faso and 11.1% in CDR reported they were not able use FP services because of cost,  $P=0.156$ . Because of fear of getting infected with COVID-19, 1.1% in Burkina Faso, 3.7% in CDR, and 6.1% in Nigeria could not use FP services during the pandemic,  $P=0.282$ . Also, 16.4% women in Burkina Faso, 3.2% in CDR, and 19.3% in Nigeria had no access to immunization services for their children during the COVID-19 pandemic,  $P<0.001$ . Inaccessibility to postnatal services was more in Burkina Faso (12.1%) in relative to

CDR (6.2%) and Nigeria (3.4%),  $P<0.001$ . Similarly, 13.3% in Burkina Faso, 7.2% in CDR, and 15.2% in Nigeria were unable to access antenatal services during the COVID-19 pandemic,  $P=0.001$ . Unfortunately, about 2 out of 5 women in Burkina Faso, 17.2% in CDR, and 18.9% in Nigeria were unable to access healthcare services for their children,  $P<0.001$ . Similarly, 7.5% in Burkina Faso, 3.5% in CDR, and 5.6% in Nigeria could not access healthcare service for child delivery,  $P=0.011$ .

For emergency healthcare services, about 5.0%, 2.0%, and 4.0% were unable to access healthcare service in Burkina Faso, CDR, and Nigeria respectively,  $P<0.001$ . Quite high proportion (39.5% in Burkina Faso, 51.9% in CDR and 44.7% in Nigeria) were not able to access healthcare services for general health during the COVID-19 pandemic,  $P<0.001$ . Majority were able to access health service for HIV except in Burkina Faso where about 1.8% were had no access,  $P=0.001$ . In the same vein, 14.4% in Burkina Faso, 6.5% in CDR, and 3.7% in Nigeria had restriction to healthcare service for their medications,  $P<0.001$ . About 5.5% in Burkina Faso, 13.5% in CDR and 9.0% in Nigeria experienced restriction from other healthcare services,  $P<0.001$ .

**Table 1. Pattern of Health care services inaccessible to women of reproductive age in three selected sub-Saharan Countries during COVID-19 pandemic**

Variables	Country			Test statistics	P value
	Burkina Faso n=1486(%) *c	CDR n=402(%) *c	Nigeria n=322 (%) *c		
<b>Inaccessibility to healthcare services</b>				50.51	0.000**
Yes	111(7.5)	77(19.2)	45(14.0)		
No	1375(92.5)	325(80.8)	277(86.0)		
<b>Used emergency contraception since Covid-19 restrictions</b>				4.99	0.082*
No	720(95.6)	153(92.7)	94(91.3)		
Yes	34(4.4)	12(7.3)	9(8.7)		
<b>Not using FP during Covid-19 because facility closed/no appointments</b>				4.70	0.095*
No	93(100)	26(96.3)	33(100.0)		
Yes	0(0.0)	1(3.7)	0(0.0)		
<b>Not using FP during Covid-19 because of cost</b>				3.71	0.156
No	88(94.6)	24(89.9)	33(100.0)		
Yes	5(5.4)	3(11.1)	0(0.0)		
<b>Not using FP during Covid-19 because fear of getting infected</b>				2.53	0.282
No	92(98.9)	26(96.3)	31(93.9)		
Yes	1(1.1)	1(3.7)	2(6.1)		
<b>Not using FP during Covid-19 because partner doesn't approve</b>				4.97	0.070*
No	92(98.9)	26(96.3)	30(90.9)		
Yes	1(1.1)	1(3.7)	3(9.1)		
<b>Not using FP during Covid-19 because no transportation</b>				1.31	0.520
No	91(97.8)	27(100.0)	33(100.0)		
Yes	2(2.2)	0(0.0)	0(0.0)		
<b>Not using FP during Covid-19 because of other reason</b>				3.85	0.146
No	6(6.5)	3(11.1)	6(18.2)		
Yes	87(93.5)	24(88.9)	27(81.8)		
<b>Not using FP during Covid-19 because preferred method not available</b>				1.31b	0.520
No	91(97.8)	27(100.0)	33(100.0)		
Yes	2(2.2)	0(0.0)	0(0.0)		
<b>Not using FP during Covid-19 because government restricts movement</b>				3.19	0.203
No	93(100.0)	26(96.3)	32(97.0)		
Yes	0(0.0)	1(3.7)	1(3.0)		
<b>Reason for health facility visit: immunization</b>				51.30	0.000**
No	1242(83.6)	388(96.8)	260(80.7)		
Yes	243(16.4)	13(3.2)	62(19.3)		
<b>Reason for health facility visit: PNC</b>				29.30	0.000**
No	1306(87.9)	376(93.8)	311(96.6)		
Yes	179(12.1)	25(6.2)	11(3.4)		
<b>Reason for health facility visit: ANC</b>				13.29	0.001**
No	1287(86.7)	372(92.8)	273(84.8)		
Yes	198(13.3)	29(7.2)	49(15.2)		
<b>Reason for health facility visit: child's health</b>				106.07	0.000**
No	893(60.1)	332(82.8)	261(81.1)		
Yes	592(39.9)	69(17.2)	61(18.9)		
<b>Reason for health facility visit: delivery</b>				9.04	0.011**
No	1374(92.5)	387(96.5)	304		
Yes	112(7.5)	14(3.5)	18(5.6)		
<b>Reason for health facility visit: emergency services</b>				6.91	0.032**
No	1411(95.0)	393(98.0)	309(96.0)		
Yes	74(5.0)	8(2.0)	13(4.0)		
<b>Reason for health facility visit: FP services</b>				79.20	0.000**
No	1143(77.0)	366(91.3)	302(93.8)		
Yes	342(23.0)	35(8.7)	20(6.2)		

Variables	Country			Test statistics	P value
	Burkina Faso n=1486(%) *c	CDR n=402(%) *c	Nigeria n=322 (%) *c		
<b>Reason for health facility visit: general health</b>				20.42	0.000**
No	898(60.5)	193(48.1)	178(55.3)		
Yes	587(39.5)	208(51.9)	144(44.7)		
<b>Reason for health facility visit: HIV</b>				13.31	0.001**
No	1458(98.2)	401(100.0)	322(100.0)		
Yes	27(1.8)	0(0.0)	0(0.0)		
<b>Reason for health facility visit: medications</b>				41.65	0.000**
No	1271(85.6)	375(93.5)	310(96.3)		
Yes	214(14.4)	26(6.5)	12(3.7)		
<b>Reason for health facility visit: other</b>				30.84	0.000**
No	1404(94.5)	347(86.5)	293(91.0)		
Yes	81(5.5)	54(13.5)	29(9.0)		

\*c=column percentage Test statistics b = Fisher's Exact test, \*= P value significant at 10% level of significance

\*\*= P value significant at 5% level of significance

**Table 2. Association between women's profile and healthcare inaccessibility during COVID-19**

Variables	Inaccessibility to healthcare services			P value
	Yes n(%) *r	No n(%) *r		
<b>Urban/rural status</b>			0.22	0.636
Rural	44 (9.1)	437 (90.9)		
Urban	112(8.4)	1215 (91.6)		
<b>Pregnancy status</b>			2.58	0.108
No	209 (10.9)	1706 (89.1)		
Yes	22(7.8)	261 (92.2)		
<b>Age group</b>			2.83	0.419
15- 24	73(12.0)	533(88.0)		
25 - 34	83(9.4)	802(90.6)		
35 - 44	62(10.9)	508 (89.1)		
45-49	15(10.1)	134(89.9)		
<b>Marital status</b>			6.9**	0.009
Currently in a union (married/living with a partner)	165 (9.6)	1550(90.4)		
Not currently in a union	68 (13.7)	427 (86.3)		
<b>Highest level of school attended, general (4 categories)</b>			11.23**	0.011
Never attended	48(8.1)	547 (91.9)		
Primary/Middle school	29(8.4)	317 (91.6)		
Secondary/post-primary	107 (11.7)	811 (88.3)		
Tertiary/post-secondary	49(14.0)	301 (86.3)		
<b>Country</b>			50.5**	0.000
Burkina Faso	111(7.5)	1375 (92.5)		
Congo, Democratic Republic	77 (19.2)	325 (80.9)		
Nigeria	45 (14.0)	277 (86.0)		
<b>Used emergency contraception since Covid-19 restrictions</b>			0.27	0.606
No	112 (11.3)	875(88.7)		
Yes	5(9.1)	50 (90.9)		
<b>Reason for health facility visit: ANC</b>			6.34**	0.012
No	215(11.1)	1717(88.9)		
Yes	17(6.2)	259(93.8)		
<b>Reason for health facility visit: child's health</b>			19.52**	0.000
No	186(12.5)	1300(87.5)		
Yes	46(6.4)	676(93.6)		

Variables	Inaccessibility to healthcare services			
	Yes n(%) *r	No n(%) *r		
<b>Reason for health facility visit: delivery</b>			1.35	0.246
No	221(10.7)	1843 (89.3)		
Yes	11(7.6)	133(92.4)		
<b>Reason for health facility visit: emergency services</b>			0.11	0.737
No	223(10.6)	1890(89.4)		
Yes	9(9.5)	86(90.5)		
<b>Reason for health facility visit: FP services</b>			2.24	0.134
No	182(10.0)	1629 (90.0)		
Yes	50(12.6)	347(87.4)		
<b>Reason for health facility visit: general health</b>			0.22	0.639
No	130(10.2)	1139(89.8)		
Yes	102(10.9)	837(89.1)		
<b>Reason for health facility visit: HIV</b>			1.36	0.255
No	231(10.6)	1950(89.4)		
Yes	1(3.7)	26(96.3)		
<b>Reason for health facility visit: medications</b>			3.42*	0.064
No	214(10.9)	1742(89.1)		
Yes	18(7.1)	234(92.9)		
<b>Reason for health facility visit: other</b>			9.7**	0.002
No	203(9.9)	1841(90.1)		
Yes	29(17.7)	135(82.3)		
<b>Reason for health facility visit: PNC</b>			0.71	0.401
No	213(10.7)	1780(89.3)		
Yes	19(8.8)	196(91.2)		
<b>Reason for health facility visit: immunization</b>			9.28**	0.002
No	214(11.3)	1676(88.7)		
Yes	18(5.7)	300(94.3)		

\*= P value significant at 10% level of significance

\*\*= P value significant at 5% level of significance

### 3.3 Association between Women's Profile and Healthcare Inaccessibility during COVID-19 in the Selected sub-Saharan Countries

Table 2 presents the association between women's profile and healthcare inaccessibility during COVID-19 pandemic. Majority of women who experienced inaccessibility for healthcare services were from CDR (19.2%) compared to the rate in Burkina Faso (7.5%) and Nigeria (14.0%),  $P < 0.001$ . Inaccessibility was comparable among women in the rural areas (9.1%) compared to women in the urban (8.4%),  $P = 0.636$ . Also, inaccessibility was lower among pregnant women (7.8%) compared to non-pregnant women (10.9%),  $P = 0.108$ . The rate of inaccessibility was higher among women aged 35-44 years (10.9%) compared to other age groups,  $P = 0.419$ . Majority of women who were not in a union (13.7%) had restriction to healthcare services, compared to women who were in a union (9.6%)  $P = 0.009$ . Inaccessibility

was higher among women who have attained tertiary level of education (14.0%) compared to other level of education,  $P = 0.011$ . A lower proportion of women who visited the health facility for ANC services (6.2%) experienced restriction compared to those who visited for other purpose (11.1%),  $P = 0.012$ . Also, rate of restriction among women who visited for child health services (6.4%) experienced inaccessibility compared to other purpose of visit (12.5%),  $P < 0.001$ . Lower rate of women who visited the health facility for delivery services (7.6%) experienced inaccessibility,  $P = 0.246$ . Also, 9.5% of those who visited for emergency services could not access the services,  $P = 0.737$ . About 7.1% of women who visited health facility for medication experienced inaccessibility,  $P = 0.064$ . For women who visited for other health services, the inaccessibility rate was 17.7%,  $P = 0.002$ . Also, 5.7% women experienced inaccessibility to immunization service during the COVID-19 pandemic,  $P = 0.002$ .

**Table 3. Factors associated with the likelihood of healthcare services inaccessibility among women of reproductive age in three selected sub-Saharan Countries during COVID-19 pandemic**

Variables	AOR	P Value	95% C.I. for AOR	
			Lower	Upper
<b>Country</b>				
Burkina Faso	ref			
Congo, Democratic Republic	2.56	0.000	1.74	3.77
Nigeria	1.94	0.002	1.28	2.95
<b>Marital status</b>				
Not currently in a Union	ref			
Currently in a union	1.03	0.870	0.73	1.44
<b>Highest level of school attended</b>				
None	ref			
Primary	0.90	0.674	0.55	1.48
Secondary	0.89	0.571	0.58	1.35
Tertiary	0.86	0.579	0.52	1.44
<b>Reason for health facility visit: ANC</b>				
No	ref			
Yes	0.54	0.021	0.32	0.91
<b>Reason for health facility visit: child's health</b>				
No	ref			
Yes	0.59	0.003	0.41	0.84
<b>Reason for health facility visit: medications</b>				
No	ref			
Yes	0.85	0.545	0.51	1.43
<b>Reason for health facility visit: other</b>				
No	ref			
Yes	1.35	0.193	0.86	2.11
<b>Reason for health facility visit: immunization (1)</b>				
No	ref			
Yes	0.63	0.077	0.37	1.05

AOR= Adjusted Odds ratio ref= reference category

### 3.4 Factors Associated with the Likelihood of Healthcare Services Inaccessibility among Women of Reproductive Age in Three Selected Sub-Saharan Countries during COVID-19 Pandemic

In table 3, we presented the factors associated with the likelihood of healthcare services inaccessibility among women of reproductive age in three selected sub-Saharan Countries during COVID-19 pandemic. Women in CDR (AOR= 2.56, 95%CI:1.74 - 3.77), and Nigeria (AOR=1.94, 95%CI: 1.28 - 2.95) were more likely to encounter inaccessibility to healthcare

services during the pandemic compared to women from Burkina Faso. Also, women who visited for ANC (AOR=0.54, 95%CI:0.32 - 0.91), Child's health (AOR=0.59, 95%CI: 0.41 - 0.84), and Immunization (AOR: 0.63, 95%CI: 0.37 - 1.05).

### 4. DISCUSSION

In this study, we document the rate of inaccessibility to healthcare services during the COVID-19 pandemic across three selected sub-Saharan African countries namely Burkina Faso, Congo Democratic Republic, and Nigeria. The available dataset that has valid responses for healthcare services access were extracted for



this study. On the overall, the rate (13.6%) of healthcare inaccessibility due to COVID-19 in the sub-Saharan countries was disappointing. Although much higher in CDR (19.3%) but also notable in Burkina Faso (7.5%) and Nigeria (14.0%). The rate was significantly high in sub-Saharan African countries compared to the developed countries [13,8]. Coupled with the level healthcare inequalities in the sub-Saharan African countries, the COVID-19 pandemic has brought an additional restriction to healthcare access among women of reproductive age which could lead to preventable outcomes like increase in maternal complication and mortality [7], increase in child morbidity and mortality [17], increase in unmet need for contraceptive [18] and others [18,17,7]. The healthcare services that were inaccessible during the lock down include contraception services which are a major indicator of sexual and reproductive health. Sexual and reproductive health of a woman is at stake if contraceptive is not considered when needed. This may lead to unintended pregnancy and its implications [19]. This study has shown that the COVID-19 pandemic has hindered the ongoing efforts to improve sexual and reproductive health. Other health services that were inaccessible during the COVID-19 pandemic were Immunization, Antenatal care, post-natal care, health for children, delivery, emergency, general health, FIV, and other health care services. These recorded effects of COVID-19 pandemic on health utilization implied that the health system in SSA have gone worse than it used to be. The above mentioned health services are major determinants of maternal and child's health [20,21].

In this study, we further explored the factors influencing inaccessibility to health care services among the three countries. We discovered that in relative to Burkina Faso, CDR and Nigeria are at higher risk of inaccessibility during the pandemic. Apparently, the efforts sponsored by the European commission in strengthening the healthcare system as well as access may have been navigated to deter the effect of the pandemic on healthcare access [22]. Women who visited the health facilities for antenatal care services, Child's health and immunization were less likely to experience inaccessibility to healthcare services during the COVID-19 pandemic. This finding provided evidence that the COVID-19 pandemic affected accessibility to key healthcare services which suggest the need to scale up the efforts towards reducing

healthcare inequalities and accessibility especially in the Low-middle- income countries.

## 5. CONCLUSION

The COVID-19 pandemic threatened the SDG goal for Universal health coverage as the pandemic led to inaccessibility to healthcare services in the Burkina Faso, Congo Democratic Republic and Nigeria. Services such as Antenatal care, Postnatal Care, Child's health, general health, emergency, delivery, Immunization, Family Planning, HIV, and medications were inaccessible to a proportion of women during the COVID-19 pandemic.

## 6. RECOMMENDATION

This study recommends that policies and measures to ensure that access to healthcare are not disrupted during the COVID-19 pandemic. Similarly, enhancement of access to healthcare should be considered during the pandemic. Also, Services such as Antenatal care, Postnatal Care, Child's health, general health, emergency, delivery, Immunization, Family Planning, and HIV should gain much attention as they are the major driver of health and wellbeing universally.

## CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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