International Journal of Life Science Research Archive

ISSN: 0799-6640 (Online)

Journal homepage: https://sciresjournals.com/ijlsra/

(RESEARCH ARTICLE)

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Beyond covid-19 lockdown policy: The effect of covid-19 lockdown measures on the utilization of maternal and child health services in a rural Nigerian hospital

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International Journal of Life Science Research Archive, 2025, 08(02), 001-010

Publication history: Received on 17 February 2025; revised on 25 March 2025; accepted on 27 March 2025

Article DOI: https://doi.org/10.53771/ijlsra.2025.8.2.0029

Abstract

Background: Numerous countries implemented lockdown policies to contain the spread of COVID-19; however, these measures significantly affected health systems, particularly health service delivery. The study examined the effect of COVID-19 lockdown measures on the utilization of maternal and child health services at a rural Nigerian hospital.

Methodology: This retrospective hospital-based study was conducted at Sudan United Mission Hospital in Ebonyi State between March and July 2019 and 2020. An explanatory mixed-method approach to data collection was employed, and the data were analyzed using a paired Student's t-test at a 99% confidence interval and a significance level of 0.01 and blended deductive and inductive content analysis for focus group discussion.

Results: The study revealed a 34% reduction in first ANC visits, with 46% and 39% declines for four or more and three or fewer ANC visits, respectively. Hospital deliveries fell by 56%, with 31% and 28% of all deliveries occurring through assisted vaginal delivery and cesarean section, respectively, compared to 15% and 10% before the COVID-19 lockdown. Postnatal visits decreased by 77%, family planning utilization dropped by 94% and childhood immunization saw a 65% decline. Focus group discussions indicated a reduction in the utilization of all services due to the challenges stemming from lockdown measures.

Conclusion: The study established a decline in the utilization of maternal and child health services during the lockdown period. It recommends factoring in the potential impact of future containment strategies on the health system and utilizing the lessons learned for future public health interventions.

Keywords: COVID-19; Lockdown Measures; Utilization; Maternal; Child; Health; Services

1 Introduction

In the last week of December 2019, WHO was alarmed by reports of cases of unusual pneumonia in the Hubei province of the People's Republic of China. Laboratory investigation on the infected patients isolated a new type of coronavirus (SARS-CoV-2) which heralded the genesis of a new disease that ravaged the entire universe and was later called COVID-19. [1]. By the last week of January 2020, WHO made a declaration that pronounced COVID-19 outbreak a public health emergency of international concern (PHEIC); subsequently in February same year COVID 19 was designated as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and in March WHO made another declaration pronouncing COVID-19 a global pandemic.

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1.1 Prevention

The pandemic was further compounded at its early stage by the absence of specific treatment; leaving people at the mercy of only non-pharmaceutical interventions which were the only known actions capable of combating the spread of the fast-moving infection and reducing its devastating effect and impact on health of the population.

Due to overwhelming evidence of the effectiveness of social distancing measures, such as temporary closure of school and academic activities, events involving large gatherings of people, closure of both land, and water borders, and suspension of air travel, prohibition on outdoor activities was also recommended, and activated in many countries of the world as the pandemic progressed.

1.2 Effect of the lockdown on utilization of maternal and child health services

Many of the reviewed studies on this subject were mainly cosmopolitan and, on the impact and effect of COVID-19 on the utilization of maternal and child health services but interestingly none of the studies paid attention to the particular period maternal and child health utilization started dipping and unfortunately still some of the reviewed article used a single data collection method which lacked validation by composite data.

Bekele C, et al (2021) on a mixed-methods study in North Shewa Zone, Ethiopia" in a work published in British Medical Journal Open reported a decline in family planning antenatal and postnatal visits. The study was quite revealing and the use of mixed methods of data collection was apt but more still needs to be done as one could not decipher at what point in the pandemic the maternal and child health service utilization started plummeting. [2].

In a community-based qualitative study conducted from September 25/2020 to November 25/2020 among selected pregnant women residing in rural districts of Bench-Sheko Zone, and healthcare providers working in the local healthcare facilities in a rural community in Southwest Ethiopia by Shewangizaw Hailemariam, et al (2021) revealed that COVID-19 preventive measures, health facility-related factors, and individual factors were responsible for the decline in antenatal care service uptake. The study purely adopted a qualitative approach, and an exploratory descriptive design, and lacked the use of any empirical means in combination with the qualitative method in the study. [3].

Another study in Ethiopia by Tilahun B. et al (2022) which used both qualitative and quantitative approaches in data collection showed that the COVID-19 pandemic made the MNCH services to be inaccessible and low quality. According to the study, multiple efforts on containment of the spread of the pandemic contributed greatly to lowering service utilization. The study was silent on the containment efforts that contributed to driving down the utilization of maternal and child health services and how such efforts played out in affecting the utilization of maternal and child health services. [4].

The robustness of this study on the effect of COVID-19 lockdown measures on the utilization of maternal and child health services hangs on the fact that mixed methods were adopted in the data collection, the ability of the study to pinpoint the magnitude and period of the utilization deficit if any and the ability of the study to look back at utilization before the same period during the pre-COVID 19 periods of 2019 in comparison with the lockdown period made it exceptional specific.

2 Methodology

2.1 Study setting

The study was conducted in Sudan United Mission Hospital, Onuenyim Agbaja in Izzi LGA of Ebonyi State Nigeria. The hospital operates a hub and spoke healthcare delivery with 7 centers (Iziogo, Iboko, Effium, Odoke, Ekirigwe, Oguzarowiya, and Epfunagu) located in 3 of the 13 local government areas of Ebonyi State, South East and 2 local government areas of Benue State, North Central Nigeria as the spokes.

2.2 Study design and period

This was a retrospective hospital-based study that applied an explanatory type of mixed data collection to assess the utilization of maternal and child health services before and during the lockdown period of COVID-19. The collection of the quantitative data lasted for 11 months while the qualitative data were obtained within 1 week.

2.3 Study population.

The study population was all women and children who accessed maternal and child health services in Sudan United Mission Hospital Onuenyim Agbaja and some health workers during the study period.

2.4 Sampling technique and sample size:

Given the nature of the study, the medical records of 3,667 which made up mothers and children who accessed maternal and child health services in Sudan United Mission Hospital during the study period were reviewed, 16 health workers who worked in maternity and child welfare clinics during the COVID 19 lockdown period and 23 women who attended ANC, delivered or brought their children for immunization during the period and honored the focus group discussion invitation.

2.5 Data collection and quality assurance

Both the pre-COVID and intra-COVID maternal and child health data were collected from the records unit of the hospital using a data extraction proforma/checklist as a qualitative data collection instrument. Each data set was paired with the patient/client's medical records to make sure that they were tallied before they were assumed to be complete data. The center traditionally runs 3 antenatal clinics weekly, a child welfare/immunization clinic weekly as well as postnatal and family planning clinics while intrapartum services are carried out 24 hours of the seven days in a week. The data sets were segregated according to clinics, services/activities and double-checked for accuracy and completeness.

A self-developed FGD guide was used as an instrument for the FGD. Each FGD session started with a clear explanation of the purpose of the study. A total of four (4) FGDs were held, and each lasted for about 1 hour in a relaxed atmosphere. Three (3) FGDs were conducted for the women with 6-8 participants per group while the whole health workers were lumped into one (1) FGD group. A total of 23 women and 16 health workers were involved in the focus group discussion. The discussion with the women (FGDs 1-3) was in the local dialect while the discussion with the health workers (FGD 4) was in English language. The discussions for FGD 1-3 were in local Izzi dialect and were recorded while field notes were taken as well. The field notes were compared together, and consensus was reached where there were dissimilarities in statements.

2.6 Data management and analysis

Data from the study was collated manually using the proforma/checklist and entered into the computer for analysis. The analysis was done in Excel, and the differences in maternal and child health services utilization between the study periods (before and during the COVID-19 lockdown period) were tested using paired student's t-test at the 99% confidence interval and 0.01 level of significance. The segregated data were presented using tables and bar charts while the data collected from FGDs were analyzed using blended deductive and inductive content analysis. All audio recordings in the local Izzi dialect were transcribed and then translated into English and validated by one of the medical doctors from Izzi for accuracy. Audio records and notes were compared to the transcribed data to ensure accuracy. Transcripts were carefully read, comprehended, and coded according to the categories. Similar codes were combined to form umbrella themes based on the analysis that emanated from the codes.

2.7 Limitations

While I assumed the COVID-19 pandemic's lockdown to be the cause of changes in the utilization of maternal and child health services in Sudan United Mission Hospital, Onuenyim Agbaja, the study design did not allow for a formal assessment of causality.

2.8 Ethical consideration

Permission to carry out the study was obtained from the Sudan United Mission Onuenyim Agbaja, ethics committee (RHS/SUM/EXM/DRS/2021/02). The rationale for the study, the objectives of the study, and the expectations from the study were clearly stated in the proposal that accompanied the ethics request form.

3 Results

Multiple tools were used to collect both quantitative and qualitative data on the effect of the lockdown on the utilization of maternal and child health services. Quantitative data were collected from the recording unit of Sudan United Mission Hospital from March to July 2019 (pre-COVID-19 period) while intra-COVID data were from March to July 2020. The same time frame was used since maternal and child health service utilization has a seasonal trend. A total of 3,667 patients/clients' records were reviewed and collated. The segregated data were as below: Antenatal care (ANC) service

utilization. Intrapartum care service/Hospital delivery utilization, postnatal care service/Family planning utilization, and child welfare clinic/Immunization service utilization.

3.1 Antenatal Service (ANC) utilization

ANC attendance during the pre-COVID period of March-July 2019 was 1628 (62%) while 1007 (38%) attended ANC during the lockdown period of March -July 2020 with a P value of 0.00003 (Table 1).

Table 1 Antenatal Service (ANC) utilization

Months under Assessment		March	April	May	June	July	Total	Data Summary	Grand Total
ANC Booking/1st visit	Pre-COVID	141	139	144	147	155	726		
	Intra-COVID	99	93	94	96	97	479		
	% Diff	30	33	35	35	37	34	Pre-COVID Period (March-July 2019)	1628
	P-Value	0.00003							
≤ 3 ANC Visits	Pre-COVID	119	122	123	125	127	616		
	Intra-COVID	70	72	76	76	80	374		
	% Diff	41	41	38	39	37	39	Intra-COVID-19 Period (March-July 2020	1007
	P-Value	0.00000007							
≥4 ANC Visits	Pre-COVID	55	52	56	58	65	286		
	Intra-COVID	29	25	31	33	36	154		
	% Diff	47	52	45	43	45	46		
	P-Value	0.000002						P-Value	1.7×10^{-5}

3.2 Intrapartum care service/Hospital delivery utilization

A total of 139 persons (70%) utilized intrapartum care services during the pre-COVID period while 61 persons (30%) did during the lockdown period with a P value of 0.0002 (Table 3). Assisted vaginal delivery during the pre-COVID-19 and Lockdown periods were almost equal at 20 and 19 deliveries respectively while the lockdown period recorded more cesarean sections, 17 as against 14 during the pre-COVID-19 period (Table 2).

Table 2 Intrapartum care service/Hospital delivery utilization

Months Accessed	Spontaneous Vaginal Delivery				Assisted Vaginal Delivery				Caesarean Section Delivery			
	Pre-COVID	Intra-COVID	% Diff	P-Value	Pre-COVID	Intra-COVID	% Diff	P-Value	Pre-COVID	Intra-COVID	% Diff	P-Value
March	25	7	72	0.0002	4	4	0	0.2	2	1	50	0.10
April	22	5	77		3	3	0		2	3	-50	
May	23	4	83		6	6	0		3	4	-33	
June	19	4	80		4	4	0		3	4	-33	

July	16	5	69		3	2	33		4	5	-25	
Total	105	25	76		20	19	7		14	17	-21	
Data Summary		Pre-COVID-19 (Mar-July 2019)				Intra-COVID-19 Period (March-July 2020						P-Value
Grand Total		139				61						0.0002

Pre (pre-COVID 19 period), Intra (Intra-COVID-19 period)

3.3 Postnatal care service/Family planning utilization

A total of 203 women utilized postnatal care/family planning services during the pre-COVID-19 period while only 53 women utilized the services during the lockdown period. Service utilization for abortion services during the pre-COVID-19 and lockdown period was closed at 25 and 22 women, respectively (Table 3). The P-value for service utilizations during these periods was $2X10^{-5.}$

Table 3 Postnatal care service/Family planning utilization

Months accessed		**March**	**April**	**May**	**June**	**July**	**Total**	**Data Summary**	**Grand Total**
Postnatal/6 weeks visit	Pre-COVID	28	27	24	22	24	125		
	Intra-COVID	7	7	5	5	4	28	Pre-COVID period (Mar-July 2019)	203
	% Diff	75	74	79	77	84	77		
	P-Value	0.000004							
Miscarriage/Abortion Services	Pre-COVID	6	4	5	4	6	25		
	Intra-COVID	5	4	4	4	5	22		
	% Diff	17	0	20	0	17	12	Intra-COVID 19 Period (Mar-July 2020	53
	P-Value	0.04							
Contraceptive Services	Pre-COVID	14	10	9	8	12	53		
	Intra-COVID	3	0	0	0	0	3		
	% Diff	79	100	100	100	100	94		
	P-Value	0.00007						P-Value	2 x 10-5

Pre (pre-COVID 19 period), Intra (Intra-COVID 19 period)

3.4 Child welfare clinic/Immunization service utilization.

About 457 children were immunized during the pre-COVID period while 158 children were immunized during the lockdown period with a p-value of $3X10^{-7}$ (Table 4).

Table 4 Child welfare clinic/Immunization service utilization

Months accessed		March	April	May	June	July	Total	Data Summary	Grand Total
At birth/1st week of birth	Pre-COVID	38	34	31	32	30	165		
	Intra-COVID	18	15	14	14	12	73	Pre-COVID-19 (Mar-July 2019)	457
	% Diff	53	56	55	56	60	56		
	P-Value	0.000002							
6 weeks of birth	Pre-COVID	31	28	26	25	24	134		
	Intra-COVID	14	12	10	9	7	52		
	% Diff	55	57	62	64	71	61	Intra-COVID-19 Period (March-July 2020	158
	P-Value	0.0000001							
Others (10th week-1yr)	Pre-COVID	37	34	32	28	27	158		
	Intra-COVID	11	8	6	5	3	33		
	% Diff	70	76	81	82	89	79		
	P-Value	0.000001						P-Value	2.5×10^{-7}

Pre (Pre-COVID 19 period), Intra (Intra-COVID 19 period)

4 Result of Focus Group Discussion

The major findings from the data generated from the focus group discussion (FGD) were summarized below.

4.1 Effects of COVID-19 lockdown on maternal and child health utilization

4.1.1 Reduction in service utilization

All the focus group discussants were unanimous on the reduction of service utilization due to the lockdown measures though not at the same level. They also outlined how the lockdown caused the reduction in service utilization through scanty or no vehicular movement, loss of jobs and lack of money, abuses by COVID-19 guards, and price hikes of goods and services including transport fares.

"I would have died because of bleeding after delivery. I never thought twice about delivering in my house because I couldn't afford the little money collected from us during ANC for drugs and the harrowing experience of getting to the hospital despite the long trekking because of the abusive COVID-19 guards especially for us who have no husbands but are pregnant are soft targets". (FGD 3: Participant 6)

One of the participants in FGD 4 shared her experience concerning hardship in navigating her way to the hospital and stigmatization from neighbors because anybody working in the hospital is a big COVID-19 suspect.

"I was an endangered species because I am a health worker but most worrisome was the drastic drop in the antenatal visits. Our antenatal clinic was routinely held every Monday, Tuesday, and Thursday but the whole ANC days were collapsed into Thursdays alone. The once busy clinics running thrice a week became a shadow of itself that one can spread her hands wide and walk in the hospital walkways without touching anyone." (FGD 2: Participant 7)

The FGD 4 participants confessed to a drastic reduction in the number of hospital deliveries, which hadn't been optimal but plummeted.

"Doc, it was a very bad experience as we lost the joy of receiving women who came to deliver. Most deliveries resulted in macerated stillbirth and other injuries inflicted on the women at home, some of the women had VVF and other morbidities while some lost their lives because they were wheeled to the hospital so late. Cesarean sections and assisted delivery increased but many still ended up in stillbirth and VVF because of the delay at home. (FGD 4: Participant 5)

4.2 Other effects of the lockdown helped to further reduce the utilization of services.

4.2.1 Socioeconomic effect

The participants concluded that COVID-19 restrictions put them in untold hardship and poverty making it difficult for them to feed let alone sparing money for maternal and child health care which is mainly preventive care.

"You will eat to live first before talking about ANC, family planning, or immunization. All these are for the living and not the dead. After all our parents were delivered at home and some of us too were delivered at home without ANC or any vaccine and we survived; we must survive this one." **(FGD 1: Participant 2)**

4.3 Transportation/security bottlenecks

The women lamented in their various groups how they were abused, brutalized, and treated differently by the COVID-19 guards during the lockdown period coupled with humiliating situations in some of their different homes. They pointed out that the lockdown took away their fragile freedom and subjected them to a high cost of transportation if they managed to get one because only a few transporters could get fuel and bear the frustrations and kickbacks on the road.

"It was very difficult for some of us who had problems to access care because there wasn't any open place to buy fuel and there was no other means of transportation to access maternal and child health services except by trekking and being subjected to indescribable hardship and harrowing experience from the COVID 19 guards. I lost my pregnancy trying to evade the COVID-19 guards and almost bled to death but for the intervention of one of the health workers who saw me helpless along the road." **(FGD 3: Participant 3)**

4.4 Low social status of women/unequal gender power

The women complained that even when it was necessary to seek help at all costs, their husbands were insensitive and many of them were just housewives doing menial jobs with no savings.

"How many of us get employed except for menial jobs to serve the big boss, we don't even have the right for our own body to decide when to be pregnant or not. Everything about me and all of us here revolves around the big boss-man, if he gives us, we eat and if he doesn't, we starve. We enjoyed being good and obedient wives but many of us died in silence." (FGD 1, Participant 4)

4.4.1 Health-related effect

4.5 Patient's perception/interpretation of illness/health-related conditions

According to the participants, the lockdown measures presented them with only 2 options: get it and die or avoid it and live. Everybody wanted to live and that's why they avoided anything that had to do with going close to the hospital to stay safe until it became unavoidable.

"Pregnancy and labour are all natural and normal; what went up must come down unlike in miscarriage where a woman is bleeding. Bleeding is only natural and normal when it comes monthly but anything outside the monthly bleeding is not natural, not normal, and very dangerous. No woman wants to bleed to death and that's why I sought help in the hospital when I had a miscarriage during the lockdown period by defying the lockdown huddles. You don't expect a pregnant or a woman who is in labour to do that because they are normal conditions" (FGD 4: Participant 4)

4.6 Public policy effect and what can be done better in the future.

Participants bemoaned poor preparedness, handling, and policy implantations arising from one size fit-all type of preventive measures, poor communication of policies on shutdown, and lack of involvement of the critical stakeholders during policy formulation which gave rise to having little or no consideration for critical health services for the vulnerable groups especially women and children.

"The government of the day wasn't seen to be doing enough, and they didn't do enough, and yet they were copying interventions in countries where things were working, and people were given palliatives and cushioning welfare packages. There were also policy somersaults and some of the policies and laws weren't blind enough not to favour a certain class of people who were not even essential service workers in moving freely while restricting and tying others down in their homes to die of hunger/starvation, diseases, and isolation. Women, children, and other vulnerable ones in the society were never considered in the planning for intervention during and after the lockdown." (FGD 4: Participant 1)

4.6.1 One of the female participants in FGD 4 was very practical in her contribution. She said

"In our own culture we women don't wait for people to get hungry before we start cooking, but the men-dominated health industry has refused to learn from the women rather they prefer a fire brigade approach in every matter of health and disease prevention. We must wake up from our slumber if we are determined to nip in the bud the many challenges of abuse, hunger, starvation, deprivation, and brutality faced by women, children, and other common people in society during the COVID-19 lockdown period because another epidemic deadlier and ravaging than COVID 19 will soon be at the corner **(FGD 4: Participant 6**)

5 Discussions

This study was specifically designed to assess the effects of COVID-19 prevention and lockdown on the utilization of maternal and child health services in Sudan United Mission Hospital; strategically located in a rural community in Ebonyi State where the hospital served as the only secondary health facility serving 3 and 2 local government areas in Ebonyi State and Benue State respectively. This study added value to other studies on the effect of COVID-19 to service delivery because it was specifically narrowed to the effect of COVID-19 lockdown on service utilization. It was a study supported by robust hospital-generated data, and finally, the study was done in rural areas where the number of educated and uneducated people was almost equal. The study was also unique because multiple tools were deployed to collect both quantitative and qualitative data. The multiple tools did not only help in accessing the effect of COVID-19 lockdown measures on maternal and child health utilization but also to unravel how and why it affected the services thereby providing us with the knowledge of planning preventive measures for future pandemics of such magnitude.

The study revealed a massive reduction in new bookings for antenatal care visits during the lockdown period. World Health Organization (WHO) recommends at least four ANC visits to provide pregnant women with respectful, individualized, person-centred care by practitioners with good clinical and interpersonal skills within a well-functioning health system at every visit [5]. The study revealed a drop in the number of women who attended ANC at least four times by 46% because of a lack of funds, no means of getting to the hospital, and brutalities of security men. The result had the same downtrend but was better than what was obtained in a study in India where only 36% of the women had four or more ANC visits. [6]. In the study at Dessie Referral Hospital, south Wollo zone of northeast Ethiopia ANC attendance declined by 50% after the activation of COVID-19 preventive/lockdown measures. [7]; a similar decline was also seen in the study at Gauteng Province of South Africa [8] The study in eleven primary healthcare clinics in northern KwaZulu-Natal in South Africa didn't record any decline in ANC attendance during the lockdown periods. [9].

The study revealed that the pandemic's lockdown measures led to a decline in hospital deliveries to a whopping 56%. The fear of COVID-19 transmission and lockdown restrictions created a monumental barrier to access to hospital deliveries and forced many women to carry the cross of childbirth at home and other crude alternatives at their perils. The above finding was very similar to prospective observation studies conducted in nine (9) hospitals in Nepal where institutional delivery was reduced by 52.4% [10]. However, the studies in Kenya and Ethiopia reported no change in institutional or hospital delivery during the lockdown period [11, 7]. Very striking in the study was the fact that 28% of all deliveries during the lockdown were through cesarean section (CS) as against 10% during the pre-COVID period. The astronomical decrease in spontaneous vaginal delivery and a bogus increase in assisted vaginal delivery and cesarean section may not be unconnected with the delays orchestrated by the COVID-19 lockdown measures which exposed the women to all kinds of risks and quackery from unskilled birth attendants before making getting to the hospital which was the only secondary facility within reach because of lack of transportation. The above inference was also confirmed during the focus group discussion by the matron in charge of maternity while she was reflecting on the poor maternal and neonatal health outcomes despite the high number of C/S. The findings on hospital delivery in this study were like that of Kotlar B and his colleagues [12]. The study conducted in the Obstetrics and Gynecology Emergency Services of the Clinica Mangiagalli, the largest maternity clinic in Milan, Lombardy, Northern Italy showed that admission for complaints associated with pregnancy decreased by 28.5 % while admission for elective cesarean section/labor induction increased from 47.5 % in 2019 to 53.6 % in 2020 [13].

Restriction on movement and suspension of all forms of travel and transportation also plummeted utilization of postnatal care. The study revealed a reduction in 6 weeks postnatal visit by 77%. The argument that any woman who was able to navigate the risk of childbirth takes non-attendance to postnatal visits as a lesser devil also played out here. Due to the life-threatening nature of miscarriages and abortions, there was a very marginal reduction in the utilization of abortion and miscarriage care. This result was also a clear indication that the client's perception was a serious factor in this study. Abdela et al reported a 70% drop in emergency visits for postnatal care. [7].

The study also revealed that clients merely came for contraceptives during the lockdown period as the lockdown forced people indoors thereby encouraging unrestricted cohabitation without restrictions. The number of people that came for contraceptives fell to an alarming 94% with a similar outlook but different magnitude in a study in Mozambique by Leight J and colleagues. [14].

The study revealed that the COVID-19 lockdown severely hampered immunization, especially in Nigerian rural communities. Immunization at birth or within 1 week of birth dropped by 56%. Immunization at 6 weeks of birth and between 10 weeks to 1 year weren't better as the reduction stood at 61% and 79% respectively and was like a study by Mansour et al., 2021 in which the same was reported but different magnitude. [15]. A study in Sindh province of Pakistan concluded that one out of every two children in Sindh province missed their routine vaccinations during the provincial COVID-19 lockdown. The pool of unimmunized children is expanding during lockdown, leaving them susceptible to vaccine-preventable diseases. [16]. A study in public health facilities in Rwanda, East Africa during the COVID-19 outbreak lockdown in Rwanda, reported that the utilization of 15 MCH services in all four categories-antenatal care (ANC), deliveries, postnatal care (PNC), and vaccinations-significantly declined. [17].

Though this study was limited to the effect of the lockdown on the utilization of maternal and child health services, one could imagine the ripple effects of these monumental reductions on the health of women, girls, and children under five years of age. Service utilization plummeted when social networks- the bedrock in surviving the catastrophe of COVID-19 magnitude were the first thing that the lockdown/shutdown policy yanked away.

6 Conclusion

There is no iota of doubt that COVID-19 prevention and lockdown affected every facet of human endeavour. It further eroded all the gains of defunct MDG and the ongoing SDG in maternal and child health by totally isolating and insulating the people for institutional health care delivery, especially as regards maternal and child health which is one of the basic indices to determine the development of any nation. Indeed COVID-19 lockdown drastically reduced the utilization of most of the maternal and child health services as revealed in this study which was a direct picture of the effect at the service delivery point.

Recommendations

I, therefore, recommend more elaborate work on this topic that will take into perspective all the confounding factors to the reduction in maternal and child health services due to the COVID-19 lockdown.

Compliance with ethical standards

Disclosure of conflict of interest

Author has no conflict of interest.

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