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The Disruptions of Maternal Health Care Service Utilization during Covid-19 Pandemic

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ABSTRACT

Background: The novel coronavirus (COVID-19), has both direct and indirect effects on key health services in multiple parts of the world, potentially leading to increased morbidity and death at various levels. Despite concerted global attempts to contain the pandemic, the virus is spreading in several countries. As a result, the extent of interruption to a variety of maternal health care services was measured in this study.

Methods: We used the data from the Institute for Health Metrics and Evaluation (IHME) 2020. The COVID-19 Health Services Disruption Survey 2020 was a series of surveys designed to examine the amount of disruption to a variety of health services caused by the COVID-19 worldwide pandemic. The cross-sectional individual data among 76 countries were smartphone-based Premise data-collecting technology. This study involved 667 respondents, who were pregnant or had given birth during the previous 6 months at the time of the survey (July 2020). The variables analyzed descriptively included times ANC planned and attempted, type of health facility visited during birth delivery, birth attendants, services the newborn received following the delivery.

Results: Of 667 respondents, 50.54% were at the age of 16-25, 45.13% graduated from college, and live in the city center or metropolitan area (39.28%). 17.54% didn't attend the ANC, thus the ANC4 coverage was 9.75%. The closure of a health facility and a lack of funds were two major reasons they did not attend ANC (65.169.68%) respectively). Hospitals were the top among facility-based delivery and 70.48% of them were attended by doctors.

Conclusion: ANC coverage was impacted by the Covid-19 pandemic due to the health facility closure, economic disruption, and transportation unavailability

I. INTRODUCTION

The novel coronavirus (COVID-19), has both direct and indirect effects on key health services in multiple parts of the world, potentially leading to increased morbidity and death at various levels. There have been concerns about potential disruptions in the delivery of key health services since the beginning of the COVID-19 outbreak. In a May–July pulse survey of health officials in 105 countries, 90% indicated some level of interruption as a result of the epidemic, with a wide range of services affected (1). There is an increase from 71% (in 2007-2013) to 83% (in 2014-2020) of births worldwide that were assisted by skilled health professionals, including doctors, nurses, and midwives. The COVID-19 pandemic may reverse gains in skilled childbirth care coverage and disrupt maternity health services. While the full extent of the pandemic's influence on child survival is unknown, considerable disruption in the provision of life-saving measures could delay or even reverse progress. The global adolescent birth rate has decreased from 56/1,000 adolescent women aged 15-19 in 2000 to 45/1,000 adolescents in 2015 and 41/1,000 in 2020. The losses varied greatly across areas, with Central and Southern Asia experiencing the greatest drop, from 70/1,000 adolescents in 2000 to 24/1,000 in 2020 (2).

Research looking at a broader range of services has yielded mixed results. A review of primary health clinics in rural South Africa found that lockdown measures had no effect on total visits but did identify decreases in pediatric healthcare visits (3). A comparative assessment of monthly service utilization data from 2019 to 2020 in Kenya indicates no substantial changes in hospital attendance for Antenatal Care (ANC), birth deliveries, family planning counseling, and other services; however, it identified increases in both adolescent pregnancy and family planning uptake among adolescents (4). During the COVID-19 epidemic in Rwanda, access to and usage of basic maternal and child health (MCH) services were dramatically impacted. Utilization of 15 MCH services in all four categories — ANC service utilization, birth deliveries, postnatal care (PNC), and immunizations — significantly decreased (5).

After correcting for the secular trend and seasonality, significant declines in health service utilization are anticipated in countries for at least one service between January 2018 and February 2020. Reduced utilization of maternal health services is less widespread, while considerable decreases in institutional deliveries, prenatal care, and postnatal care have been observed in some countries (6). During the COVID-19 pandemic, ANC disruption was widespread and associated with clinically heightened sadness, anxiety, and pregnancy-related anxiety symptoms. 89% of pregnant women reported at least one pandemic-related alteration in their ANC. The inability to have support persons attend prenatal sessions (90.6%) and cancellations of prenatal care appointments were the most prevalent of these disruptions (40%) (7).

Despite concerted global attempts to contain the pandemic, the virus is spreading in several countries. Because women and children are vulnerable groups who may be more likely to suffer negative outcomes as a result of disruptions, this study aimed to measure the extent of interruption to a variety of maternal health care services during the Covid-19 pandemic.

II. METHOD

We used the data from the Institute for Health Metrics and Evaluation (IHME) 2020 (8). The COVID-19 Health Services Disruption Survey 2020 was a series of surveys designed to examine the amount of disruption to a variety of health services caused by the COVID-19 worldwide pandemic. The cross-sectional individual data among 76 countries were smartphone-based Premise data-collecting technology.

Sampling

This study involved 667 respondents, who were pregnant or had given birth during the previous 6 months at the time of the survey (July 2020). Since the purpose of this survey was to assess the extent of disruption to health services experienced by pregnant women and women who have recently given birth, respondents were selected based on their country of residence and pregnancy/birth history. These inclusion criteria were implemented throughout two sampling sessions. First, the survey was restricted to Premise network users who identified as female and were affiliated with any of the 76 countries where the study was performed. Second, all users who met the above criteria were sent a short survey in which they were asked whether they were presently pregnant or had given birth within the previous 6 months. This survey's sampling approach does not produce a representative sample.

Data

This dataset is freely available to the public which the information has been de-identified. In compliance with IHME's microdata release protocol, no personally identifying information was collected for his study; nevertheless, several variables with open-text responses were replaced with "XXXX" to remove potentially sensitive information or unrelated comments.

Analysis

The variables analyzed descriptively included times ANC planned and attempted, type of health facility visited during birth delivery, birth attendants, services the newborn received following the delivery.

III. RESULT

Of 667 respondents, 50.54% were at the age of 16-25, 45.13% graduated from college, and live in the city center or metropolitan area (39.28%) as explained in Table 1.

Table 1 Demographic Characteristic

Indicator	N	%
Health Centre		
Health facility	103	15.44228
Home	27	4.047976
Hospital	525	78.71064
Other	12	1.7991
Age		
Under 16	4	0.60%
16 to 25 years old	337	50.52%
26 to 35 years old	277	41.53%
36 to 45 years old	43	6.45%
Over 45 years old	6	0.90%
Geography		
City center or metropolitan area	262	39.28%
Suburban/Peri-urban	117	17.54%
Rural	228	34.18%
Education		
No formal education	9	1.35%
Primary school	21	3.15%
Secondary/high school	213	31.93%
Technical school	72	10.79%
College or university	301	45.13%
Post graduate	40	6.00%
NA	11	1.65%
Employment		
Employed full-time	150	22.49%
Employed part-time	69	10.34%
Self-employed	96	14.39%
Student and work part-time	28	4.20%
Student	76	11.39%
Retired	6	0.90%
Unemployed	242	36.28%

Table 2 ANC Frequency Attendance

ANC Plan	n	%	ANC Attended	n	%
0	156	23.39%	0	117	17.54%
1	79	11.84%	1	96	14.39%
2	114	17.09%	2	135	20.24%
3	133	19.94%	3	146	21.89%
4	76	11.39%	4	65	9.75%
5	36	5.40%	5	33	4.95%
6	28	4.20%	6	30	4.50%
7	6	0.90%	7	8	1.20%
8	10	1.50%	8	9	1.35%
9	11	1.65%	9	7	1.05%

10	4	0.60%	10	5	0.75%
11	2	0.30%	11	0	0.00%
12	1	0.15%	12	2	0.30%
13	0	0.00%	13	0	0.00%
14	0	0.00%	14	1	0.15%
15 or more	11	1.65%	15 or more	13	1.95%
	667	100.00%		667	100.00%

From Table 2 17.54% of the women didn't attend the ANC during their pregnancy, thus the ANC_4 coverage was 9.75% and ANC_8 was only 1.35%.

The reason behind the incompleteness of ANC among those who attended (Table 3) was the closure of a health facility (65.16%) and lack of funds (9.68%).

Table 3 Reasons of the ANC visit incompleteness

Reasons	N	%
Health facility closed	303	65.16%
Turned away from health facility	17	3.66%
Treatment unavailable	19	4.09%
No transportation	22	4.73%
Lack of money	45	9.68%
Partner or family does not approve	6	1.29%
I did not have a visit planned	42	9.03%
Other	11	2.37%

Table 4 shows that hospitals were the top among facility-based delivery and 70.48% of them were attended by doctors

Table 4 Facility Based Delivery

Birth Attendant	Hospital		Health Facility		Home		Other	
	n	%	n	%	n	%	n	%
Community health worker	0	0.00%	1	0.97%	1	3.70%	1	8.33%
Doctor	370	70.48%	34	33.01%	9	33.33%	2	16.67%
Midwife	108	20.57%	59	57.28%	11	40.74%	5	41.67%
Nurse	40	7.62%	8	7.77%	3	11.11%	1	8.33%
Other	6	1.14%	0	0.00%	2	7.41%	3	25.00%
Relative	1	0.19%	1	0.97%	0	0.00%	0	0.00%
Traditional Healer	0	0.00%	0	0.00%	1	3.70%	0	0.00%
Total	*525*	*78.71%*	*103*	*15.44%*	*27*	*4.05%*	*12*	*1.80%*

IV. DUSCUSSION

Issues related developing countries health systems capacity to provide key health services during the COVID-19 pandemic are reasonable. The most substantial and consistent disruptions were reported for the adherence of ANC visits during pandemic. According to the former World Health Organization (WHO) recommended Focused Antenatal Care (FANC) Model, a pregnant woman should receive at least four ANC visits under normal conditions. The recommendation being adopted by several countries, such as Indonesia who released Ministerial Regulation No. 97/2014, women must receive qualified and comprehensive ANC to have a healthy and safe birth. During pregnancy, the government advises at least four ANC visits (ANC_4): one during the first trimester, one during the second trimester, and two during the third trimester (9,10). Recently, WHO released "the 2016 WHO ANC model" (ANC_8) which includes a new set of guidelines to improve the quality of ANC, hence lowering the risk of stillbirths and problems and ensuring a good pregnant experience. The new WHO model suggests at least eight encounters. The 2016 WHO ANC Model includes 4+ ANC encounters that contribute to the achievement of the SDGs, which seek to reduce maternal and child mortality, ANC at

health facility, and delivery by a qualified birth attendant are key measures of maternal health care in efforts to prevent maternal and newborn mortality (11).

Almost eighteen percent of the women didn't attend the ANC during their pregnancy even though 12.82% of them initially planned for ANC visit, and the rest did not plan to have any ANC visit. Given the change in WHO guidelines from ANC_4 to ANC_8 in 2016, we provide both data. There was only 9.75% ANC_4 coverage and ANC_8 was only 1.35% of the total sample.

Many women were left without access to moment maternal and reproductive health care, including basic gynecological examinations, prenatal care, and abortion, due to the temporary closure of outpatient clinics under shelter at home orders. According to previous researches, many maternal and newborn healthcare providers worldwide did not receive Covid-19 training from their health facility, and 53% of participants in LMICS and 31% in HICs did not feel knowledgeable in how to care for a Covid-19 maternity patient; 90%of participants reported higher stress levels. This lack of training and confidence hampered care quality, which was exacerbated by staff and supply constraints. Many facilities have been left without access to drugs or blood products, which are crucial for managing postpartum hemorrhage (12–14).

One of the reasons behind the incompleteness of the ANC visit was the lack of funds. Women faced economic distress as a result of lost jobs, limited care, and health services, overwhelmed health systems, restricted travel, and shifting priorities at the primary care level during the pandemic. During the current epidemic, the economic crisis has had a significant impact on persons from lower socioeconomic strata. Many of the social and economic effects of the COVID-19 situation are projected to disproportionately affect women (12).

The government's implementation of a lockdown and commute restriction slowed the community spread of Covid-19, but it may have unintentionally affected emergency obstetric care for referred women by restricting public transportation because most pregnant women in some LMICS still use public transportation for emergency visits. This is in accordance with the findings of the ANC absence due to transportation unavailability.

This study has some potential limitations that should be considered when interpreting the results. Further research should be conducted to obtain more detailed information for future recommendations.

V. CONCLUSION

ANC coverage was impacted by the Covid-19 pandemic due to the health facility closure, economic disruption, and transportation unavailability

VI. ACKNOWLEDGMENT

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