



THE IMPACT OF COVID-19 ON ANTENATAL CARE SERVICE UTILIZATION IN HOSPITALS IN SOUTH-SOUTH GEOPOLITICAL ZONE OF NIGERIA.

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ABSTRACT

Introduction: The coronavirus disease (COVID-19) pandemic had a debilitating effect on the healthcare system. The pandemic put an additional strain on healthcare systems that are overburdened and under-resourced even in normal times and exposed the vulnerabilities of high-risk population groups including pregnant women, addressing critical healthcare concerns. This study aims to assess the impact of COVID-19 on antenatal care (ANC) utilization in Rivers State, pre and post-COVID-19.

Method: The study is a retrospective cross-sectional study conducted on secondary data collected from the District Health Information System 2 (DHIS) platform of the Health Management Information System from 2018 to 2022. The data from 347 health facilities (which comprises public and private health facilities) that offer antenatal and postnatal care services to pregnant women in the State, were keyed into the DHIS 2 platform in Rivers State and Nigeria as a whole. Data was analysed using SPSS version 21 and represented as frequencies, percentages and charts.

Results: There was a relatively large increase in ANC attendance from 2018 to 2019, with the percentage of the population accessing ANC services increasing from 44.4% to 52.4%. However, the percentage of the population accessing ANC services declined in the following years, dropping to 40.7% in 2020 and 38.9% in 2021 before increasing again to 44.4% in 2022. The ANC attendance during the 1st and 4th visits were relatively low in 2020 (21.9%, 22.1%), and 2021 (23%, 16%) but improved in 2022 to 24.6%, and 17.7% respectively compared to previous years of 2018 (30.7%, 23.3%) and 2019 (29.4%, 23.7%) respectively which had been higher.

Conclusion: Despite the necessity of antenatal care, utilization during the COVID -19 era. Various individual, facility, and policy-level factors affected the utilization of services during the pandemic. There is a need to augment antenatal care services in the country by mitigating barriers to access. The public health response should strengthen collaborative efforts with primary-level healthcare to increase service provision, especially to the more vulnerable population.

Keyword: Antenatal Care, COVID-19 pandemic.

INTRODUCTION

Antenatal care (ANC) services are crucial for promoting maternal and child health¹. The COVID-19 pandemic first reached Rivers State, Nigeria in March 2020. The state noted its first confirmed COVID-19 case on March 19, 2020. The State government then put in place a number of controls to stop the virus from spreading, including lockdowns, curfews, and limitations on public meetings. Early in 2021, the State experienced a spike in COVID-19 cases, which prompted the administration to reinstate some of the previous limitations. A new set of regulations, including a ban on nightclubs, movies, and other crowded indoor activities, were also put in place by the government in March 2021.

The 2016 WHO ANC Model covers 4+ ANC contacts that support the accomplishment of SDGs, increased the number of contacts a pregnant woman has with health providers throughout her pregnancy from four to eight.¹ This is because of the increased opportunities to detect and manage potential complications. Eight or more contacts for antenatal care can reduce perinatal deaths by up to 8 per 1000 births when compared to 4 visits.² Globally, the COVID-19 epidemic and the period of national lockdown had a significant influence on everyone's access

to care, particularly pregnant women's access to institutional antenatal care services^{3,4} The COVID-19 pandemic further highlighted how vulnerable pregnant women were by affecting the use of ANC services, particularly in remote areas.⁵ The pandemic had a devastating effect on the healthcare sector, particularly on the provision of care for expectant mothers.⁶ Fear of contracting COVID-19, transportation challenges due to nationwide lockdown, and scaling down of health care services were some of the factors that contributed to the decrease in ANC service utilization. Several pregnant women experienced difficulty getting antenatal care (ANC) services during the COVID-19 pandemic.⁷ Many healthcare facilities had to limit the number of patients they could see due to mobility constraints and social distance rules, which caused delays in receiving care.⁸ There was also concern about catching COVID-19 when receiving or giving care. Women chose to forego ANC visits due to lack of transportation, familial pressure to isolate, and personal fears of the virus.⁷ This study aims to assess the impact of the COVID-19 pandemic on antenatal care utilization among pregnant women attending health facilities in Rivers State, so as to design strategies for prioritizing maternal healthcare even during the COVID-19 pandemic period.

METHODOLOGY

The research is a retrospective cross-sectional study, and the electronic health record platform known as the District Health Information System 2. (DHIS-2) of the Health Management Information System was used to collect the data. The DHIS 2 platform in Rivers State and Nigeria as a whole was used to input data from 347 healthcare facilities (which comprise public and private healthcare facilities). These healthcare facilities provide antenatal and postnatal care to expectant women throughout the State. Secondary health facility data from the years 2018 to 2022 were used in this study. Data was analysed using SPSS version 21 and represented as frequencies, percentages and charts.

RESULTS

Table 1 shows the percentage of the estimated female population aged 15-49 years who accessed antenatal care (ANC) services in each of the years 2018 to 2022.

In the table, "5% POP," represents the estimated female population aged 15-49 in the geographic area covered by the ANC services. The percentage in this column represents the proportion of that population that is accessing ANC services.

There was a relatively large increase in ANC attendance from 2018 to 2019 (pre-COVID -19 era), with the percentage of the population accessing ANC services increasing from 44.4% to 52.4%.

However, the percentage of the population accessing ANC services declined in the following years, dropping to 40.7% in 2020 and 38.9% in 2021(COVID -19 era) before increasing again to 44.4% in 2022 (post-COVID -19 era). It's difficult to draw firm conclusions about the reasons for these fluctuations without more information about the specific factors influencing ANC attendance in this geographic area.

Table 1: shows the total ANC Attendance from 2018-2022

S/No	Period	TOTAL ANC VISITS	5% POP	%
1	2018	171903	387257	44.4
2	2019	209816	400423	52.4
3	2020	168417	414038	40.7
4	2021	166723	428115	38.9
5	2022	196458	442671	44.4

Figure 1 shows the total antenatal care attendance in percentages for the period under review. ANC visits is measured using the percentage of pregnant women population in the State, which is 5% of the total population across the years. There was an increase in antenatal attendance from 44.4% in 2018 to 52.4% in 2019 pre-COVID era, followed by a decrease to 40.7% in 2020 during the pandemic, 38.9% in 2021 and improved to 44.4% in 2022 post-pandemic.

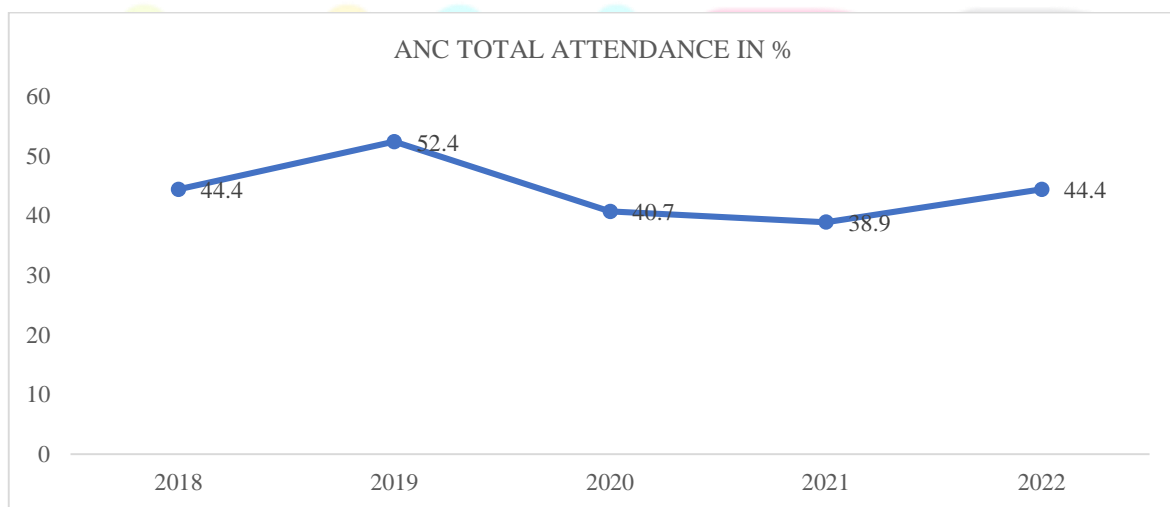


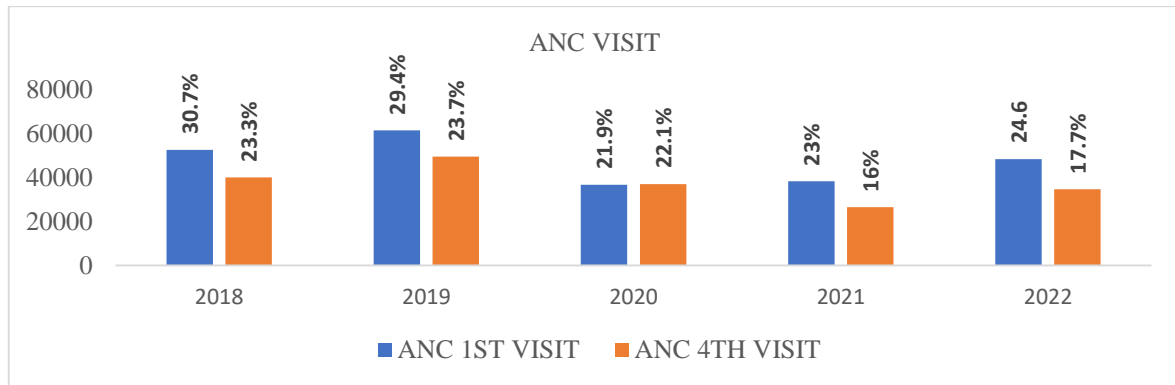
Figure 1: Total Antenatal care attendance from 2018- 2022

The number of Antenatal care visits for different stages of pregnancy in the five consecutive years as seen in Table 2. The ANC visits are categorized into the first, fourth, and other visits. The total number of visits is also provided for each year. The 1st and 4th ANC visits had the highest number of visits (56.6%) compared to "others" (53.3%) in the 5 years under review. The ANC attendance during the 1st and 4th visits were relatively low in 2020 (21.9%, 22.1%), and 2021 (23%, 16%) but improved in 2022 to 24.6%, and 17.7% respectively compared to previous years of 2018 (30.7%, 23.3%) and 2019 (29.4%, 23.7%) respectively which had been higher.

Table 2: Breakdown of Antenatal visits to the health facilities during the period under review

S/N o	Years	ANC Visits			Total Visits	
		1 st visit (%)	4 th visit (%)	Others (%)	Number	
1	2018	52691 (30.7)	40172 (23.3)	79040 (46)	171903	
2	2019	61609 (29.4)	49706 (23.7)	98501 (47)	209816	
3	2020	36795 (21.9)	37140 (22.1)	94482 (56)	168417	
4	2021	38345 (23)	26548 (16)	101835 (61)	166723	
5	2022	48431 (24.6)	34729 (17.7)	113298 (57.7)	196458	
	Subtotal	237871 (26.1)	188295 (20.6)	487151(53.3)	913317	
	Total	426166 (56.6)				

Figure 2 shows the decrease in ANC visits in 1st and 4th Antenatal attendance in 2020 and 2021 when compared to 2018 and 2019 visits. There is an increase in 2022 especially during the 4th visit.

Figure 2: The 1st and 4th Antenatal Attendance

DISCUSSION

There was a relatively large increase in ANC attendance from 2018 to 2019 with the percentage of the population accessing ANC services increasing from 44.4% to 52.4% pre-COVID era but it declined to 40.7% in 2020 and 38.9% in 2021 during the COVID-19 pandemic before increasing again to 44.4% in 2022 post-COVID-19. This could be due to the associated sharp decline in health services in the state during the pandemic thus influencing ANC attendance in the State and the nation at large. The findings in this study is similar to a modelling study on the indirect effects of the pandemic in 118 Low and Middle income countries (LMIC) which estimated a reduction in antenatal care by at least 18%, and possibly up to 51.9%.⁹ Their findings were attributed to the changes in the perinatal care guidelines during the COVID era¹⁰ A similar reason noted in the Lagos State University teaching hospital for a fall in ANC attendance during the pandemic suggested that this was because women in the early stages of pregnancy were advised to visit the clinic once every eight weeks rather than every four, and the average number of prenatal care visits dropped from 10 to 15 to 6.⁸

A similar finding was made by Semaan et al. in their global cross-sectional study of maternal and newborn health professionals. They discovered a significant decrease in the use of antenatal care services as clinics reduced their operating hours, the number of visitors allowed, and in-person visits during pregnancy.¹¹

LIMITATION

Despite these measures, some pregnant women may still face challenges accessing ANC services due to factors such as transportation difficulties or financial constraints. It is important for healthcare providers and policymakers to continue to prioritizing the provision of ANC services during the pandemic to ensure that pregnant women receive the care they need to have a healthy pregnancy and birth.

RECOMMENDATION

Overall, this table provides a useful snapshot of the percentage of the population accessing ANC services in each year. It may be particularly useful for policymakers and healthcare providers who are interested in tracking changes in ANC attendance over time and identifying areas where additional efforts may be needed to increase access to these services.

The study highlights the need for continued efforts to increase syphilis testing and treatment to improve maternal and infant health outcomes. It is important for policymakers and healthcare providers to take steps to mitigate these effects and ensure that pregnant women can continue to access essential ANC and PNC services during the pandemic.

The risk of COVID-19 transmission has been reduced thanks to the implementation of precautions by numerous healthcare facilities, which ensure that pregnant women can still receive the care they require. These actions include:

Pregnant patients can consult with their healthcare doctors via telemedicine through some healthcare facilities.

To limit the number of patients, present at one time and to ensure physical separation, health facilities have updated their appointment scheduling practices.

In order to reduce the risk of COVID-19 transmission, healthcare providers must wear the proper PPE when providing treatment to patients.

To provide a clean and secure environment for patients, healthcare facilities have improved cleaning and disinfection procedures.

To inform pregnant women about COVID-19 prevention and the significance of obtaining medical attention, health facilities have intensified their health education activities.

CONCLUSION

Despite the necessity of antenatal care utilization during the COVID -19 era. Various individual, facility, and policy-level factors affected the utilization of services during the pandemic. There is a need to augment antenatal care services in the country by mitigating barriers to access. The public health response should strengthen collaborative efforts with primary-level healthcare to increase service provision, especially to more vulnerable population.

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