



ANTENATAL AND POSTNATAL CARE SERVICE UTILIZATION IN HEALTH FACILITIES IN RIVERS STATE, NIGERIA

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Abstract

Introduction: Antenatal healthcare (ANC) is defined as the care a pregnant mother receives before birth, while postnatal care (PNC) is the care given to the mother and her newborn baby immediately after the birth of the placenta and for the first six weeks of life. This Study sort to determine antenatal care and postnatal service utilization in hospitals in Rivers State.

Methods: A 5-year review of data from 347 health facilities was collected in Rivers State from 1st January 2018 – 31st December 2022. The data was analysed using Statistical Package for Social Sciences version 21 and presented as frequencies, and percentages in tables and charts.

Results: The total ANC attendance was 913,332 visits with the first and fourth visits making up 426,166 (46.7%) of all ANC visits. The highest number of first and fourth ANC visits were recorded in 2019, while the lowest number of first and fourth ANC visits were recorded in 2020 and 2021, respectively. Antenatal attendance increased from 44.4% in 2018 to 52.4% in 2019, then declined to 40.7% in 2020, 38.9% in 2021, and then improved to 44.4% in 2022. The percentage of pregnant women who received haematinics (iron and folic acid supplements) during their ANC visit was high, ranging from 79.7% in 2020 to the peak of 96.7% in 2022. Of the PNC visits 51.8 % of the women attended PNC visits in 2018 with a decline to 38.7% and 36.8% in 2019 and 2020 respectively and progressively increased to 44.2% and 44% in 2021 and 2022.

Conclusion: In the study, antenatal and postnatal visits were generally low. These visits reduced from 2019 to 2021 could be the low patronage during the COVID-19 pandemic. This study revealed that there is low utilization of ANC services in the study area.

Key words: Antenatal Care, Antenatal Care Utilization, Postnatal Care

Cite as: Atata CT, Oguzor UC, Oreh AC, Jaja ID, Uriah S. Antenatal and Postnatal Care service utilization in health facilities in Rivers State, Nigeria. *AJRMHS*. 2024; 2(1):33-37



INTRODUCTION

World Health Organization (WHO) estimates that about 580,000 women die each year from pregnancy-related complications and childbirth¹.

Maternal mortality Ratio in Nigeria was 1047 deaths per 100,000 live births at 2020², while infant mortality was 69 per 1,000 live births, both of which are high³. Rivers State has a maternal mortality ratio (MMR) of 448 per 100,000 live births and an infant mortality rate of 87 per 1,000 live births^{4,5}. The goal of the Rivers State Safe Motherhood Initiative is to expedite the reduction of maternal and neonatal death and morbidity rates in order to achieve Sustainable Development Goal 3 (SDG 3)⁶.

Antenatal care (ANC) is defined by the WHO as the “care a pregnant mother receives before birth”, and involves education, screening, counselling, treatment of minor ailments, and immunization services⁷. Antenatal Care utilization refers to at least one visit to a health facility for a check-up during the previous pregnancy¹. The World Health Organization (WHO) introduced focused antenatal care (FANC) in 2002⁸. FANC focuses on evidence-based interventions carried out at certain critical times during pregnancy, assuming that all pregnant women are at risk of developing complications and that quality, individualized care is more significant than the quantity of care. It recommends a minimum of four visits to the pregnancy health care centre for pregnancies without complications. The first visit should be before 12 weeks, or when a woman first thinks she is pregnant; the second visit should be around 26 weeks, or at least once in the second trimester; the third visit should be around 32 weeks of pregnancy; and the fourth visit between 36 and 38 weeks⁸.

According to the World health organization, postnatal care (PNC) is defined as care given to the mother and her newborn baby immediately after the birth of the placenta and for the first six weeks of life⁹. Recommendation by studies is the need for focused antenatal care and the availability of trained personnel to attend to women during labor and delivery that would reduce maternal mortality and morbidity in developing countries¹. Improving mother and newborn health necessitates a strengthening of existing ANC and PNC programmes¹⁰. According to studies, ANC and PNC have a significant impact on primary causes of newborn death and determine population morbidity and mortality trends.¹¹ Antenatal care may also play an indirect role in reducing maternal mortality by encouraging women to deliver with the assistance of skilled birth attendants or in a health facility¹². In general, despite the fact that ANC and PNC services are made accessible to nearly all villages (in most instances at lower or no cost), the utilization of professional assisted delivery care and PNC is still very low¹³. Various factors can influence PNC

attendance, such as healthcare accessibility, cultural practices, awareness programs and service quality¹⁴.

It is thus important to examine the extent to which women are making use of the services and ascertain why many women do not use the services¹². Therefore, this study aims to determine the utilization of antenatal and postnatal care (ANC and PNC) services in Rivers State, Nigeria.

MATERIALS AND METHODS

Secondary data from health facilities between 2018 and 2022 was retrieved from the District Health Information System version 2 (DHIS 2)⁵, an electronic platform of the Federal Government’s Health Management Information System where data from 347 health facilities in Rivers State are regularly entered into. These health facilities offer antenatal and postnatal care services to pregnant women across the State. All data from the DHIS platform were collated and reviewed⁴. Data was analysed using Statistical Package for Social Sciences (SPSS 21) and presented as frequencies, percentages, and charts.

Ethical Consideration

Approval for this study was obtained from the Rivers State’s Health Research and Ethics Committee.

RESULTS

Table I presents the number of antenatal care (ANC) visits for different stages of pregnancy in five consecutive years (1st January 2018 – 31st December 2022). The ANC visits are categorized into the first visit which occurs before 16 weeks Gestational age, the fourth visit which is the final visit occurring between 36-38 weeks Gestational age and other visits which include the second and third visit, and the total number of visits is also provided for each year. The total antenatal attendance during the period was 913,332 visits with 426,166 (46.7%) making up the 1st and 4th visits by the pregnant women. The 1st visits made up 26.1 % of the patients, 4th visit made up 20.6% and other visits made up 53.3% of the visits.

As shown in Figure 1, the highest number of first ANC visits was 61,609 in 2019 and fourth ANC visits was 49,706 recorded in the same year while the lowest number of first and fourth ANC visits were 36,795 and 26,548 recorded in 2020 and 2021, respectively.

Table I. Antenatal visits to health facilities from 2018 to 2022

Year	ANC Visits			Total
	1 st visit (%)	4 th visit (%)	Others (%)	
2018	52,691 (30.7)	40,172 (23.3)	79,040 (46)	171,903
2019	61,609 (29.4)	49,706 (23.7)	98,501 (46.9)	209,816
2020	36,795 (21.9)	37,140 (22.1)	94,482 (56)	168,417
2021	38,345 (23)	26,548 (16)	101,835 (61)	166,728
2022	48,431 (24.6)	34,729 (17.7)	113,298 (57.7)	196,458
Total	237,871 (26.1)	188,295 (20.6)	487,156(53.3)	913,322

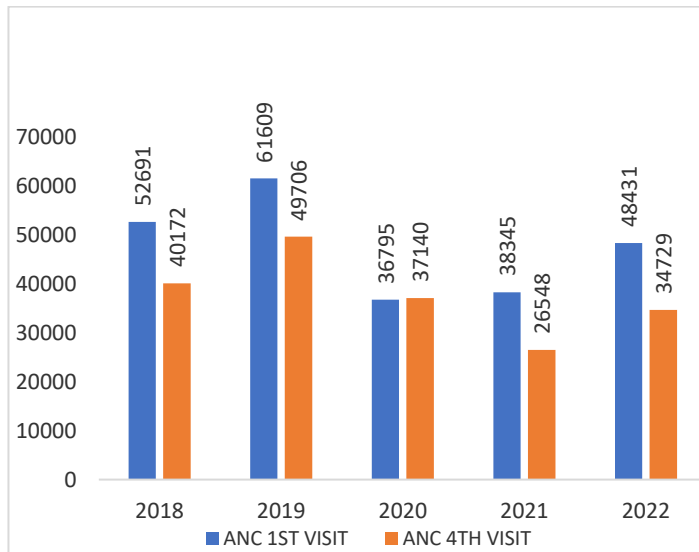


Figure 1: 1st and 4th ANC visits from 2018 – 2022

Figure 2 shows the total antenatal care attendance in percentages from 1st January 2018 - 31st December 2022. Antenatal attendance increased from 44.4% in 2018 to 52.4% in 2019, then declined to 40.7% in 2020, 38.9% in 2021, and progressively improved to 44.4% in 2022.

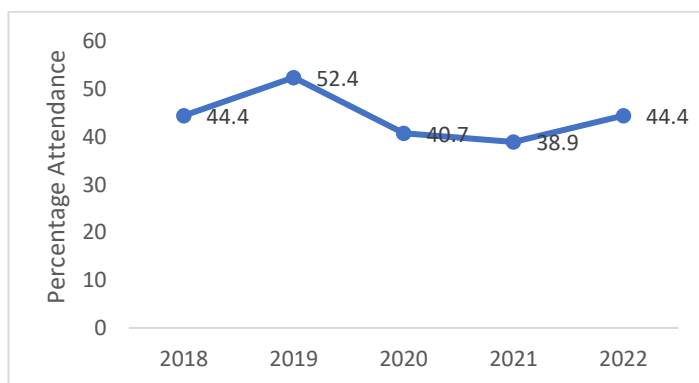


Figure 2: Total Antenatal care attendance 2018 - 2022

Figure 3 depicts the rates of some of the services offered during ANC services. The percentage of pregnant women (PW) who received haematinics (iron and folic acid supplements) during their ANC visit was continuously high across the study period, ranging from 79.7% in 2020 to the peak of 96.7% in 2022. The percentage of pregnant women who had syphilis testing at their ANC visit declined from 16.7% in 2018 to 13.9% in 2020 but gradually increased from 20% in 2021 to 21.1% in 2022.

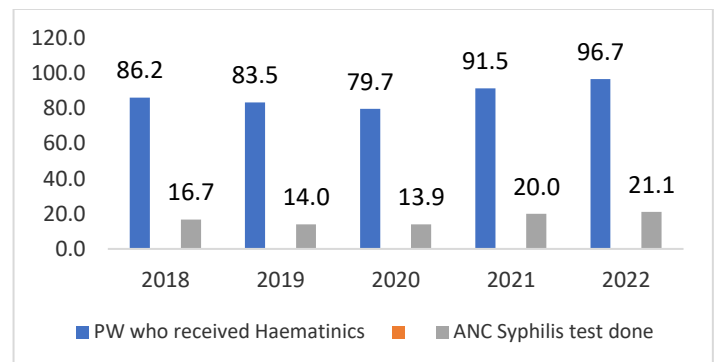


Figure 3. Haematinics and Syphilis testing during ANC

The rate of PNC by years as depicted in Figure 4 showed that 51.8% of the women attended PNC in 2018, these visits declined to 38.7% and 36.8% in 2019 and 2020 respectively. Then progressively increased to 44.2 and 44% in 2021 and 2022.



Figure 4. Rate of PNC visits 2018 – 2022



DISCUSSION

The study was aimed at demonstrating the utilization of Antenatal and Postnatal Care services in Rivers State. There was an increase in antenatal attendance from 44.4% in 2018 to 52.4% in 2019 followed by a decrease to 40.7% in 2020, 38.9% in 2021 and it gradually improved to 44.4% in 2022. According to the findings of a study conducted in the Netherlands by Gamberini et al on the Effect of COVID-19 on antenatal care: experiences of medical professionals in the Netherlands, the decrease in antenatal attendance in 2021 could be attributed to the effect of Covid 19 on antenatal services as most healthcare services including ANC were negatively affected¹⁵. This is comparable to the finding by Erkihun Tadesse on Antenatal Care Service Utilization of Pregnant Women Attending Antenatal Care in Public Hospitals During the COVID-19 Pandemic Period of 2022⁷.

In this study, the compliance of ANC utilization in Rivers State with national and WHO guidelines was low (<53%) during the period under review. Although the ANC utilization rate in Nigeria (a lower-middle-income country) is quite low, about 61% of pregnant women visit a skilled provider at least once during their pregnancy compared with the documented average of 79% for all lower-middle-income countries.

The highest number of first and fourth ANC visits were recorded in 2019 and 2020, respectively, while the lowest number of first and fourth ANC visits were recorded in 2020 and 2021, respectively.

It is significant to note that 1st and 4th ANC visits done during the COVID-19 era (2020 and 2021) were reduced as other healthcare services were hampered too

In terms of the specific ANC visits, the 1st visit was the most attended. The benefits of being labelled as “booked” patients following attendance at 1st ANC visit could be a strong incentive for women to attend the 1st ANC visit as against other ANC visits. Overall, figure 3 provides valuable information on some services provided during ANC visits, including the provision of essential supplements like haematinics, as well as the uptake of syphilis testing. It highlights the need for continued efforts to increase the uptake of key ANC interventions to improve maternal and infant health outcomes. These data may be particularly useful for healthcare providers and policymakers who are interested in monitoring trends in syphilis prevalence and identifying areas where additional efforts may be needed to prevent and treat syphilis among pregnant women.

It's important to note that the percentage of the population accessing ANC services in any given year may be influenced by a number of factors, including population growth, changes in the availability and quality of ANC services, and changes in the perceived need for such services. As such, it's difficult to draw conclusions about the effectiveness of ANC programs based solely on this data. The utilization of professional assisted delivery care and PNC among the study population was very low which was similar to a population-based study in Ethiopia by Regassa N at the Institute of Environment, Gender and Development, Hawassa University¹¹ and the study by Gurmesa T¹, despite the

fact that ANC and PNC services are made accessible in all remote areas in the State.

STRENGTHS

A major strength of this study is that it provides a good representation of different areas of Rivers State since data was collected from rural, urban, and remote underserved areas. The study also provides a good representation of the population concerned with Antenatal care.

LIMITATIONS

The DHIS 2 data does not provide detailed information on sociodemographic characteristics of ANC and PNC service utilization and may not capture the full extent of need in the population. The results do not show the differences in attendance based on remote, rural, or urban locations. This would have helped tailor recommendations based on differences observed.

CONCLUSION

The study identified that antenatal and post-natal attendance visits were generally low. The visits particularly reduced in the year 2019 to 2021. This may have been due to the COVID-19 era. Thus, Nigeria has a long walk to attaining sustainable development goal's targets on child and maternal health. This study revealed that there is low utilization of ANC services in the study area when compared to the recommendation by safe motherhood that every pregnancy should get at least four visits. Even though a minimum of four visits are recommended during pregnancy, the proportion of mothers having at least four antenatal visits was still very low.

RECOMMENDATIONS

Health education and counselling cannot be overemphasized at all health outreaches to sensitize all on the benefits of Antenatal and Postnatal care. Health Insurance, if made mandatory would alleviate cost implications and its antecedent effect on access to care.

Conflicts of Interest: The authors declare no conflict of interest

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