

ASSESSMENT OF MATERNAL HEALTH CARE SERVICE PROVISION AT PRIMARY HEALTH CARE LEVEL IN A NORTH CENTRAL STATE OF NIGERIA

Magaret Ada Onuh¹, Sunday Adakole Ogli², Simon Inalegwu Ayegba³

¹Department of Nursing science, Lincoln University College, Malaysia.

²Physiology Department, College of Health Sciences, Benue State University, Makurdi, Benue state.

³School of Midwifery, Makurdi, Benue State

DOI: <https://doi.org/10.5281/zenodo.12805113>

Published Date: 24-July-2024

Abstract: Background: Maternal health is paramount in ensuring the continuity of the human population as well as improving the socio-economic development of a nation.

Objective: The research sought to investigate maternal health care service provision at primary health care level in Benue State, Nigeria.

Methodology: Descriptive survey research design was adopted for this study. Multistage sampling technique was used in sampling respondents who were women of childbearing age group (15-49 years). Questionnaire was used for data collection. Chi-square was used to test hypotheses at p value of < 0.05.

Results: Findings show that in Benue state, there is a high extent of antenatal care services provision ($\bar{x} = 2.51$), low extent of delivery care services provision ($\bar{x} = 2.21$) and high extent of postnatal care services provision. There is significance difference in the extent of maternal health services provision in the three senatorial zones in Benue State ($\chi^2 = 87.346$; df = 4; p > .005).

Conclusion: It is hereby concluded that there is high extent of antenatal care services provision, low extent of delivery care services provision, and high extent of postnatal care service provision in Benue State, Nigeria.

Keywords: Maternal health, Antenatal, intranatal, postnatal, care.

1. INTRODUCTION

Health is a very important and basic human right that is vital to sustainable national development and the wellness of humanity¹, maternal health inclusive. Maternal health is one of the major concerns of the global health community. According to the World Health Organization (WHO), maternal health is a state of complete physical, mental and social well-being and not just the absence of disease or infirmity, in all matters relating to the reproductive system and all the processes of childbearing², beginning from antenatal, intranatal and postnatal care services. For this reason and more, the focus of international public health concern has been on reducing maternal mortality and morbidity to preserve and ensure continuity of the human race. This is rightly so as the sustainable development goal (SDG) 3 requires reducing the global maternal mortality ratios to fewer than 70 per 100,000 live births by 2030³.

Globally, 295,000 women died due to causes related to or aggravated by pregnancy and childbirth in 2020; the maternal mortality ratio in the sub-Saharan African region is 525 per 100,000 live births⁴. In Nigeria, there are about 40,000 yearly

maternal deaths, and a woman's chance of dying from pregnancy and childbirth in Nigeria is 1 in 13⁵. This unacceptable trend will be reversed through the provision of adequate Maternal Health Services (MHS).

Maternal health services contribute to providing essential health services to protect, promote and maintain health and well-being of mothers⁶. The services are provided to the women of childbearing age to preserve the life of the mother and the wellbeing of the baby⁷. It is one of the components of primary health care services aimed at providing quality maternal health at prenatal/antenatal, intrapartum/childbirth and postnatal/postpartum services to women. The goal of maternal health services is to detect any potential complications of pregnancy and childbirth with the aim of timely prevention of same. Maternal mortality is an important indicator of the health and human rights status of women, their access to health care and the adequacy of the health care system and its ability to respond to their needs. The tragedy is that these women do not die from diseases, but during a normal, life-enhancing process of procreation. Even more tragic, is the fact that these deaths are avoidable if preventive measures and adequate care are available⁸.

Provision of maternal health services refers to the way inputs such as money, staff, equipment and drugs are combined to allow the delivery of maternal health interventions. Over the years, the Nigerian government has made numerous efforts to reduce the number of maternal mortality and morbidity and to provide universal access to maternal healthcare to its populace. Notable among these efforts were the expansion of medical education, improvement of existing primary health care systems and provision of new primary health care (PHC) centers in many rural areas. Almost every successive government regime in Nigeria, whether military or civilian, have given recognition to this problem and made attempt to provide maternal health services, hence, the different policy initiatives or programmes ranging from National Health Policy and National Policy on Population for Development, Unity, Progress and Self Reliance of 1998 to the Policy on the Health and Development of Adolescents and Young People in Nigeria as well as Integrated Maternal Newborn and Child Health Strategy of 2007.

Despite these efforts, poor maternal and child health indices have continued to be one of the most serious development challenges facing the country⁹. There still exists inconsistency in levels of provision and utilization of health services among women in Nigeria. The low provision and consequent utilization of maternal health services has contributed to high maternal morbidity and mortality in the country. The delayed maternal health seeking behaviour among women increases the risk of death among women from preventable direct and indirect causes aggravated by pregnancy conditions. The situation of maternal health of women in Benue State is not different from what is obtained in other parts of Nigeria and Africa at large. There is growing evidence that maternal death may be attributable to non-availability of reproductive health facilities and services in the area, long distances women of childbearing age need to trek in search of reproductive health facility while in some communities where the inadequate facilities and services are available, the cost of the medical treatment is not easily affordable for the women¹⁰. Even where facilities of primary healthcare are available, in most cases family planning units or other services are not offered in such healthcare facility⁹. The situation is further complicated by lack of manpower and a worsening economic condition of the nation. In other words, maternal healthcare provision has not been encouraging in Nigeria.

Owing to the poor maternal health situation in the country and dearth of studies on maternal health service provision, this study was designed to assess maternal health service provision at the primary health care level in Benue state, Nigeria. The findings of this study may assist the Ministry of Health and other relevant stakeholders improve the maternal health delivery strategies as well as increase the maternal care visits among pregnant women.

2. METHODOLOGY

Descriptive survey research design was adopted for this study which was carried out in Benue State, in North Central part of Nigeria, lying between Latitudes 6.5° and 8.5° North and Longitudes 7.47° and 10° East, with a total population of 4,219,244 consisting of 2,164,058 males and 2,055,186 females. From data obtained from Benue State Hospital Management Board, this population was serviced by 1,408 health facilities comprising of 888 (63.1%) public and 520 (36.9%) private respectively.

Population of Study

The population of study comprised of 563,005 women of childbearing age (15-49 years) attending antenatal and postnatal clinics at the selected health care facilities in the sampled LGAs in Benue State and 3,024 registered health care personnel (medical doctors, nurses, midwives, community health workers and medical auxiliaries) providing maternal health services in the health care facilities in Benue State were selected for this study.

Sample and Sampling Technique

The sample size of 328 women of childbearing age and 72 health care personnel in health care facilities in Benue State, Nigeria was estimated using Taro Yamane's formula¹¹ for the study from the study population. Using the multistage sampling technique, two Local Government Areas (LGAs) were selected randomly from each of the three senatorial zones of the state (Katsina–Ala and Vandeikya in zone A, Gboko and Makurdi in zone B, Ogbadibo and Otukpo in zone C). From each of these LGA, 6 primary health centres were selected randomly. Subsequently, 10 women of child-bearing age attending antenatal and postnatal clinics and 2 registered health care personnel were randomly selected for the study. Structured questionnaire titled 'Maternal Health Provision at primary health care centers in Benue State' were administered to the selected participants. The questionnaire was tested on a small group of 30 women of childbearing age attending antenatal and postnatal units in a LGA that was not among the selected LGA and validated by 3 health professionals.

Statistical Analysis

The completed copies of the questionnaires were collated, coded and entered into the Microsoft Excel spread sheet. The data was subsequently analyzed using SPSS version 2021. Descriptive statistics of frequencies and simple percentages was used to describe the socio-demographic attributes of the respondents. Mean \pm standard deviation was employed to answer the research questions. A mean benchmark of 2.50 and above was accepted as the decision level while lower than 2.50 was rejected. Chi-square test was used to test the hypotheses at 0.05 level of significance. Null hypothesis was rejected if its p-value is less than the alpha value of 0.05 ($p < 0.05$).

Ethical Considerations

Institutional ethical certificate number CREC/THS/003 was sought and obtained from the College of Health Sciences, Benue state, Nigeria.

3. RESULT

Table 1: Biodata of Respondents

Variables	Frequency	Percentage (%)
Age		
18-30	74	18.5
31-40	219	54.8
41-50	50	12.5
≥ 50	57	14.3
Religion		
Christianity	314	78.5
Islam	33	8.3
Traditional religion	38	9.5
No religious affiliation	15	3.8
Marital Status		
Married	177	44.3
Single	66	16.5
Divorced	32	8.0
Widowed	79	19.8
Cohabiting	13	3.3
Separated	33	8.3
Educational attainment		
No formal education	24	6.0
Primary	118	29.5
Secondary	159	39.8
NCE/OND	73	18.3
Degree	26	6.5
Technical/Vocational training received		
Hair Styling	173	43.3
Fashion Designing	51	12.8

Makeup Artistry	37	9.3
Event Planning	60	15.0
Arts and Crafts	21	5.3
Others	12	3.0
None	46	11.5
Occupation		
Self-employed	167	41.8
Civil servant	86	21.5
Full housewife	39	9.8
Others	108	27.0
Estimated monthly income (naira)		
< 10,000	71	17.8
11,000-15,000	75	18.8
16,000 - 20,000	160	40.0
≥20,000 and above	94	23.5
Location		
Urban	280	70.0
Rural	120	30.0
Parity		
1-3 times	214	53.5
3-6 times	165	41.3
> 6 times	21	5.3
No. of children		
1 -2	177	44.3
3 -4	125	31.3
> 4 times	98	24.5

Majority (219 or 54.8%) of the respondents were within the age category of 31-40 years (the mean age of the respondents was 32±6.76 years). with 314 or 78.5% of the sample population being Christians. Most of the women were married (177 or 44.3%); highest parity (53.5%) been 1-3. 73 (19.8%) and 66 (16.5%) were widowed and divorced respectively. Large proportion of the respondents had a form of formal education, secondary school education constituting the highest at 39.8% (159). Only 6% (24) had no formal education. All respondents had a form of vocational training except for a small proportion of 11.6% (45). This may have accounted for why majority of the respondents (167 or 41.8%) were self employed. who had no technical training. The table further revealed that majority (160 or 40.0%) of the respondents earn between ₦16,000 - ₦20,000 while 280 (70.0%) of the respondents were located in urban areas of Benue State.

These findings suggest that most of the respondents were within their active childbearing age with moderate parity, and possess formal education indicating a moderate level of education with an expected satisfactory level of utilization of maternal health care services is expected to be high. Despite the fact that most of them are urban dwellers, their low income status may hinder these women from assessing affordable maternal health care services.

Table 2: Extent of Antenatal Care Services Provision

S/N	Extent to which Antenatal Care Services are Provided	Mean	SD	Remark
1.	Prescribed pregnancy investigations like scanning, x-rays, laboratory tests are always available at the hospital	2.00	±0.73	Low extent
2.	Mothers are provided access to high-quality care throughout the phases of pregnancy labour.	1.90	±1.05	Low extent
3.	Drugs and other medical supplies are available to ensure safe pregnancy.	1.61	±0.85	Low extent
4.	Mothers are educated at the ANC centre on the proper diet during pregnancy.	2.90	±0.73	High extent

5.	Mothers are vaccinated against tetanus during antenatal check-ups	3.17	±0.77	High extent
6.	Mothers are educated at the ANC centre about early signs of pregnancy-related problems and precautions	3.23	±1.01	High extent
	Aggregate Mean±SD	2.51	±0.86	High extent
	Criterion Mean	2.50		

From table 2, the response of the respondents about provision of ANC services had an aggregate mean of 2.51 ± 0.86 which is greater than the criterion mean of 2.50, implying that there is a high extent of antenatal care services provision in Benue State, Nigeria. However, based on the type of service provision, the result showed that items 4 – 6 had significantly high mean scores which indicated that mothers are educated at the ANC centre on the proper diet during pregnancy ($\bar{x} = 2.99$), mothers are vaccinated against tetanus during antenatal check-ups ($\bar{x} = 3.17$), mothers are educated at the ANC centre about early signs of pregnancy-related problems and precautions ($\bar{x} = 3.23$). However, items 1 – 3 had low mean scores relative to the benchmark (2.50), which implies that, from the respondents perspective, prescribed pregnancy investigations like scanning, x-rays, laboratory tests were not always available at the health facilities ($\bar{x} = 2.00$), poor access to high-quality care throughout the phases of pregnancy labour ($\bar{x} = 1.90$) as well as unavailability of drugs and other medical supplies to ensure safe pregnancy ($\bar{x} = 1.61$).

Table 3: Chi-square test showing the Difference in the Extent of Maternal Health Care Provision in the three Geographical Zones in Benue State

Zones	Extent of Maternal Health Service Provision		χ^2 -value	df	p-value	
Antenatal Care provision	120 (30.0%)	28 (7.0%)	7 (1.8%)	87.346	4	0.30
Delivery Care provision	9 (2.3%)	140 (35.0%)	27 (6.8%)			
Postnatal Care provision	41 (10.3%)	21 (5.3%)	7 (1.8%)			

P>0.05

In Table 3, the provision of maternal health services by the geographical zones indicated a higher (30.0%) proportion of antenatal care provision in Zone A, 7.0% in Zone B and 1.8% in Zone C. In terms of provision of delivery care services, the result revealed that Zone A had a proportion of 2.3%, Zone B had a proportion of 35.0% and Zone C had a proportion of 6.8%. Regarding provision of postnatal care services, Zone A had a proportion of 10.3%, Zone B had a proportion of 5.3%, while Zone C had a proportion of 1.8%. The variation between the three geographical zones was found to be statistically significant ($\chi^2 = 87.346$; $df = 4$; $p > .005$). Thus, there is a significant difference in the extent of maternal health services provision in the three geographical zones in Benue State.

Furthermore, on the capacity of the health care facilities to provide quality maternal health care services to clients, physical structures were good or acceptable (73.8%) on observation according to the NPHCDA guideline, with acceptable condition of doors, ceilings, curtains and furniture in about three-quarter of the facilities. All the health care facilities had functional equipment (82.5%) available for provision of maternal health care services except for Sims vaginal speculum and screen. On availability of essential drugs in these facilities, most (88%) of the drugs were available but in insufficient quantities while consumables, which included needles and syringes, cotton wool, latex gloves, antiseptic lotion, and sutures were readily (100%) accessible. Similarly, all the health facilities had the full complement of medical officers of health (SCHEW, JCHEW), administrative officers, record officers, environmental health officers, pharmacy technicians and health aides. However, in few of the health centers, community health officers (42.9%) and laboratory technologists (28.6%) were not available.

4. DISCUSSION

The findings of this study revealed that there is high extent of antenatal care services provision in Benue State, Nigeria. Provision of quality of ANC services is crucial for the survival of the mother and child and tend to improve health-seeking behaviours during pregnancy. In the health facilities studied, different types of antenatal care services were provided, such as educating mothers during ANC visits on the intake of proper diet during pregnancy, vaccinating mothers against tetanus during antenatal check-ups, educating of mothers at ANC sessions about early signs of pregnancy-related problems and precautions. These findings agree with findings of earlier studies^{12,9} which identified the same types of antenatal care services that are provided for women of childbearing age across countries. In another study¹³ which equally lent strong

support to the current findings, it was shown that ANC service is to prepare women for birth, parenthood, and prevent problems for pregnant women, mothers, and babies through early detection, alleviation, and/or management of pregnancy complications. Similarly, the WHO¹⁴ guideline on provision of antenatal care posited that antenatal care services can be provided more effectively through counselling on healthy diet and optimal nutrition, physical activity, tobacco and substance use, malaria and HIV prevention, blood tests and tetanus vaccination; fetal measurements including use of ultrasound; and advice for dealing with common physiological symptoms such as nausea, back pain and constipation. In the view of Islam et al¹⁵. and in line with international best practices, pregnant women are to be provided with support, reassurance, and information about pregnancy and birth, as well as tests and examinations during ANC visits to see if they and their baby are healthy. Thus, in Benue state, ANC services, as a component of maternal health provision is in line with WHO guidelines

The findings of this study revealed that there is a low extent of delivery care services provision in Benue State, Nigeria. This implies that quality delivery care services are not provided in health facilities in Benue State, Nigeria. Poor quality of labor and delivery care on the day of birth is a major contributor to poor maternal and newborn outcomes in low and middle-income countries. The low delivery care services observed in this study has been observed in earlier study¹⁶ which showed that there is low quality of delivery care across the study facilities, particularly in primary care facilities with a low delivery volume. Similarly, Ishola et al.¹⁷ noted that in most maternity units of health facilities in Nigeria, barely half of the health facilities provide low delivery care services. A similar trend of low delivery care provision has been observed in Ethiopia, a northern African country. According to Asres¹⁹, the challenge in providing delivery care services in developing nations is that of “out of stock” syndrome. The reason for poor delivery care provision may be attributed to the inequitably distributed health centers which are usually not well equipped and lack basic supplies for efficient delivery care services.

The finding of this study revealed that that there is a high extent of postnatal care services provision in Benue State, Nigeria. This implies that health facilities in study area give mothers advice on baby feeding or breastfeeding (baby friendly) and family planning services. The health facilities also render postnatal care services like monitoring of blood pressure and temperature of mothers, as well as provision of insecticide treated nets (ITNs). This finding is in line with the WHO recommendation that mothers may not be discharged before 24 hours after birth, and that regardless of the place of birth, it is important that someone accompanies the woman and newborn for the first 24 hours after birth to respond to any changes in her or her baby's condition²⁰. This is not the case in Kenya where there was observed poor postnatal care services²¹, which the authors attributed to the fact that midwives and most health facilities pay little attention to postnatal care, assuming that physical recovery is always guaranteed when a mother has had a normal pregnancy and childbirth.

5. CONCLUSION

It is hereby concluded that there is high extent of antenatal care services provision, low extent of delivery care services provision, and high extent of postnatal care service provision in Benue State, Nigeria.

Acknowledgements

The executive Secretary and Staff of Benue State Primary Health Care Board, especially the workers at the various Primary health care centers, are hereby acknowledged for their cooperation in carrying out this study.

Conflict of Interest

There is no conflict of interest to declare.

REFERENCES

- [1] Oguntimehin, FB, Usar IJ. Assessment of factors influencing utilization of maernal and child health services in the Federal Capital Territory (FCT), Abuja, Nigeria. *Journal of Healthcare and Medical Research*. 2023; 10(3): 43-59
- [2] World Health Organization (WHO). *Recommendations on antenatal care for a positive pregnancy experience*. Geneva, Switzerland; 2017.
- [3] UN DESA. The Sustainable Development Goals Report 2022 - July 2022. New York, USA: UN DESA. © UN DESA. <https://unstats.un.org/sdgs/report/2022/>
- [4] Ope BW. Reducing maternal mortality in Nigeria: addressing maternal health services' perception and experience. *Journal of Global Health Reports*. 2020;4:e2020028. doi:10.29392/001c.12733

- [5] Joachin M, Okoye A, Yvette N, Thomas N, Kosisoehukwu N, Emesobum M et al. Factors Affecting the Utilization of Maternal and Child Health Services in Urban Primary Health Care Centers in Enugu State (Abakpa and Uwani). *Medical Research Archives*. 2024; 12(1): doi:10.18103/mra.v12i1.5064
- [6] Okpala PU, Okoye CL, Adeyemo FO, Iheanacho PN. Utilization of maternal and child health services in Enugu, South East. *Int J Community Med Public Health*. 2019; 6(8): 91-105
- [7] Oladipo IA, Akinwaare MO. Trends and patterns of maternal deaths from 2015 to 2019, associated factors and pregnancy outcomes in rural Lagos, Nigeria: a cross-sectional study. *The Pan African medical journal*. 2023; 44(185): <https://doi.org/10.11604/pamj.2023.44.185.37567>
- [8] Lassi ZS, Musavi NB, Maliqi B. et al. Systematic review on human resources for health interventions to improve maternal health outcomes: evidence from low- and middle-income countries. *Hum Resour Health*. 2016; 14(10): <https://doi.org/10.1186/s12960-016-0106-y>
- [9] Ogbuabor DC, Onwujekwe OE. Implementation of free maternal and child healthcare policies: assessment of influence of context and institutional capacity of health facilities in South-east Nigeria. *Global health action*. 2018; 11(1): 1535031. <https://doi.org/10.1080/16549716.2018.1535031>
- [10] National Population Commission". population.gov.ng. Archived from the original on 10 October 2017. Retrieved 10 October 2017: 10-12
- [11] Yamane Y. *Mathematical Formulae for Sample Size Determination*. 1967.
- [12] Lubbock LA, Stephenson UB. "Utilization of maternal health care services in the department of Matagalpa, Nicaragua," *Rev Panam Salud Publica/Pan Am J Public Health*. 2008; 24: 75-84.
- [13] Fagbamigbe AF, Idemudia ES. Assessment of quality of antenatal care services in Nigeria: evidence from a population-based survey. *Reproductive health*. 2015; 12(88): <https://doi.org/10.1186/s12978-015-0081-0>
- [14] World Health Organization. *Recommendations on Antenatal Care for a Positive Pregnancy Experience*. Geneva: World Health Organization; 4, Implementation of the ANC guideline and recommendations: introducing the 2016 WHO ANC model. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK409109/>
- [15] Islam MA, Sathi NJ, Abdullah HM. et al. Factors Affecting the Utilization of Antenatal Care Services During Pregnancy in Bangladesh and 28 Other Low- and Middle-income Countries: A Meta-analysis of Demographic and Health Survey Data. *Dr. Sulaiman Al Habib Med J*. 2022; 4: 19–31. <https://doi.org/10.1007/s44229-022-00001-2>
- [16] Kruk ME, Leslie HH, Verguet S, Mbaruku GM, Adanu RMK, Langer A. Quality of basic maternal care functions in health facilities of five African countries: an analysis of national health system surveys. *The Lancet. Global health*. 2016; 4(11): e845–e855. [https://doi.org/10.1016/S2214-109X\(16\)30180-2](https://doi.org/10.1016/S2214-109X(16)30180-2)
- [17] Ishola G, Ajala AO, Ugwa E, Aloba G, Okoli U, Rawlins B. et al. Quality of labour and uncomplicated delivery care: a formative assessment of selected health facilities in Ebonyi and Kogi States, Nigeria. *African journal of reproductive health*. 2020; 24(4): 69–81.
- [18] Asres GD. Satisfaction of maternal care among women delivered at Asrade Zewude Memorial Primary Hospital, Bure, West Gojjam, Amhara, Ethiopia: A cross sectional study. *Journal of Public Health and Epidemiology*. 2018; 10(5): 147-154
- [19] World Health Organization. *Maternal health in computer networking*, 2018. Retrieved December 5 2023 from the World Wide <http://www.who.int/topics/maternal-health/en/>
- [20] Roets L, Chelagat D, Joubert A. Strategies to improve postnatal care in Kenya: A qualitative study. *International journal of Africa nursing sciences*. 2018; 9: 62–67.