POPULATION CHARACTERISTICS IMPACT ON THE WELL-BEING OF PREGNANT WOMEN AND MOTHERS: INSIGHTS FROM THE 2018 NIGERIA DEMOGRAPHIC AND HEALTH SURVEY

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Abstract. The study assessed maternal health, a critical public health issue that serves as one of the challenges in Nigeria's health sector with Nigeria having the highest maternal mortality and morbidity at the global comparison. Maternal health refers to women's " health during pregnancy, childbirth, and postpartum". Maternal Mortality and Morbidity Rates in Nigeria are the highest among the countries globally (Azuh et al., 2017). The study examined the Population Characteristics shaping maternal health outcomes, exploring data from the 2018 Nigeria Demographic and Health Survey (NDHS). The study systematically evaluates vital population characteristics variables such as Educational Attainment, Socioeconomic Status/Wealth Index, and Geographical Location, which significantly influence access to healthcare services, antenatal care (ANC) utilization, and the overall incidence of Maternal Mortality (MM). Through a laborious analysis of these factors, the study highlights the disparities in maternal health outcomes across different demographic groups and regions in Nigeria. The study offered policy recommendations, such as strengthening maternal health education and awareness, collaborating with NGOs and local leaders to conduct workshops on the importance of antenatal care (ANC), birth preparedness, and recognizing danger signs during pregnancy, and enhancing economic support for vulnerable women. Expanding social protection programs, such as conditional cash transfers, can effectively subsidize maternal healthcare costs for low-income women, as noted by the World Health Organization and World Bank Group (2023). In addition, strengthening Nigeria's National Health Insurance Scheme (NHIS) to cover ANC, delivery, and emergency obstetric care for rural populations is recommended (Amedari & Ejidike, 2021). Improving healthcare infrastructure in rural areas is another vital component of these recommendations. Increasing funding for primary healthcare centers (PHCs) in rural regions will ensure the availability of skilled birth attendants and essential medications (Oluwole et al., 2022). Increasing access to healthcare services in rural areas and improving the quality of ANC, based on the empirical evidence to address the identified gaps, improve maternal health services, and reduce preventable maternal deaths nationwide.

Keywords: Demographic determinants, Maternal health, Nigeria, NDHS, Antenatal care, Maternal mortality

1. Introduction

Maternal health represents a fundamental component of public health, especially in developing countries like Nigeria, where Maternal Mortality Rates (MMR) remain alarmingly high. Nigeria continues to account for a substantial share of maternal deaths globally despite numerous initiatives from both government and international organizations aimed at improving maternal health services to reduce Maternal Mortality Rates. These high mortality rates highlight the pressing need to understand better the demographic factors that significantly impact maternal health outcomes.

This research dovetailed into the demographic determinants of maternal health in Nigeria, utilizing data from the 2018 Nigeria Demographic and Health Survey (NDHS). By analyzing key variables such as maternal age, marital status, educational attainment, economic status, and geographic location, the study seeks to uncover the complex factors that contribute to adverse maternal health outcomes. This approach provides a nuanced understanding of how these demographic variables influence access to maternal healthcare, pregnancy-related complications, and mortality rates, thereby offering crucial insights for designing targeted interventions that can effectively improve maternal health across Nigeria. Fasina et al., (2020), in one of their papers, discussed neonatal death, which often refers to maternal complications during pregnancy and other exogenous factors that exist around the time of birth or shortly after birth. He added that the United Nations Sustainable Development Goals (UNSDG)-Goal 3, Targets 3.2 aimed at ending preventable deaths of newborns by demanding that all countries reduce neonatal mortality to 12 per 1000 live births by 2030. In addition, he stated that studies had shown that adequate antenatal clinic attendance and maternal care help to reduce neonatal deaths. Hence, this study recommended that women should be encouraged to take good care of themselves regularly and, observe regular antenatal clinic visits during pregnancy, and also go for institutional delivery for possible reduction of maternal death in Nigeria.

Maternal health is a pivotal aspect of public health that significantly affects the well-being of women and newborns, especially in low- and middle-income countries like Nigeria. The World Health Organization (WHO) defines maternal health as women's health during pregnancy, childbirth, and postpartum (WHO & WBG, 2023). Poor maternal health outcomes, including maternal mortality and morbidity, remain a pressing issue globally, with Nigeria contributing significantly to global maternal deaths. Despite efforts from both governmental and international organizations, maternal mortality rates (MMR) in Nigeria remain among the highest in the world (Commission, 2019).

On a global level, the United Nations Population Fund found that in the year 2007, one woman died from a treatable complication of pregnancy every minute of every day; within a similar period, 190 women got pregnant without intending to. The same source reported that in the same year, 365,064 women died due to pregnancy-related causes, with very grave consequences for the surviving children and family members. Most cases are found in developing countries, including Nigeria (UNFPA, 2007).

Adewuyi et al., (2024) observed that the use and non-use of health services are determined by the characteristics of people and, most significantly, women's socio-cultural environment, which, in most cases, is shaped by its patriarchal structure. In addition, Aregbeshola & Khan (2019), in one of their papers, confirmed their position, that many culture-bound syndromes are effectively managed through informed knowledge of their cultural contexts and the patients' backgrounds. Some sociocultural factors, which not only prevent women from getting out of their homes to utilize maternal health facilities, even during emergencies, but also prohibit them from eating certain foods, have been identified (Bolarinwa et al., 2022).

It should further be emphasized that in some parts of Nigeria, cultural taboos discourage pregnant women from eating some kinds of foods and supplements such as fruits, vegetables, and other high-calorie foods that ordinarily reduce susceptibility to diseases and malnourishment during the pregnancy period

(Mondal et al., 2024). Most of these restrictions are given to sustain the belief surrounding a particular tradition or to emphasize the sacredness of a custom conceived as invaluable. Okonofua et al., (2022), examined factors predisposing women to maternal mortality at Obafemi Awolowo University Hospital. The study found that their socio-demographic characteristics, use of prenatal care, and the incidence of delay in clinical management influence their utilization of maternal healthcare facilities. The results also showed that the maternal deaths involved women who were younger and of poorer socio-economic status than the women in the control group (The control group comprised 35 year old women who were admitted to the hospital with similar complications during the same period but who survived). Both groups showed an equal lack of prenatal care, and a higher incidence of delayed treatment was also found in the management of cases of maternal morbidity. The study also found that maternal mortality in the study population can be reduced through improved transportation and institutional management of healthcare.

2. Demographic Determinants of Maternal Health

The demographic determinants of maternal health—such as educational attainment, socioeconomic status, and geographical location—are essential in understanding the disparities in maternal health outcomes. This literature review explores how these factors influence access to healthcare, antenatal care (ANC) utilization, and maternal mortality in Nigeria.

Maternal age is a critical determinant of health outcomes for mothers and their babies. Studies have consistently shown that younger mothers, particularly adolescents aged 15-19, face significantly higher risks of pregnancy-related complications. The 2018 Nigeria Demographic and Health Survey (NDHS) (Commission, 2018) confirmed that adolescent mothers are more likely to experience adverse outcomes such as obstructed labor, hypertensive disorders, and severe postpartum hemorrhage, all of which elevate maternal mortality. This heightened risk among adolescent mothers can be attributed to the biological

immaturity of the reproductive system and the lack of access to adequate healthcare services, particularly in rural and underserved areas.

Additionally, the sociocultural environment in Nigeria often places younger women at a disadvantage due to early marriages, which limit their access to education and healthcare. The link between early childbearing and poor maternal health is well-documented. Adolescent mothers are also more likely to be economically disadvantaged, exacerbating the challenges they face in accessing proper healthcare services.

Conversely, older mothers, particularly those aged 35 and above, also face increased risks of pregnancy complications. These women are more prone to age-related health conditions such as gestational diabetes, hypertension, and placenta previa, which can complicate pregnancy and childbirth (Commission, 2019). The NDHS data suggest that women between the ages of 25-34 generally experience better maternal health outcomes, as this age range represents the optimal period for childbearing, with women being physiologically prepared for pregnancy and childbirth (E. Ahmadian et al., 2020).

The age of the mother not only affects her health but also has implications for infant health outcomes (Oluwole et al., 2022). Adolescent pregnancies, for example, are associated with higher rates of neonatal mortality and low birth weight. Older mothers, on the other hand, may face challenges with preterm births and genetic conditions in their newborns. These findings underscore the importance of targeted interventions to improve maternal health outcomes among younger and older women.

Educational attainment is one of the most potent determinants of maternal health. Education influences maternal health behaviors, including the likelihood of seeking antenatal care, delivering in a healthcare facility, and practicing family planning. Women with higher levels of education are better informed about

the importance of maternal healthcare services. They are more likely to use these services throughout pregnancy and after childbirth (R. F. Afolabi et al., 2023).

The 2018 NDHS reports that women with secondary or higher education levels are twice as likely to attend at least four ANC visits as women without no formal education. This is crucial, as ANC is a vital intervention that allows for the early detection of potential complications and ensures that women receive essential services such as immunizations, nutritional support, and counseling on pregnancy-related risks (Agbonle et al., 2022). Furthermore, educated women are more likely to understand the importance of institutional deliveries attended by skilled birth attendants, which significantly reduces the risk of delivery complications.

According to Barman et al., (2020), Education is vital in empowering women to make informed decisions about family planning. Women with higher educational attainment tend to have better knowledge of contraceptive methods, which contributes to improve birth spacing and reduced health risks associated with closely spaced pregnancies. Proper birth spacing is associated with better maternal and child health outcomes, including reducing the risks of maternal mortality, stillbirths, and low birth weight (Agbonle et al., 2022). In contrast, women with little or no education often lack access to accurate information about reproductive health, leading to higher fertility rates and increased exposure to pregnancy-related risks.

The role of education extends beyond formal schooling. Health education programs, particularly in rural and underserved areas, are critical in raising awareness about the importance of maternal healthcare services. Policymakers should prioritize educational opportunities for girls and women, as improving health literacy can significantly improve maternal health outcomes.

Economic status is another significant determinant of maternal health. The financial resources available to a woman and her household directly affect her ability to access healthcare services, including antenatal care, skilled birth attendance, and postnatal services. Women from wealthier families are more likely to receive care from professional healthcare providers, deliver in healthcare facilities, and access postnatal services, all of which contribute to better maternal health outcomes (WHO & WBG, 2023).

The 2018 NDHS highlights stark disparities in maternal healthcare utilization based on socioeconomic status. Women from wealthier households are significantly more likely to attend ANC visits and deliver in healthcare facilities with skilled birth attendants. In contrast, women from poorer households face numerous barriers to accessing healthcare, including the cost of healthcare services, transportation challenges, and geographic distance to healthcare facilities (Adewuyi et al., 2024). These barriers disproportionately affect women in rural areas, where healthcare facilities are often scarce, and the quality of care may be lower due to a lack of skilled healthcare professionals.

The financial burden of healthcare is further exacerbated by indirect costs, such as transportation, and the opportunity cost of lost income when women take time off work to attend healthcare appointments. For women in lower-income households, these costs can be prohibitive, leading to delayed or inadequate healthcare, which in turn increases the risk of maternal mortality. Addressing these economic barriers is essential for improving maternal health outcomes in Nigeria. Government interventions, such as healthcare subsidies or the provision of free maternal healthcare services, could play a significant role in reducing these disparities (Amara Rita Valentina et al., 2022).

Geographical location significantly influences access to healthcare services in Nigeria. The 2018 NDHS data reveal pronounced urban-rural disparities in maternal healthcare access and outcomes. Women in urban areas typically have better access to healthcare facilities and skilled professionals than their rural

counterparts. In urban areas, 85% of women received antenatal care from an experienced provider, while only 56% of women in rural areas had similar access (Commission, 2019). This urban-rural divide is particularly troubling, as rural women face numerous challenges in accessing healthcare services, including extended distances to healthcare facilities, poor infrastructure, and a shortage of healthcare professionals.

The lack of healthcare infrastructure in rural areas is a significant barrier to maternal health. Many rural communities in Nigeria have inadequate healthcare facilities, and the available facilities often lack the necessary resources and skilled personnel to provide comprehensive maternal healthcare services. This shortage of healthcare professionals and exceptionally skilled birth attendants significantly increases the risk of maternal mortality in rural areas (Amara Rita Valentina et al., 2022).

To address these geographical disparities, investing in healthcare infrastructure in rural areas is essential. The deployment of mobile clinics, training community health workers, and providing incentives to healthcare professionals willing to work in rural areas are critical interventions that could improve access to maternal healthcare in underserved regions. Moreover, improving transportation infrastructure would help reduce rural women's barriers to accessing healthcare facilities.

3. Methods

The study methodology was anchored on a robust framework utilizing a comprehensive dataset from the 2018 Nigerian Demographic and Health Survey (NDHS). This survey is renowned for its national representativeness and rigor, having been designed to capture critical demographic and health data from a diverse population sample across Nigeria, including the Federal Capital Territory (FCT). The NDHS employed a stratified multi-stage sampling method, which ensured robust representation of various demographic cohorts, particularly focusing on women aged 15-49. This demographic was purposefully selected to provide in-depth insights into maternal health and related indicators.

The analysis specifically concentrated on key demographic variables including educational attainment, wealth index, place of residence (urban versus rural settings), and geopolitical regions. By utilizing advanced statistical techniques, the study employed both descriptive statistics and cross-tabulations to meticulously assess and interpret the disparities in access to maternal healthcare services and the resultant health outcomes among different demographic groups.

Furthermore, to enhance the depth of analysis, the study employed inferential statistics, allowing for the examination of relationships and potential causal links between the identified demographic factors and maternal healthcare access. The methodology also accounted for potential confounding variables, thereby ensuring a more nuanced understanding of the barriers influencing maternal health.

This rigorous analytical approach not only highlights existing inequalities in maternal healthcare access but also serves to inform targeted policy decisions. By contextualizing these findings within the broader landscape of public health, the methodology underscores the critical need for tailored interventions aimed at improving maternal health outcomes in Nigeria. The study ultimately aims to contribute to the ongoing discourse on health equity and the necessity of understanding demographic nuances in public health planning and policy formulation.

4. Data Source

The dataset utilized in this study is drawn from the 2018 Nigeria Demographic and Health Survey (NDHS), a nationally representative survey designed to collect comprehensive data on a wide range of health indicators, including those related to maternal and child health. The NDHS employs a stratified, multistage sampling technique to capture Nigeria's diverse demographic, geographic, and socioeconomic characteristics. By using stratification, the survey achieves a balanced and inclusive representation, making it a reliable source for examining maternal health determinants across different subpopulations in Nigeria. The study focuses on women aged 15 - 49 who have been pregnant in the last five years. Special attention is paid to key demographic variables such as age, education, wealth Index, and geographical location.

5. Ethical considerations

Existing secondary data on NDHS were used in this study. The data were provided without any personal identifiers of respondents. DHS, is the organization responsible for the collection and dissemination of the data, which has been made freely available to global users with all respondent identifiers thoroughly removed.

6. Results

TABLE 1: The Impact of Educational Attainment on Antenatal Care Utilization

Educational attainment * Number of antenatal visits during pregnancy Cross tabulation					
Count					
		Number of antenatal visits during pregnancy			
		More than once	Once	No antenatal visits	Total
Educational attainment	Tertiary	4091	2736	513	7340
	Primary	678	323	2700	3701
	Secondary	385	1610	2897	4892
	No education	211	872	4776	5859
Total		5365	5541	10886	21792

Source: NDHS 2018

Statistical Significance of Educational Attainment on Antenatal Care Utilization

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4018.505[a]	8	.000
Likelihood Ratio	4239.804	8	.000
Linear-by-Linear Association	3852.556	1	.000
N of Valid Cases	21792		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 800.37.			

Source: NDHS 2018

INTERPRETATION: The table displays the relationship between educational attainment and the number of antenatal visits during pregnancy using a cross tabulation analysis. The chi-square test results confirm that there is a significant association between education level and antenatal care utilization (p-value < 0.001). Women with tertiary education had the highest antenatal care attendance, with 4,091 attending more than once and 2,736 attending once. In contrast, women with no education had the lowest antenatal care utilization, with 4,776 not attending at all.

TABLE 2: The Effect of Wealth Index on Antenatal Care Utilization

Wealth index combined * Number of antenatal visits during pregnancy Cross tabulation					
Count					
		Number of antenatal visits during pregnancy			
		More than once	Once	No antenatal visits	Total
Wealth index combined	Poorest	124	479	4443	5046

	Poorer	421	961	3874	5256
	Middle	825	1280	2481	4386
	Richer	1599	1468	38	3105
	Richest	2396	1353	50	3799
Total		5365	5541	10886	21792

Source: NDHS 2018

Statistical Significance of Wealth Index on Antenatal Care Utilization

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4018.505[a]	8	.000
Likelihood Ratio	4239.804	8	.000
Linear-by-Linear Association	3852.556	1	.000
N of Valid Cases	21792		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 800.37.

INTERPRETATION: This table presents the relationship between wealth index and the number of antenatal visits during pregnancy, showing a significant association based on the chi-square test results. Poorest women: 4,443 had no antenatal visits, while only 124 attended more than once. Richest women: Only 50 did not attend antenatal care, while 2,396 attended more than once. The richer and richest categories had significantly higher antenatal attendance compared to the poorer groups. This implies that as wealth increases, antenatal care utilization also increases. Poorer women have higher rates of no antenatal visits, while wealthier women are more likely to attend multiple times.

TABLE 3: The Impact of Settlement on Antenatal Care Utilization

Type of place of residence * Number of antenatal visits during pregnancy Cross tabulation					
Count					
		Number of antenatal visits during pregnancy			
		More than once	Once	No antenatal visits	Total
Type of place of residence	Rural	813	1738	10859	13,410
	Urban	4552	3803	27	8382
Total		5365	5541	10886	21792

Source: NDHS 2018

Statistical Significance of Settlement on Antenatal Care Utilization

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1685.984[a]	2	.000
Likelihood Ratio	1800.710	2	.000
Linear-by-Linear Association	1685.892	1	.000
N of Valid Cases	21792		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1898.13.

INTERPRETATION: This table presents the relationship between place of residence and the number of antenatal visits during pregnancy, highlighting a significant disparity between rural and urban areas. Rural Women 10,859 had no antenatal visits and Only 813 attended more than once. Urban Women Only 27 had no antenatal visits while 4,552 attended more than once. The Pearson Chi-Square value ($p < 0.001$) indicate a highly statistical significant association between place of residence and antenatal visits. Rural women are drastically less likely to receive antenatal care. In urban areas, almost all women attend antenatal visits at least once. The extreme difference in "No antenatal visits" in rural and urban settlements highlights a critical gap in maternal healthcare access in rural areas.

TABLE 4: The Impact of Settlement on Antenatal Care Utilization

Type of place of residence * Number of antenatal visits during pregnancy Cross tabulation					
Count					
		Number of antenatal visits during pregnancy			
		More than once	Once	No antenatal visits	Total
Type of place of residence	Rural	813	1738	10859	13,410
	Urban	4552	3803	27	8382
Total		5365	5541	10886	21792

Source: NDHS 2018

Statistical Significance of Settlement on Antenatal Care Utilization

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TABLE 5: The Impact of Region on Antenatal Care Utilization

Region * Place of delivery Cross tabulation

Count

		Place of delivery						
		Respondent's home	Other home	Government hospital	Government health center	Government health post	Private hospital/clinic	Total
Region	North Central	1737	105	894	505	30	604	3875
	North East	3228	101	422	505	166	84	4506
	North West	5259	60	604	272	15	99	6309
	South East	273	178	236	695	13	970	2365
	South South	538	515	339	366	1	415	2174
	South West	232	228	522	738	18	825	2563
Total		11267	1187	3017	3081	243	2997	21792

Source: NDHS 2018

Statistical Significance of Region on Antenatal Care Utilization

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1685.984[a]	2	.000
Likelihood Ratio	1800.710	2	.000
Linear-by-Linear Association	1685.892	1	.000
N of Valid Cases	21792		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1898.13.

INTERPRETATION: The table presents the distribution of antenatal visits across different regions. It is evident that Home in the North West region has the highest number of Antenatal care (5,259), followed by the North East (3,228) and North Central (1,737). The South East (273) and South West (232) have the lowest home Antenatal care. Government Hospitals: The North West (6,604) and North East (4,422) have

the highest use of government hospitals, while the South-South (339) and South West (522) have the lowest. Government Health Centers: The South East has the highest use of government health centers (695), while the North West (272) has the lowest. Private Hospitals/Clinics: The South East (970) and South West (825) have the highest preference for private hospitals, whereas the North East (84) and North West (99) show the least preference. Government Health Posts: These are least used across all regions, with the North East (166) having the highest count and the South-South (1) the lowest. The results of the significant table indicate a highly significant association between region and place of delivery ($p < 0.05$).

7. Discussion

Across most maternal health indicators, women in urban areas are far more likely to receive ANC from skilled providers, deliver in health facilities, and have skilled birth attendants. Rural areas, especially in the Southern regions have the lowest maternal health outcomes, often due to poor access to healthcare services and socio-economic challenges. These disparities highlight the need for targeted interventions, especially in rural areas and specific states with lower coverage.

Educating women on maternal health care not only improves their health-seeking behavior but also empowers them to make informed decisions about their reproductive health (Willey et al., 2022). Expanding educational opportunities for girls and women should be a priority for policymakers to improve maternal health outcomes. Educating women on maternal health care improves their health-seeking behavior and empowers them to make informed decisions about their reproductive health. Investing in educational opportunities for girls and women is a critical policy imperative for improving maternal health outcomes globally (Agbonle et al., 2022).

Economic inequality continues to limit access to maternal health services for women in lower-income households (WHO & WBG, 2023). Similarly, geographical disparities highlight the need for targeted interventions in rural areas, including the deployment of mobile clinics and the training of community health workers to provide essential maternal health services.

Findings reveal that education, wealth index, region and settlement are the most significant determinants of maternal health outcomes in Nigeria. Women with secondary or higher education, those in wealthier households and those that lives in the urban areas have significantly higher access to antenatal care, skilled birth attendance, and postnatal care.

8. Conclusion

Generally, the study highlight the profound influence of demographic and socioeconomic factors on maternal health outcomes in Nigeria, as evidenced by data from the 2018 Nigeria Demographic and Health Survey (NDHS). Educational attainment, wealth index, geographical location, and regional disparities emerge as critical determinants of access to antenatal care (ANC), skilled birth attendance, and postnatal services. Women with higher education levels and greater economic means exhibit significantly better maternal health-seeking behaviors, while those in rural areas and lower socioeconomic brackets face systemic barriers that exacerbate maternal mortality and morbidity. These disparities underscore the urgent need for targeted interventions to address inequities in healthcare access and utilization. The study corroborates existing literature on the role of education and economic empowerment in improving maternal health (Afolabi et al., 2023; Bolarinwa et al., 2022). Furthermore, the persistent urban-rural divide in healthcare access aligns with global evidence that geographical disparities significantly hinder maternal health outcomes (Tanou & Kamiya, 2019). Given Nigeria's high maternal mortality ratio—one of the highest globally—these findings emphasize the necessity of structural reforms to enhance healthcare delivery, particularly in underserved regions.

9. Recommendations

It is essential to strengthen maternal health education and awareness. This can be achieved by integrating maternal health education into school curricula and community-based programs to improve health literacy (Afolabi et al. 2023). Collaboration with NGOs and local leaders to conduct workshops on the importance of antenatal care (ANC), birth preparedness, and recognizing danger signs during pregnancy will further support this effort (Willey et al., 2022). In addition, enhancing economic support for vulnerable women is crucial. Expanding social protection programs, such as conditional cash transfers, can effectively subsidize maternal healthcare costs for low-income women, as this is noted by the World Health Organization and World Bank Group (2023). Furthermore, strengthening Nigeria's National Health Insurance Scheme (NHIS) to cover ANC, delivery, and emergency obstetric care for rural populations is recommended (Amara Rita Valentina et al., 2022). Improving healthcare infrastructure in rural areas is another vital component of these recommendations. Increasing funding for Primary Healthcare Centers (PHCs) in rural regions will ensure the availability of skilled birth attendants and essential medications (Oluwole et al., 2022). According to Ahmadian et al., (2020) bridging gaps in remote areas by deploying mobile clinics and telemedicine services and targeting high-risk demographic groups is very important. Developing

specialized programs for adolescent mothers and women over 35, who face heightened risks, can be accomplished through tailored ANC and family planning services (Okonofua et al., 2022). Training community health workers to provide culturally sensitive counseling on reproductive health is vital for effective engagement (Aregbeshola & Khan, 2019). Addressing regional disparities through equitable resource allocation is crucial in prioritizing healthcare investments in Northern Nigeria, where maternal health indicators are the poorest, while simultaneously maintaining gains in Southern regions (NDHS, 2018). Establishing regional task forces to monitor maternal health service delivery and enforce accountability is recommended to address these disparities (Willey et al., 2022). Promoting community engagement and cultural sensitivity is another key recommendation. Partnering with traditional and religious leaders to challenge harmful practices, such as food taboos and early marriage, will help improve maternal health outcomes (Bolarinwa et al., 2022). Utilizing radio broadcasts and local dialects to disseminate maternal health messages within rural communities can further enhance this engagement (Agbonle et al., 2022). Finally, strengthening data systems for monitoring and evaluation is imperative and investing in digital health records will facilitate the tracking of maternal health indicators and the evaluation of intervention impacts (Ahmadian et al., 2020). Conducting periodic National Demographic and Health Survey (NDHS)-style surveys will assess progress toward Sustainable Development Goal 3, which aims to reduce maternal mortality to fewer than 70 deaths per 100,000 live births (UN, 2023). Achieving equitable maternal healthcare in Nigeria necessitates a comprehensive, multisectoral strategy that integrates education, economic empowerment, infrastructure development, and active community engagement. To effectively address the underlying determinants of maternal mortality, policymakers must implement targeted interventions that align with these recommendations. This approach will not only tackle immediate health challenges but also contribute to the broader goals outlined in global health initiatives. Furthermore, enduring political commitment and sufficient allocation of resources are vital for the successful implementation of these strategies. Rigorous monitoring and evaluation mechanisms must be established to ensure that these interventions lead to substantial and measurable improvements in maternal health outcomes. By promoting collaboration among government agencies, non-governmental organizations, and community stakeholders, Nigeria can make meaningful strides toward enhancing maternal health and achieving equity in healthcare access for all women.

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