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HEALTHCARE DELIVERY AND MORTALITY RATE AT UNIVERSITY OF CALABAR TEACHING HOSPITAL (UCTH), CALABAR, CROSS RIVER STATE, NIGERIA, 2018 - 2023

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Abstract:
This study examined the relationship between healthcare delivery and in-hospital mortality at the University of Calabar Teaching Hospital (UCTH), Calabar, Cross River State, Nigeria. Rising mortality rates in Nigerian public health institutions have raised concern among policymakers and health professionals. The study focused on key dimensions of healthcare delivery, including the availability of medical personnel and access to healthcare facilities, and their association with observed mortality outcomes over the period 2018–2023. An ex-post facto research design was adopted, utilizing both hospital records and structured questionnaires to obtain data from 200 randomly selected respondents. Data were analyzed using the Pearson Product-Moment Correlation Coefficient at a 0.05 level of significance. Findings revealed statistically significant associations between the availability of medical doctors and in-hospital mortality, as well as between access to healthcare facilities and mortality rates. Based on these results, the study recommends targeted government funding to improve hospital infrastructure, recruitment and training of medical personnel, and enhanced Ministry of Health oversight in hospital service delivery to reduce mortality rates.

Keywords: Healthcare delivery, In-hospital mortality, Public health, Teaching hospital, University of Calabar

Introduction

Illness and mortality are integral aspects of human life, with significant social, psychological, and biological implications. While life expectancy has improved globally over the past decades, developing countries, including Nigeria, continue to experience relatively low life expectancy due to high infant, child, and adult mortality (World Health Organization, 2016; Achu et al., 2025). Mortality rates reflect the health and living conditions of populations and are influenced by factors such as access to healthcare, availability of trained medical personnel, and environmental conditions (United Nations, 2013; Nnana & Iloka, 2025). Mortality rate is defined as the number of deaths in a population, standardized per 1,000 individuals per year (WHO, 2016). Infant and child mortality are particularly sensitive to environmental factors, including nutrition, child care practices, and sanitation, in addition to biological factors (Nnana & Iloka, 2025; Preston, 2008). High mortality rates not only indicate public health challenges but also highlight gaps in healthcare service delivery.

Globally, adult mortality was 142 per 1,000 populations in 2016, with the majority of deaths occurring in developing countries due to limited healthcare facilities and inadequate medical personnel (WHO, 2018). While countries such as the United States, Germany, France, and the United Kingdom have recorded declining mortality rates, Nigeria has experienced persistently high mortality rates, with adult mortality increasing from 25.54 per 100 populations in 1970 to 31.83 per 100 populations in 2015, at an average annual growth rate of 2.55 percent (World Data Atlas, 2018). Infant and maternal mortality remain pressing issues; Nigeria loses an estimated 2,300 under-five children and 145 women of childbearing age daily, making it the second largest contributor to global maternal and child mortality (United Nations International Children's Emergency Fund, 2015; Ofem & Ubi, 2023). Several factors have been identified as contributing to high mortality rates in Nigeria, including inadequate access to quality healthcare, insufficient healthcare personnel, poor hospital infrastructure, and low utilization of available services (Tangban, Nnana, James, & Samuel, 2024; Ogunjobi, 2016). In tertiary health institutions such as the University of Calabar Teaching Hospital (UCTH), challenges such as limited availability of medical staff, inadequate equipment, and absenteeism among healthcare workers have been reported, which adversely affect patient care and outcomes (Tangban et al., 2024).

Given this background, the present study aims to investigate the relationship between healthcare delivery and in-hospital mortality at UCTH, Calabar, Nigeria. Specifically, the study examines key dimensions of healthcare delivery, including the availability of medical personnel and access to health facilities, and how these factors influence mortality outcomes. The study seeks to provide empirical evidence that can inform policy and improve service delivery in tertiary health institutions.

Literature Review

This section reviews relevant literature on healthcare delivery and mortality rates in both global and local contexts. It examines global mortality trends and discusses how the availability of healthcare personnel, particularly medical doctors, influences mortality outcomes. The section also highlights empirical studies related to healthcare service delivery and mortality patterns in Nigeria, with particular attention to factors affecting healthcare outcomes in tertiary health institutions.

Global Trends in Mortality

Mortality rate, also referred to as the death rate, is a statistical measure indicating the number of deaths due to a particular cause within a specified population over a given period of time. It is commonly expressed as the number of deaths per 1,000 individuals per year. For instance, a mortality rate of 9.5 per 1,000 people means that approximately 9.5 individuals die annually out of every 1,000 persons in the population, which represents about 0.95 percent of the population. Mortality differs from morbidity, which refers to the prevalence or incidence of disease within a population. A trend in mortality refers to the direction or pattern of change in mortality rates over time, whether increasing, decreasing, or remaining stable. Globally, mortality rates have generally declined over the past several decades due to improvements in medical technology, disease prevention, healthcare delivery systems, and broader socio-economic conditions. These advancements have contributed to increased life expectancy in many parts of the world.

Despite these improvements, mortality rates remain relatively high in many developing countries, particularly in sub-Saharan Africa. Factors such as limited healthcare infrastructure, inadequate medical personnel, poverty, and restricted access to essential health services continue to influence mortality outcomes in these regions (Nnana & Nwadike, 2024).

According to the United Nations (UN, 2017) and the World Health Organization (WHO, 2015; Ofem et al., 2025), recent years have witnessed significant improvements in global health outcomes, including reductions in mortality and increases in life expectancy. However, disparities remain between developed and developing countries in terms of access to quality healthcare services and health outcomes.

Availability of Medical Doctors and Mortality Rates in UCTH

The availability of medical doctors and other healthcare professionals remains a major challenge in many healthcare systems around the world. However, the shortage of medical personnel is more pronounced in Nigeria than in many other African countries. In recent years, Nigeria has experienced challenges in healthcare delivery partly due to the migration of healthcare professionals and inadequate training capacity for new medical personnel. These challenges have implications for healthcare outcomes, including mortality rates (WHO, 2019; James et al., 2025).

In many tertiary health institutions, including the University of Calabar Teaching Hospital (UCTH), the limited number of medical doctors relative to the growing population of patients can place significant pressure on healthcare services. This imbalance may affect the quality and timeliness of healthcare delivery and could potentially contribute to adverse health outcomes if not adequately addressed.

According to WHO (2019), Nigeria has historically experienced high infant and maternal mortality rates. For example, the infant mortality rate, which was estimated at about 100 deaths per 1,000 live births in 2003, had earlier been recorded at approximately 87 deaths per 1,000 live births in 1990. These figures were attributed partly to the low proportion of births occurring in healthcare facilities and the limited number of births attended by trained healthcare professionals. The WHO further reported that, as of the early 2000s, approximately two-thirds of births in Nigeria occurred at home rather than in health facilities. In addition, only slightly more than one-third of births were attended by skilled health personnel such as doctors, nurses, or midwives. Similarly, Nigeria's maternal mortality ratio was estimated at about 800 deaths per 100,000 live births in 2000. These statistics indicate persistent gaps in access to skilled healthcare services, particularly in maternal and child health (WHO, 2019).

The availability of qualified medical practitioners is therefore critical to improving healthcare delivery and reducing mortality rates. Skilled healthcare professionals play a vital role in antenatal care, childbirth, emergency obstetric care, and the management of life-threatening medical conditions. However, evidence suggests that only about six out of ten pregnant women in Nigeria receive antenatal care from trained medical personnel. This situation has significant implications for both maternal and child health outcomes.

The consequences of inadequate healthcare personnel and limited access to skilled medical services are reflected in the persistently high maternal and child mortality rates in many parts of Nigeria (Felicia et al., 2025). Improving the availability of trained healthcare professionals and strengthening healthcare delivery systems remain essential steps toward reducing mortality and improving public health outcomes. The under-five mortality ratio in Nigeria is reported to stand at 201 per 1000 live births (FMIT 2015), meaning that one in five Nigerian children never reach the age of 5. According to the National Strategic Health Development Plan Framework (2009-2015). infant deaths, which account for half of child mortality, have increased from what they were in 1990. With a 13 percent immunization rate for children between 12 and 23 months, Nigeria is the African country with the lowest vaccination rate.

Substantial presence of Acute Respiratory Infections and diarrhoea also contribute to the elevated mortality rates for children (Ministry of Health, 2005). While there might be variations in terms of the ratio of trained medical doctors to patients between countries, the phenomenon is still the same (Tangban & Nnana, 2024). The disparity between the rural and the urban centre is very high. For China and India for example, there is a large degree of variation in access to healthcare. Bhalla (2010) estimated that in 1983, China had 3.71 doctors and 4.84 hospitals beds per 1000 population in urban areas, compared to 0.82 doctors and 1.48 hospital beds per l000 population in rural areas (Nnana, Isaac & Blessing, 2023).

Access to Healthcare Facilities and Mortality Level in UCTH

There is limited access to healthcare facilities and services in Nigeria. Accessibility to medical facilities in Nigeria as in UCTH is a serious problem. There has been proven significant relationship between access to healthcare facilities and mortality rates or levels in the study area. This is a general phenomenon in Nigeria as well as other poor African countries. The insinuation that the healthcare facilities are inadequate has been proven right by the high rate of mortality in the country. The low level of deliveries under standard healthcare delivery services recorded in Nigeria is also an indication that the level of accesses to healthcare facilities and services in Nigeria is very low. Record has it that since independence in I960, Nigeria has had a very limited scope of legal coverage for social protection (1LO, 2014) besides over 90 percent of the Nigerian population being without health insurance coverage (Onwujekwe, Hanson & Uzochukwu, (2012); Nnana, Nwadike, & Okomisor, 2025).

The Nigerian health system has been evolving over the years through health care reforms aiming to address the public health 'challenges confronting it (Scoit-Emuakpor, 2010). This includes: National Health Insurance Scheme (NHIS). National. Immunization Coverage Scheme (NICS), Midwives Service Scheme (MSS), and Nigerian Pay for Performance scheme (IMP) (Uneke, Ezeoha, Ndukwe, Oyibo & Onwe, 2013).

Theoretical Framework

The Health Belief Model

The Health Belief Model (HBM) is a widely used theoretical framework for explaining health-related behaviours. The model was developed in the 1950s by social psychologists Godfrey M. Hochbaum, Irwin M. Rosenstock, and Stephen Kegels while working with the U.S. Public Health Service. The model was initially designed to explain why many individuals failed to participate in disease prevention and screening programs, despite the availability of health services. Over time, it has become one of the most influential theories used to understand health-seeking behaviour and healthcare utilization. The central assumption of the Health Belief Model is that an individual's decision to engage in a health-related behaviour is influenced by personal beliefs and perceptions about health conditions and available healthcare interventions. The model identifies several key constructs that influence health behaviour. These include perceived susceptibility, perceived severity, perceived benefits, and perceived barriers.

Perceived susceptibility refers to an individual's belief about the likelihood of experiencing a health condition or illness. Perceived severity relates to an individual's assessment of the seriousness of the condition and its potential consequences. Perceived benefits refer to the belief that a particular health action or medical intervention will reduce the risk or severity of the illness. In contrast, perceived barriers refer to the individual’s evaluation of obstacles that may discourage engagement in the recommended health behaviour, such as financial cost,

limited access to healthcare services, or fear of medical procedures. Later developments of the model also introduced cues to action, which are triggers that motivate individuals to take health-related actions, and self-efficacy, which refers to an individual's confidence in their ability to successfully perform a health behaviour (Rosenstock, 1974; Rosenstock, Strecher & Becker, 1988).

The Health Belief Model is relevant to the present study because it provides a useful framework for understanding how individuals utilize healthcare services and how healthcare system factors may influence health outcomes. In the context of healthcare delivery at the University of Calabar Teaching Hospital, patients' health-seeking behaviour may be influenced by their perceptions of illness severity, the perceived benefits of hospital treatment, and the barriers associated with accessing healthcare services. Barriers such as limited availability of medical personnel, long waiting times, or inadequate healthcare infrastructure may discourage timely utilization of healthcare services.

When patients delay or avoid seeking medical care due to these perceived barriers, health conditions may worsen, thereby increasing the risk of complications and mortality. Conversely, when healthcare services are accessible and patients perceive significant benefits in seeking treatment, the likelihood of timely medical intervention increases, which may contribute to improved health outcomes and reduced mortality rates. Therefore, the Health Belief Model provides a useful theoretical lens for examining how healthcare delivery factors may influence mortality outcomes at the University of Calabar Teaching Hospital between 2018 and 2023.

Methodology

Research Design

This study adopted an ex-post facto research design, also known as causal-comparative research design. An ex-post facto design is appropriate for studies in which the independent variables cannot be manipulated by the researcher because the events under investigation have already occurred. In this study, healthcare delivery and mortality outcomes had already taken place within the hospital setting, making it impossible for the researcher to control or manipulate these variables. Therefore, the design enabled the researcher to examine the relationship between healthcare delivery factors and mortality outcomes based on existing conditions and records.

The ex-post facto design is particularly suitable for healthcare research because it allows investigators to analyze relationships between variables retrospectively using available data and respondents' experiences. In the context of this study, the design made it possible to assess how elements of healthcare delivery, such as the availability of medical personnel and service accessibility, may be associated with mortality patterns observed in the hospital.

Study Area

The study was conducted at the University of Calabar Teaching Hospital located in Calabar, Cross River State, Nigeria. The hospital is a major tertiary healthcare institution that provides specialized medical services to residents of Cross River State and neighboring states. It also serves as a referral center for primary and secondary healthcare facilities in the region. Due to its strategic role in healthcare delivery and the large number of patients it serves annually, the hospital provides a suitable setting for examining issues related to healthcare delivery and mortality outcomes.

Population of the Study

The target population of the study consisted of patients receiving medical care at the University of Calabar Teaching Hospital within the period covered by the study. The population also included relevant healthcare personnel who were directly involved in service delivery and patient management in the hospital. These healthcare personnel included medical doctors, nurses, and hospital administrators whose roles are closely related to healthcare service provision and patient outcomes.

Sample Size and Sampling Technique

A sample size of 200 respondents was selected for the study. The sample size was considered adequate for obtaining representative responses from the target population while allowing for manageable data collection and analysis.

The simple random sampling technique was adopted to ensure that each member of the target population had an equal chance of being selected for the study. Specifically, the balloting method with replacement was used in selecting respondents. Under this procedure, the names or identification numbers of eligible respondents were written on slips of paper and placed in a container. A slip was randomly selected, and after recording the respondent's participation, the slip was returned to the container before the next selection was made. This process ensured randomness and minimized selection bias in the sampling process.

Instrument for Data Collection

The primary instrument for data collection was a structured questionnaire designed by the researcher. The questionnaire consisted of two main sections. Section A contained items relating to respondents' demographic characteristics such as age, gender, and occupation. Section B contained questions designed to obtain information on aspects of healthcare delivery and their possible relationship with mortality outcomes in the hospital.

The questionnaire items were structured using close-ended questions to facilitate easy response and quantitative analysis. The instrument was administered directly to respondents within the hospital environment.

Validity and Reliability of the Instrument

To ensure the validity of the instrument, the questionnaire was subjected to expert review by specialists in health research and social science methodology. Their feedback helped to ensure that the items adequately measured the variables of healthcare delivery and mortality-related outcomes.

The reliability of the instrument was ensured through a pilot test conducted with a small group of respondents who were not part of the main study sample. The responses obtained from the pilot test were analyzed to confirm the consistency and clarity of the questionnaire items before the final administration.

Ethical Considerations

Ethical standards were strictly observed during the conduct of the study. Permission was obtained from the appropriate authorities of the University of Calabar Teaching Hospital before the administration of the questionnaire. Participation in the study was voluntary, and respondents were informed about the purpose of the research. Informed consent was obtained from all participants before data collection. Furthermore, respondents were assured of confidentiality and anonymity, and the information provided was used strictly for academic purposes. No identifying information was disclosed in the analysis or reporting of the study findings.

Table 1: Demographic Variables of the Respondents

Variables	Respondents	Frequency	Percentage
Gender	Male	127	63.5
	Female	73	36.5
Total		200	100
Age	Below 20 years	11	5.5
	20-30yrs	45	22.5
	31-40yrs	79	39.5
	41-50yrs	36	18
	51-60yrs	26	13
	61 yrs and above	3	1.5
Total		200	100
Marital status	Single	72	36
	Married	102	51
	Divorced/separated	13	6.5
	Separated	6	3
	Widow	7	3.5
Total		200	100
Educational qualification	No formal education	0	0
	Primary education	0	0
	Secondary education	63	31.5
	Tertiary education	137	68.5
Total		200	100
Occupation/designation	Medical doctor	21	10.5
	Nurse	26	13
	Administrative staff	42	21
	Patients	75	37.5
	Patient's relatives	26	13
	Radiographers	10	5
Total		200	100

Source: Field survey, 2026

The male gender in the sample was more than the female counterpart. As represented on table 1, 127, which represented 63.5 percent of the sampled population in the study we're males. The female respondents were just 35.5 percent. On the age distribution of the sampled respondents in the research conducted in University of Calabar Teaching Hospital on healthcare services and mortality, the table shows that, out of the 200 sampled, 11 (5.5 percent) were below the age of 20 years. It was found that 45 (2.5 percent) of the total sample respondents were between the age of 20 to 30. The respondents that fell under the ages of 3 1 and40 were 79 (39.5 percent). As represented also on the table, 3 8 (18 percent) of the respondents were between the ages of 41 to 50. For 26 (13 percent) of the respondents, their ages range were between 51 and 60. In the sample, 3 respondents identified their ages to be from 61 years and above. The marital status as gathered in the course of the research, it shows that majority of the sampled population were married, 102 respondents, representing 51 per cent of the overall sample constituted the married population. The sample respondents that were not married were 72 (36 per cent). The divorced respondents were 13 (6.5 percent). Only 6 (3 percent) of the sample were separated from their spouses, and 7, which represented 3.5 percent of the total.

Teaching Hospital is shown on table 1 revealed that the respondents were classified under those with secondary educational qualification and those with tertiary education qualification. It means that none of the respondent had below secondary education.

It was thus found that 63 respondents which represented 31.5 percent of the sample had secondary education qualification. The sample with tertiary education constituted the larger part of the sample. This category was 137 (68.5 percent). Occupation distribution on the last column of table 1 above indicate that medical doctors formed 21 (10.5 percent) of the total sample of 200. In the study, nurses constituted 26 (13 percent). Students as shown on the table were 10 (3.33 percent). The administrative staff was 42 (21 percent). The patients numbered 75 (37.5 percent). The patients' relations selected and observed in the study were 26 (13 percent). Other, identified as the paramedical staffs that was observed in the study were 10 (5 percent) as indicated on the table 1.

Table 2: Statistic of respondent's views on availability of doctors on doctors in the hospital and the effect on mortality rate

Mortality level in UCTH

Variables	Sample size	Actual Response								Grand total	Grand %
		SA	A	Total	%	D	SD	Total	%		
Ql	200	146	31	177	88.5	16	7	23	11.5	200	100
Q2	200	149	36	182	91	11	7	18	9	200	100
Q3	200	108	51	159	79.5	30	11	41	20.5	200	100
Q4	200	87	40	127	63.5	34	39	73	36.5	200	100
Q5	200	98	51	149	74.5	47	4	51	25.5	200	100
Grand	1000	588	209	794	397	138	68	206	103	1000	500

Source: Field survey (2026)

Table 2 presents the sample size and respondents' perceptions regarding the availability of medical doctors in hospitals and its effect on mortality rates. The responses indicate that the number of medical doctors in any health facility significantly influences mortality rates. The findings of the study show that mortality rates tend to be lower in hospitals where there is an adequate supply of medical doctors. The researcher specifically sought to determine whether mortality rates in teaching hospitals could be linked to the availability of doctors. It was established that hospitals with sufficient medical doctors experience lower mortality rates. Out of the 200 respondents, 182 (91%) indicated that mortality rates tend to increase in hospitals or medical facilities with limited numbers or absence of medical personnel/doctors.

Furthermore, the study found that at the University of Calabar Teaching Hospital (UCTH), the number of medical doctors is insufficient to meet patient needs, as reported by 159 respondents (79.5% of the sample). The patient-to-doctor ratio is very high, with too few doctors managing a large patient population.

The study also observed that mortality rates at UCTH were particularly high for chronic diseases such as hepatitis and diabetes. Among the 200 respondents, 127 (63.5%) reported that mortality rates were high in the hospital, and 149 respondents (74.5%) attributed this high mortality rate to the insufficient number of medical doctors.

Table 3: Statistics of response on healthcare facilities and mortality level in UCTH Sample

Variable	Sample size	Actual Response								Grand total	Grand %
		SA	A	Total	%	D	SD	Total	%		
Q6	200 200	65	70	135	65.5	46	19	65	32.5	200	100
Q7		109	63	182	91	12	6	18	9	200	100
Q8	200	78	80	158	79	36	6	42	21	200	100
Q9	200	93	71	164	82	32	4	36	18	200	100
Q10	200	107	60	167	83.5	22	11	33	16.5	200	100
Total	1000	452	344	806	401	148	46	194	97	1000	500

Source: Field survey (2026)

Health care facility is a very essential element in the healthcare services. Without medical facilities, medical doctors would do less or nothing to promote good health, provide necessary care and reduce mortality rate. It was also observed that medical facility is cardinal in mortality rate in teaching hospital as well as any healthcare centre. In our observation of 200 respondents, we obtained from 135 (65.5 per cent) out of 200 that mortality rates are reduced with adequate healthcare facilities. This means that, adequate medical facilities for the treatment of all forms of ailments lead to the reduction in mortality in the hospital. Even though availability of medical facilities reduces the rate of mortality, the study found that they are inadequate in UCTH. 91 per cent of the sample representing the study population provided that University of Calabar was lacking in some medical facilities needed to treat most ailment.

Based on the observation and interview with some key informants, most of the facilities are obsolete. This information was also provided by 158 (79 per cent) of a sample of 200 done through the administration of instruments. The study found that because of the lack of some essential medical facilities, patients are being referred carryout medical test, scanning and x-rays outside the hospital. The information was provided by 164 (82 per cent) of the sample. Lastly, we found that most of the death in UCTH was linked to poor healthcare facilities. This information was given by over 83 percent of the sample.

Hypothesis

Table 4: Descriptive statistics of the availability of medical Doctor and mortality

	N	Range	Sum	Mean		Std. Deviation	Variance	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error
Availability of Medical Doctor	6	667.00	1588.00	264.6667	106.17742	260.08050	67641.867	5.879	1.741
Mortality level	6	188.00	412.00	68.6667	28.64107	70.15602	4921.867	4.365	1.741
Valid N (listwise)	6								

Table 5: Correlation co-efficient of the availability of medical Doctor and mortality

		Availability Medical Doctors	of Mortality rate
Availability of Medical Doctors	Pearson Correlation	1	.935*
	Sig.(2-tailed)		.006
	N	6	6
Mortality level	Pearson Correlation	.935**	1
	Sig.(2-tailed)	.006	
	N	6	6

**. Correlation is significant at the 0.01 level (2-tailed).

Decision Rule and Hypothesis Testing

The decision rule for hypothesis testing states that the null hypothesis (H_0) should be rejected if the p-value is less than the chosen level of significance ($\alpha = 0.05$). Conversely, the null hypothesis should be accepted if the p-value is greater than the level of significance.

The analysis produced a correlation coefficient (r) of 0.935, indicating a strong positive relationship between the availability of medical doctors and mortality level at the University of Calabar Teaching Hospital. The p-value obtained was 0.003, while the level of significance adopted for the study was 0.05.

Since the p-value (0.003) is less than the level of significance (0.05), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This implies that there is a statistically significant relationship between the availability of medical doctors and mortality level at the University of Calabar Teaching Hospital.

Discussion of Findings

The findings of this study revealed that there is a significant relationship between the availability of medical doctors and mortality levels at the University of Calabar Teaching Hospital. The study also found a significant relationship between access to healthcare facilities and mortality levels in the hospital. These findings suggest that the availability of healthcare personnel and accessibility to healthcare services are important determinants of health outcomes. The finding regarding the relationship between the availability of medical doctors and mortality levels indicates that inadequate medical personnel may contribute to increased mortality in healthcare institutions. This result is consistent with reports by the World Health Organization (2012), which emphasized that shortages of trained healthcare professionals, particularly those involved in maternal and child health services, contribute significantly to high mortality rates in developing countries. The report further noted that limited access to skilled healthcare professionals during childbirth and antenatal care remains a major challenge in Nigeria. According to the WHO, only about six out of ten pregnant women in Nigeria receive antenatal care from trained health personnel, which increases the risk of maternal and infant mortality.

The study also found that accessibility to healthcare facilities is significantly related to mortality levels. This implies that difficulties in accessing healthcare services may delay timely medical intervention and consequently increase the risk of adverse health outcomes. This finding supports earlier observations by the World Health Organization (2008), which highlighted that limited access to quality healthcare services remains a critical public health

challenge in Nigeria. According to the report, several barriers affect access to healthcare, including financial constraints, long distances to health facilities, and transportation difficulties.

These barriers often prevent patients from seeking timely medical care, thereby increasing the likelihood of complications and mortality. The findings of this study therefore reinforce the argument that improving healthcare accessibility and increasing the availability of qualified medical personnel are essential strategies for reducing mortality rates in tertiary healthcare institutions such as the University of Calabar Teaching Hospital.

Conclusion

This study examined the relationship between healthcare delivery and mortality at the University of Calabar Teaching Hospital. The findings indicate that both the availability of medical doctors and accessibility to healthcare facilities have a significant impact on mortality levels within the hospital. Specifically, the study revealed that the limited number of qualified medical doctors is insufficient to meet the health needs of patients, and that barriers to accessing healthcare services contribute to delayed treatment and higher mortality.

The study underscores that the effectiveness of healthcare service delivery is a critical determinant of patient outcomes. Poor service delivery, combined with inadequate human resources and limited access to facilities, contributes to elevated mortality rates. These findings highlight the urgent need for strategic interventions to improve healthcare delivery, including the training and recruitment of additional medical personnel, the expansion of healthcare infrastructure, and the removal of access barriers for patients.

Therefore, improving the efficiency and effectiveness of healthcare delivery at the University of Calabar Teaching Hospital and, by extension, the Nigerian healthcare system has the potential to significantly reduce mortality rates and enhance population health outcomes. Policymakers and health authorities should prioritize investments in human resources, facility development, and service accessibility to ensure that all patients receive timely and adequate medical care.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. Prioritize Healthcare Funding: The Ministry of Health and relevant government agencies should allocate adequate resources to the health sector, ensuring that hospitals such as the University of Calabar Teaching Hospital have sufficient funding for the recruitment, training, and retention of qualified medical personnel, as well as for essential medical equipment and facility improvements.
2. Invest in Human Resource Development: The government should implement targeted programs to train and retain healthcare professionals, including doctors, nurses, and skilled health workers. Special attention should be given to increasing the number of personnel capable of providing maternal and child health services, as these were identified as critical factors influencing mortality rates.
3. Enhance Healthcare Accessibility: Efforts should be made to reduce barriers to healthcare access for patients. This includes improving transportation networks to healthcare facilities, subsidizing medical costs where necessary, and expanding the availability of healthcare services in underserved areas.
4. Stakeholder Engagement in Program Planning: Healthcare stakeholders, including government agencies, hospital administrators, and community representatives, should be actively involved in the planning, implementation, and monitoring of healthcare

programs. This collaborative approach will ensure that healthcare interventions are sustainable, responsive to local needs, and effectively reduce mortality rates.

5. Strengthen Monitoring and Evaluation Systems: The Ministry of Health should establish robust monitoring and evaluation mechanisms to track healthcare delivery performance, identify gaps in service provision, and ensure that interventions effectively improve patient outcomes.

References

Achu, A. A., Jacob, O. E., Michael, T. O., Okongo, J. N., Fedelis, N. A., Tangban, E. E., ... & James, R. D. (2025). Human trafficking issue on tourism industry in south-south geo-political zone, Nigeria. *Multidisciplinary Reviews*, *8*, e2025236.

Ashitey, E. (2014). *Health services and mortality estimation in developing countries*. Accra: Health Policy Press.

Bhalla, S. (2010). *Healthcare access and rural–urban disparities in developing countries*. New Delhi: Oxford University Press.

Federal Ministry of Health (FMOH). (2005). *National health policy*. Abuja: Federal Ministry of Health.

Federal Ministry of Health (FMOH). (2008). *National strategic health development plan framework (2009–2015)*. Abuja: Federal Ministry of Health.

Felicia, A. D., Egba, E. T., Nnana, O. O., Emeka, J. O., Edem, E., Queen, O. A., Ejukwa, O., Akaninyene, U. U., Francis, A. U., Cletus, E. O., Agnes, A. E., Daniel, D. J., Eja, I. E., Ojiho, I. H., & Runyi, D. J. (2025). Spatial pattern of health facilities and disease in Calabar. *International Research Journal of Multidisciplinary Scope (IRJMS), 6*(2), 1350– 1364.

FMIT. (2015). *Nigeria demographic and health statistics report*. Abuja: Federal Ministry of Information and Technology.

Gaisie, S. K. (2016). Socio-economic determinants of infant and child mort ality in sub-Saharan Africa. *African Population Studies, 30*(2), 2453–2465.

International Labour Organization (ILO). (2014). *World social protection report 2014/15*. Geneva: International Labour Organization.

James, R. D., Andornimye, O. A., Ukpanukpong, J. B., & Nsoja, J. P. (2025). The Impact of# EndSARS Protests on Tourism Infrastructure in Calabar Metropolis, Cross River State, Nigeria. *MSI Journal of Medicine and Medical Research (MSIJMMR),* 6(2), 1-13

National Strategic Health Development Plan (NSHDP). (2009). *National strategic health development plan framework (2009–2015)*. Abuja: Federal Ministry of Health.

Nnana, O. O., & Iloka, K. I. (2025). Cigarette smoking and health of youths in Biase Local Government Area of Cross River State, Nigeria. *Journal of Management (Interdisciplinary), 1*(1), 143–156.

Nnana, O. O., & Iloka, K. I. (2025). Traditional medical practices and healthcare utilization in Akpabuyo, Cross River State, Nigeria. *Journal of Political Discourse, 3*(1), 273–286.

Nnana, O. O., & Isaac, O. H. (2024). The impact of drug use on the economic development of the people of Yakurr Local Government Area of Cross River State. *Unicross Journal of Science and Technology (UJOST), 3*(3), 109–119.

Nnana, O. O., & Nwadike, N. C. (2024). Appraisal of impact and utilization of women empowerment programmes on poverty alleviation in the Central Senatorial District of Cross River State, Nigeria. *Wukari International Studies Journal, 8*(6), 127–143.

Nnana, O. O., Isaac, H. O., & Blessing, U. L. (2023). NDDC developmental studies and wellbeing of rural dwellers in Southern Senatorial District of Cross River State, Nigeria. *Journal of Public Administration, Policy and Governance Research (JPAPGR), 1*(4),

114–121.

Nnana, O. O., Nwadike, N. C., & Okomisor, O. L. (2025). Domestic violence and women's participation in community development in Calabar Municipality, Cross River State, Nigeria. *Journal of Contemporary Research (JOCRES), 4*(1), 64–86.

Ofem, N. O., & Ubi, L. O. (2023). Healthcare delivery and rural development in Ikot Ekpene Local Government Area, Nigeria. *Multi-Disciplinary Journal of Research and Development Perspectives, 13*(2), 256–270.

Ofem, N. O., Ubi, L. O., Okomisor, O. L., James, R. D. (2025). Socio-Economic Factors of Teenage Prostitution in Calabar Municipal: Implications for Social Work Practice. *Journal of Contemporary Research (JOCRES*) 4 (1), 1- 17

Ogunjobi, L. (2016). Maternal mortality and reproductive health challenges in Nigeria. *Nigerian Journal of Clinical Practice, 19*(3), 315–320.

Onwujekwe, O., Hanson, K., & Uzochukwu, B. (2012). Examining inequities in incidence of catastrophic health expenditures on different healthcare services and health facilities in Nigeria. *PLoS ONE, 7*(7), e40811. https://doi.org/10.1371/journal.pone.0040811

Premium Times. (2018, August 5). Nigeria ranks third in global newborn deaths – UNICEF report. https://www.premiumtimesng.com

Preston, S. H. (2008). *Population studies and the determinants of mortality*. Oxford: Blackwell Publishing.

Scott-Emuakpor, A. (2010). The evolution of health care systems in Nigeria: Which way forward in the twenty-first century? *Nigerian Medical Journal, 51*(2), 53–65.

Tangban, E. E., & Nnana, O. O. (2024). Social work implication in overcoming insecurity and kidnapping in Calabar, Cross River State, Nigeria. *Kwararafa Security Review, 1*(1), 15–28.

Tangban, E. E., Nnana, O. O., James, R. D., & Samuel, S. E. (2024). Income inequality and social exclusion in Cross River State: Implications for individual involvement in crime. *Multi-Disciplinary Journal of Research and Development Perspectives, 13*(1), 277–286.

Tega, D. (2015). Maternal mortality crisis in Nigeria: A UNICEF perspective. *Journal of Public Health in Africa, 6*(2), 45–50.

United Nations (UN). (2012). *World population prospects: The 2012 revision*. New York: United Nations Department of Economic and Social Affairs.

United Nations (UN). (2013). *World mortality report 2013*. New York: United Nations.

United Nations (UN). (2017). *World population prospects: The 2017 revision*. New York: United Nations Department of Economic and Social Affairs.

World Bank. (2016). *World development indicators*. Washington, DC: World Bank.

World Data Atlas. (2018). Nigeria – Adult mortality rate. https://knoema.com

World Health Organization (WHO). (2008). *Trends in maternal mortality: 1990–2008*. Geneva: World Health Organization.

World Health Organization (WHO). (2012). *Global health observatory data repository*. Geneva: World Health Organization.

World Health Organization (WHO). (2015). *World health statistics 2015*. Geneva: World Health Organization.

World Health Organization (WHO). (2016). *Global health estimates 2016*. Geneva: World Health Organization.

World Health Organization (WHO). (2018). *World health statistics 2018: Monitoring health for the SDGs*. Geneva: World Health Organization.

World Health Organization (WHO). (2019). *Nigeria health profile and mortality indicators*. Geneva: World Health Organization.