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Institutional and Healthcare Provider Factors Influencing Out-of-Hospital Delivery in Bayelsa State, Nigeria

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ABSTRACT

This study examined institutional and healthcare provider-related factors contributing to out-of-hospital delivery among women in Bayelsa State, Nigeria. A descriptive cross-sectional research design was adopted. Data were collected from antenatal and postnatal women attending selected healthcare facilities using a structured questionnaire. Descriptive and inferential statistics were used for data analysis. Findings revealed that long distances to health facilities, high costs of maternal healthcare services, poor infrastructure, and inadequate medical equipment significantly influenced women's decisions to deliver outside hospitals. Additionally, negative attitudes of healthcare providers, including poor communication, lack of empathy, disrespect, and unprofessional conduct, were identified as key deterrents to facility-based childbirth. Chi-square analysis indicated a statistically significant relationship between institutional and healthcare provider factors and out-of-hospital delivery ($p < 0.05$). The study emphasizes the need for health system strengthening, improved accessibility, subsidized maternal healthcare services, and training in respectful maternity care. These interventions are essential to enhance facility-based deliveries and improve maternal and neonatal health outcomes.

INTRODUCTION

Maternal health remains a global public health priority, particularly in low- and middle-income countries where access to quality healthcare services is limited. One of the most critical determinants of maternal and neonatal survival is the place of delivery. Facility-based deliveries attended by skilled birth attendants significantly reduce maternal and neonatal morbidity and mortality (World Health Organization [WHO], 2020).

Out-of-hospital delivery refers to childbirth that occurs outside recognized healthcare facilities, including homes, churches, and traditional birth attendants' centers. This practice is associated with increased risks due to lack of skilled care and limited access to emergency obstetric services (Bohren *et al.*, 2015). Despite global efforts to promote institutional deliveries, many women in sub-Saharan Africa continue to deliver outside health facilities (United Nations Children's Fund [UNICEF], 2021).

In Nigeria, maternal mortality remains alarmingly high, with a significant proportion attributed to complications arising from non-institutional deliveries (National Population Commission [NPC] & ICF, 2019). Institutional barriers such as high healthcare costs, poor infrastructure, and limited accessibility hinder the utilization of healthcare facilities during childbirth. Additionally, healthcare provider-related factors including negative attitudes, poor communication, and lack of empathy discourage women from seeking hospital-based delivery services (Kruk *et al.*, 2018).

Bayelsa State, located in the Niger Delta region, faces

unique geographical challenges characterized by riverine terrain and inadequate healthcare infrastructure. These challenges often compel women to opt for out-of-hospital deliveries. Understanding the institutional and healthcare provider factors influencing this decision is essential for improving maternal healthcare utilization.

Objectives of the Study

- 1.To identify institutional factors influencing out-of-hospital delivery in Bayelsa State.
- 2.To examine healthcare provider factors influencing out-of-hospital delivery in Bayelsa State.
- 3.To determine the relationship between these factors and out-of-hospital delivery.

LITERATURE REVIEW

Institutional Factors Influencing Out-of-Hospital Delivery

Institutional factors such as accessibility, affordability, and quality of healthcare services significantly influence women's choice of delivery location. Long distances to health facilities and inadequate transportation systems often discourage women from utilizing skilled birth services (Gabrysch & Campbell, 2009). High healthcare costs also serve as a major barrier, particularly in developing countries where out-of-pocket expenditure is prevalent (WHO, 2020).

Poor infrastructure, including inadequate medical equipment, unreliable electricity, and insufficient staffing, further limits access to quality maternal care. Studies have

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shown that women are more likely to deliver at home when healthcare facilities lack essential resources (Doctor *et al.*, 2018).

Healthcare Provider Factors Influencing Out-of-Hospital Delivery

Healthcare provider attitudes play a crucial role in determining maternal healthcare utilization. Disrespectful and abusive treatment during childbirth discourages women from seeking institutional delivery services (Bohren *et al.*, 2015). Poor communication, lack of empathy, and neglect negatively influence patient satisfaction and trust in healthcare systems (Kruk *et al.*, 2018).

Respectful maternity care has been identified as a critical component of quality healthcare and is essential for improving maternal health outcomes (WHO, 2018).

Theoretical Framework: The Three Delays Model

This study is anchored on the Three Delays Model proposed by Thaddeus and Maine in 1994. The model provides a comprehensive framework for understanding the barriers that contribute to maternal morbidity and mortality, particularly in low- and middle-income countries. It explains how delays at critical stages of healthcare utilization influence maternal outcomes and access to skilled birth services (Thaddeus & Maine, 1994). The model identifies three phases of delay that hinder women from obtaining timely and adequate obstetric care:

Delay in Deciding to Seek Care

This delay occurs when a woman or her family fails to recognize complications or hesitates to seek professional medical assistance. Factors contributing to this delay include low levels of education, cultural beliefs, financial constraints, lack of awareness of danger signs, and limited autonomy in decision-making. Although important, this study primarily focuses on institutional and healthcare provider factors rather than socio-cultural determinants.

Delay in Reaching Healthcare Facilities

The second delay involves barriers that prevent women from physically accessing healthcare institutions. These barriers include long distances to health facilities, poor road networks, lack of transportation, high transportation costs, and difficult geographical terrains. In Bayelsa State, the predominantly riverine environment significantly affects access to healthcare services, thereby increasing the likelihood of out-of-hospital deliveries.

Institutional factors such as inadequate distribution of healthcare facilities and poor infrastructure contribute significantly to this delay. When access to healthcare services is limited, pregnant women are more likely to deliver at home or seek assistance from traditional birth attendants.

Delay in Receiving Adequate and Appropriate Care

The third delay occurs within healthcare facilities and is associated with the quality of care provided. It includes shortages of skilled personnel, inadequate medical equipment, poor infrastructure, prolonged waiting times, and inefficient referral systems. Healthcare provider-related factors such as negative attitudes, poor communication, lack of empathy, and disrespectful maternity care also contribute significantly to this delay. Women who experience mistreatment or perceive healthcare services as substandard may avoid institutional delivery in subsequent pregnancies, thereby increasing the prevalence of out-of-hospital births (Bohren *et al.*, 2015).

Relevance of the Model to the Study

The Three Delays Model provides a suitable theoretical basis for examining institutional and healthcare provider factors influencing out-of-hospital delivery in Bayelsa State. Specifically:

1. Institutional factors such as distance to healthcare facilities, high costs of services, poor infrastructure, and inadequate equipment contribute primarily to the second delay (delay in reaching care).

2. Healthcare provider factors such as poor communication, lack of empathy, and disrespectful treatment contribute to the third delay (delay in receiving adequate care).

These delays discourage women from utilizing healthcare facilities for childbirth, thereby increasing the incidence of out-of-hospital deliveries. By applying this model, the study identifies systemic gaps within the healthcare system and provides evidence-based recommendations for improving maternal healthcare utilization.

Conceptual Implication of the Study

The framework illustrates that reducing the second and third delays through improved accessibility, affordability, and quality of care will enhance facility-based deliveries and contribute to the reduction of maternal and neonatal mortality. This aligns with global efforts toward achieving Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all.

MATERIALS AND METHODS

Research Design

A descriptive cross-sectional research design was adopted for this study. This design was considered appropriate because it allows for the systematic collection and analysis of data from a defined population at a single point in time. It also enables the identification and examination of relationships between variables without manipulating them. The design facilitated the assessment of institutional and healthcare provider factors influencing out-of-hospital delivery among women in Bayelsa State.

Study Area

The study was conducted in Bayelsa State, located in the

South-South geopolitical zone of Nigeria. The state was created in 1996 and has its capital in Yenagoa. Bayelsa is predominantly riverine, characterized by creeks, swamps, and difficult terrains that often limit access to healthcare services. These geographical challenges significantly influence maternal healthcare utilization, particularly facility-based deliveries. The state comprises eight Local Government Areas: Brass, Ekeremor, Kolokuma/Opokuma, Nembe, Ogbia, Sagbama, Southern Ijaw, and Yenagoa. Healthcare services are provided through primary, secondary, and tertiary institutions, including the Federal Medical Centre, Yenagoa, and the Niger Delta University Teaching Hospital, Okolobiri.

Population of the Study

The target population consisted of antenatal and postnatal women attending selected healthcare facilities in Bayelsa State. These women were considered suitable for the study because they had direct experiences with maternal healthcare services and could provide reliable information on factors influencing their choice of delivery location.

Sample Size and Sampling Technique

A sample size of 200 respondents was used for the study. This number was considered adequate for statistical analysis and representation of the study population.

A multistage sampling technique was employed as follows:

1.Stage One – Selection of Local Government Areas:

Two Local Government Areas were selected using simple random sampling.

2.Stage Two – Selection of Health Facilities:

Selected primary, secondary, and tertiary healthcare facilities were chosen through purposive sampling based on their high patronage and availability of antenatal and postnatal services.

3.Stage Three – Selection of Respondents:

Eligible antenatal and postnatal women were selected using systematic random sampling during clinic days until the required sample size was attained.

This sampling approach ensured adequate representation and minimized selection bias.

Instrument for Data Collection

Data were collected using a structured, self-administered questionnaire developed by the researcher based on existing literature and the study objectives. The instrument was divided into four sections:

1. Section A: Socio-demographic characteristics of respondents.

2. Section B: Institutional factors influencing out-of-hospital delivery.

3. Section C: Healthcare provider factors influencing out-of-hospital delivery.

4. Section D: Factors related to respondents' delivery choices.

The questionnaire consisted primarily of closed-ended questions measured on a Likert scale ranging

from Strongly Agree to Strongly Disagree. This format facilitated ease of response and quantitative analysis.

Validity of the Instrument

Content and face validity of the instrument were established through expert review by specialists in maternal and child health, nursing research, and public health. Their suggestions regarding clarity, relevance, and comprehensiveness were incorporated to ensure that the instrument accurately measured the study variables and aligned with the research objectives.

Reliability of the Instrument

The reliability of the instrument was determined through a pilot study conducted among 20 antenatal and postnatal women in a healthcare facility outside the study area. The collected data were analyzed using Cronbach's alpha to assess internal consistency. A reliability coefficient of 0.82 was obtained, indicating a high level of reliability and confirming that the instrument was suitable for the study.

Method of Data Collection

The researcher, assisted by trained research assistants, administered the questionnaires during antenatal and postnatal clinic days. Respondents were guided on how to complete the instrument, and completed questionnaires were retrieved immediately to ensure a high response rate and reduce data loss.

Method of Data Analysis

Data collected were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data. Inferential statistics, including the Chi-square test, were employed to examine associations between variables. Statistical significance was set at $p < 0.05$.

Ethical Considerations

Ethical approval was obtained from the appropriate Health Research Ethics Committee. Permission was also secured from the management of the selected healthcare facilities. Participation was voluntary, and informed consent was obtained from all respondents. Confidentiality and anonymity were strictly maintained, and respondents were assured that the information provided would be used solely for academic and research purposes.

Method of Data Analysis

Data were analyzed using SPSS version 25. Descriptive statistics and chi-square tests were employed. Statistical significance was set at $p < 0.05$.

Ethical Considerations

Ethical approval and informed consent were obtained from all participants.

RESULTS AND DISCUSSIONS

Socio-Demographic Characteristics of Respondents

Table 1: Socio-Demographic Characteristics of Respondents (N = 200)

Variable	Frequency	Percentage (%)
Age (18–24 years)	40	20.0
Age (25–34 years)	90	45.0
Age (35–44 years)	55	27.5
Age (45 years and above)	15	7.5
Married	150	75.0
Single	30	15.0
Divorced/Widowed	20	10.0
Secondary Education	80	40.0
Tertiary Education	85	42.5
Primary / No Education	35	17.5

Description

Table 1 shows that the majority of respondents (45%) were aged 25–34 years, and 75% were married. Most had tertiary education (42.5%), indicating a relatively literate population.

Institutional Factors Influencing Out-of-Hospital Delivery

Table 2: Institutional Factors Influencing Out-of-Hospital Delivery

Institutional Factors	Agree (%)	Disagree (%)
Long distance to health facilities	140 (70.0)	60 (30.0)
High cost of services	130 (65.0)	70 (35.0)
Poor healthcare infrastructure	120 (60.0)	80 (40.0)
Inadequate medical equipment	110 (55.0)	90 (45.0)
Lack of transportation	125 (62.5)	75 (37.5)

Description

Table 2 indicates that long distance to healthcare facilities (70%) and high cost of services (65%) were the most significant institutional factors influencing out-of-hospital delivery. These findings align with previous studies highlighting accessibility and affordability as major barriers to institutional delivery (Gabrysch & Campbell, 2009).

Healthcare Provider Factors Influencing Out-of-Hospital Delivery

Table 3: Healthcare Provider Factors Influencing Out-of-Hospital Delivery

Provider Factors	Agree (%)	Disagree (%)
Negative attitudes of healthcare workers	135 (67.5)	65 (32.5)
Poor communication	120 (60.0)	80 (40.0)
Lack of empathy	125 (62.5)	75 (37.5)
Disrespectful treatment	130 (65.0)	70 (35.0)
Lack of privacy	115 (57.5)	85 (42.5)

Description

Table 3 reveals that negative attitudes (67.5%) and disrespectful treatment (65%) were major deterrents to hospital delivery. These findings corroborate Bohren *et al.* (2015), who emphasized the impact of respectful maternity care on healthcare utilization.

Hypothesis Testing

Table 4: Relationship Between Institutional Factors and Out-of-Hospital Delivery

Variable	χ^2 Value	df	p-value	Decision
Institutional Factors	18.42	4	0.001	Significant

Description

Table 4 shows a statistically significant relationship between institutional factors and out-of-hospital delivery ($p < 0.05$). This indicates that barriers such as cost, distance, and poor infrastructure influence women's decisions regarding place of delivery.

Table 5: Relationship Between Healthcare Provider Factors and Out-of-Hospital Delivery

Variable	χ^2 Value	df	p-value	Decision
Healthcare Provider Factors	21.67	4	0.000	Significant

Description

Table 5 indicates a significant association between healthcare provider factors and out-of-hospital delivery. Negative attitudes and poor communication significantly discourage women from utilizing health facilities.

Discussion

The findings of this study demonstrate that institutional and healthcare provider factors significantly influence out-of-hospital delivery in Bayelsa State. Long distances to healthcare facilities, high costs of services, and poor infrastructure were identified as major institutional barriers. These findings are consistent with Gabrysch and Campbell (2009), who reported that accessibility and affordability are critical determinants of maternal healthcare utilization.

Healthcare provider-related factors, including negative attitudes, disrespect, poor communication, and lack of empathy, also contributed significantly to out-of-hospital deliveries. This supports the findings of Bohren *et al.* (2015), who highlighted the global prevalence of mistreatment during childbirth and its adverse effects on maternal healthcare utilization.

The significant associations observed in the chi-square analyses further validate the Three Delays Model (Thaddeus & Maine, 1994), particularly delays in reaching and receiving adequate care. Addressing these challenges through health system strengthening and respectful maternity care is essential for improving maternal health outcomes.

This study concludes that institutional and healthcare provider factors significantly influence out-of-hospital delivery in Bayelsa State. Improving access, affordability, infrastructure, and provider–patient relationships will increase facility-based deliveries and reduce maternal mortality. The government should subsidize maternal healthcare through expanded NHIA coverage, free maternal services, and service vouchers. Healthcare facilities must be strengthened with adequate equipment, essential drugs, reliable electricity, clean water, and functional emergency obstetric and neonatal care units to improve service quality and public trust. Continuous training of healthcare workers in respectful maternity care, including communication, empathy, and ethical practice, is essential to enhance patient satisfaction. Transportation and referral systems, especially in rural and riverine areas, should be improved through emergency ambulances and community-based transport schemes. Public health education should be intensified using antenatal clinics, media, and community structures to promote awareness of the benefits of skilled birth attendance. Policymakers, healthcare institutions, professional bodies, and community stakeholders must collaborate to prioritize maternal health, enforce standards, and support community-based interventions. Effective implementation of these measures will promote safer childbirth and better maternal health outcomes.

CONCLUSION

This study concludes that institutional and healthcare provider factors are significant determinants of out-of-

hospital delivery in Bayelsa State. Improving healthcare accessibility, affordability, infrastructure, and provider–patient relationships will enhance facility-based deliveries and reduce maternal mortality.

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