

A Conceptual Framework for Improving Facility-Based Delivery Among Women in Bayelsa State, Nigeria

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Abstract- Improving facility-based delivery remains a critical strategy for reducing maternal and neonatal mortality, particularly in low-resource settings such as Nigeria (World Health Organization [WHO], 2020). This study aimed to develop a conceptual framework to enhance the utilization of hospital delivery services among women in Bayelsa State. The framework was derived from empirical findings of a cross-sectional study that examined socio-demographic, cultural, institutional, and healthcare provider factors influencing women's choice of delivery location. An integrative approach, guided by the Health Belief Model (Rosenstock, 1974), was employed to synthesize these determinants into a multi-level framework. The resulting model identifies key influences operating at the individual, community, and health system levels. Targeted interventions including culturally sensitive health education, community engagement, health system strengthening, and respectful maternity care were proposed. The framework provides a practical and context-specific tool for policymakers, healthcare providers, and program planners to design interventions aimed at increasing facility-based delivery and improving maternal health outcomes.

Keywords: Facility-Based Delivery, Conceptual Framework, Maternal Health, Nigeria

I. INTRODUCTION

Maternal and neonatal mortality remain major public health challenges globally, with a disproportionate burden in low- and middle-income countries, particularly in sub-Saharan Africa (World Health Organization [WHO], 2020). Nigeria contributes significantly to global maternal mortality statistics, largely due to preventable causes associated with pregnancy and childbirth (National Population

Commission [NPC] & ICF, 2019). One of the most effective strategies for reducing these deaths is ensuring that deliveries occur in health facilities under the supervision of skilled birth attendants (Kruk et al., 2018).

Despite increased awareness and utilization of antenatal care services, many women continue to deliver outside health facilities (Yaya et al., 2017). This paradox suggests that attendance at antenatal clinics does not necessarily translate into utilization of skilled delivery services. The persistence of out-of-hospital delivery is influenced by a complex interplay of factors, including socio-demographic characteristics, cultural beliefs, institutional barriers, and healthcare provider-related issues (Bohren et al., 2015; Gabrysch & Campbell, 2009).

Previous studies have examined these determinants in isolation; however, there is a need for an integrated approach that brings together these multiple factors into a unified model. Conceptual frameworks are essential tools in public health as they provide a structured understanding of relationships among variables and guide the development of targeted interventions (Rosenstock, 1974).

This study, therefore, seeks to develop a comprehensive conceptual framework that integrates key determinants influencing delivery location among women in Bayelsa State, Nigeria, with the aim of improving facility-based delivery utilization.

II. RESEARCH ELABORATIONS

Theoretical Framework

This study is grounded in the Health Belief Model (HBM), which posits that health-seeking behavior is influenced by perceived susceptibility, severity, benefits, and barriers, as well as cues to action (Rosenstock, 1974). In the context of maternal health, women’s decisions to utilize health facilities for delivery depend on their perceptions of risks associated with home delivery and the perceived benefits of skilled care.

Conceptual Framework Development

The conceptual framework for this study was developed through a systematic integration of multiple sources of evidence and theoretical perspectives. First, empirical findings from the present study provided context-specific insights into the socio-demographic, cultural, institutional, and healthcare provider factors influencing women’s choice of delivery location in Bayelsa State.

Second, relevant literature on maternal health service utilization was critically reviewed to identify established determinants and patterns consistent across similar low-resource settings. This helped to situate the study findings within the broader body of existing knowledge.

Third, the framework was guided by theoretical constructs derived from the Health Belief Model (HBM), which explains health-seeking behavior based on individuals’ perceptions of susceptibility, severity, benefits, and barriers, as well as cues to action.

The integration of these empirical, theoretical, and literature-based components enabled the development of a comprehensive and context-specific framework that captures the multi-level determinants of facility-based delivery and provides a basis for designing targeted interventions.

Components of the Framework

Individual-Level Factors

These include maternal education, income, age, and parity. Higher education and income levels are

associated with increased likelihood of facility-based delivery (Yaya et al., 2017).

Community/Cultural Factors

Cultural beliefs, traditional practices, and family influence significantly shape maternal health decisions. In many settings, childbirth is perceived as a natural process not requiring medical intervention.

Institutional Factors

Barriers such as distance to healthcare facilities, cost of services, and poor infrastructure limit access to care (Kruk et al., 2018).

Healthcare Provider Factors

Provider attitudes, communication, and perceived respect influence women’s trust and willingness to utilize services (Bohren et al., 2015).

Results or Findings

Socio-Demographic Characteristics

Table 1: Socio-Demographic Profile of Respondents

Variable	Frequency (n)	Percentage (%)
Age (20–39 years)	120	68.2
Low education	95	54.0
Low income	110	62.5
Multiparity	100	56.8

Determinants of Delivery Location

Table 2: Key Determinants Influencing Delivery Choice

Determinant Category	Key Factors	Influence
Socio-demographic	Education, income, parity	Negative
Cultural	Beliefs, family influence	Strong negative
Institutional	Distance, infrastructure	Major barrier
Provider	Attitude, communication	Negative

Intervention Strategies

Table 3: Proposed Multi-Level Interventions

Level	Strategy
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Individual	Health education, economic empowerment
Community	Cultural reorientation, advocacy
System	Improve access, affordability
Provider	Respectful maternity care training

Figure 1: Conceptual Framework for Facility-Based Delivery

Description:

The framework illustrates a multi-level interaction where individual factors are influenced by community norms, moderated by institutional access, and shaped by healthcare provider behavior, ultimately determining delivery location.

Discussion

This study demonstrates that facility-based delivery is influenced by a complex interplay of determinants across multiple levels. Socio-demographic factors such as low education and income limit women's ability to access and utilize healthcare services, consistent with previous findings (Yaya et al., 2017). Cultural beliefs and family influence remain deeply entrenched and continue to shape childbirth practices, often favoring home delivery. Institutional barriers, including cost and accessibility, further compound these challenges (Kruk et al., 2018).

Importantly, healthcare provider attitudes significantly affect women's experiences and decisions. Negative interactions, including disrespect and poor communication, discourage facility utilization (Bohren et al., 2015).

The integration of these factors into a single framework provides a holistic understanding of maternal health behavior and offers a practical guide for intervention design.

Conclusions

This study developed a comprehensive conceptual framework integrating socio-demographic, cultural, institutional, and healthcare provider determinants of delivery location. The findings emphasize that improving facility-based delivery requires multi-level interventions addressing both demand- and supply-side barriers.

The framework offers a valuable tool for policymakers and healthcare providers to design context-specific strategies aimed at reducing maternal and neonatal mortality.

Declarations

Ethical Approval: Ethical approval for this study was obtained from the appropriate Health Research Ethics Committee prior to the commencement of data collection. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments.

Consent to Participate: Informed consent was obtained from all individual participants included in the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity throughout the research process.

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Conflict of Interest: The authors declare that there are no conflicts of interest regarding the publication of this paper.

Author Contributions: All authors made substantial contributions to the conception and design of the study, data collection, analysis and interpretation of data, as well as drafting and critical revision of the manuscript. All authors read and approved the final version of the manuscript.

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