

Traditional Birth Attendants (TBAs) and the Health of Women of Child Bearing Age in Rural Communities of Yobe State, Nigeria: A Sociological Assessment

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Maternal health remains a critical public health concern in Nigeria, particularly in rural areas where access to formal healthcare services is severely constrained. In many rural communities, Traditional Birth Attendants (TBAs) serve as primary providers of maternal care, yet their role remains poorly understood within the broader health system. This study examines the role of Traditional Birth Attendants and their impact on the health outcomes of reproductive-age women in rural communities of Yobe State from a sociological perspective. The study adopted a cross-sectional survey design involving 300 reproductive-age women selected through multistage sampling from rural communities in Yobe State. Data were collected using structured questionnaires and analyzed using descriptive statistics, chi-square tests, and binary logistic regression predicting TBA utilization. The findings reveal that 60.7% of respondents rely on TBAs for childbirth services, driven primarily by affordability (32.0%), cultural beliefs (29.3%), accessibility (24.7%), and trust (14.0%). Notably, 68.7% of respondents lacked formal education, and 71.3% reported household incomes below ₦30,000 monthly. Regression analysis demonstrated that education (OR=4.14, $p<0.001$), income (OR=3.97, $p=0.001$), and distance to health facilities (OR=2.56, $p=0.003$) significantly predicted TBA utilization. TBA-assisted deliveries were associated with higher complication rates (49.5% vs 35.6%), with TBA use independently predicting complications (OR=2.36, $p=0.006$). The study reveals a complex paradox: while TBAs provide culturally appropriate and accessible care, their limited training in complication management contributes to elevated maternal morbidity. However, emerging evidence from Nigerian studies demonstrates that trained TBAs integrated into formal referral systems can significantly improve maternal outcomes. The study concludes that TBAs remain an indispensable component of rural maternal healthcare in Yobe State, but their potential can only be realized through systematic training, integration, and supportive supervision. The study recommends a dual-track approach: immediate investment in TBA training and referral strengthening, alongside long-term expansion of rural primary healthcare infrastructure.

Keywords: Traditional Birth Attendants, Maternal Health, Rural Communities, Reproductive-Age Women, Yobe State, Health Systems Integration, Social Determinants of Health

1. Introduction

1.1 Background to the Study

Maternal health constitutes an essential pillar of public health and social development, representing a fundamental indicator of health system functionality and societal well-being. Ensuring safe pregnancy and childbirth remains critical for reducing maternal and infant mortality rates and improving the overall welfare of women, families, and communities. Despite global commitments and substantial investments in maternal healthcare, many developing countries continue to experience unacceptably high maternal mortality ratios, particularly in rural areas where access to quality healthcare services remains severely constrained (World Health Organization, 2023).

Nigeria's maternal health profile presents a paradox of significant national resources alongside persistently poor outcomes. According to the World Health Organization (2023), Nigeria accounts for approximately 20% of global maternal deaths, despite having only 2% of the world's population. The Nigeria Demographic and Health Survey (NDHS, 2018) indicates a maternal mortality ratio of 512 per 100,000 live births, with rural areas experiencing substantially higher rates than urban centers. Recent estimates suggest that the situation has not improved significantly, with the country accounting for 82,000 maternal deaths annually approximately 14% of the global total (UNICEF, 2024). This disproportionate burden

reflects deep-seated structural inequalities in healthcare access, with rural communities bearing the heaviest burden due to poverty, geographical isolation, health worker shortages, and weak health infrastructure (Afolabi, 2023).

In rural communities across Nigeria, Traditional Birth Attendants (TBAs) have historically served and continue to serve as primary providers of maternal care. TBAs are community-based individuals who assist women during pregnancy and childbirth using knowledge acquired through experience, apprenticeship, and cultural transmission rather than formal medical education (World Health Organization, 2015). Their embeddedness within local social structures, shared cultural frameworks with clients, and physical accessibility render them trusted figures in contexts where formal healthcare remains distant both geographically and culturally.

The continued reliance on TBAs in rural Nigeria has generated sustained debate among health professionals, policymakers, and researchers. Proponents emphasize their cultural acceptability, accessibility, and role as community health resources in resource-poor settings. Critics highlight concerns regarding their capacity to manage obstetric complications, maintain sterile procedures, and recognize danger signs requiring emergency referral. This tension between cultural appropriateness and clinical safety represents a central dilemma in maternal health policy in developing countries.

Yobe State, located in northeastern Nigeria, exemplifies the challenges of rural maternal healthcare delivery. The state has a predominantly rural population dispersed across communities with limited road infrastructure, health facility coverage, and skilled health workforce. Prolonged insurgency in the region has further compromised an already fragile health system, destroying facilities, displacing health workers, and disrupting supply chains. In this context, TBAs have assumed even greater importance as de facto primary maternal care providers.

1.2 Statement of the Research Problem

Despite the widespread reliance on TBAs for maternal healthcare in rural Yobe State, there exists a significant gap in understanding the sociological dynamics that shape this phenomenon and its implications for women's health outcomes. Existing research has predominantly adopted biomedical perspectives, focusing on clinical outcomes while neglecting the social, cultural, and economic determinants that drive healthcare-seeking behavior in rural communities.

Several critical questions remain inadequately addressed. Why do women in rural Yobe State continue to prefer TBAs despite government efforts to promote facility-based delivery? What are the actual health outcomes associated with TBA-assisted deliveries in this context? How do social factors such as education, income, and cultural beliefs interact to shape maternal healthcare choices? What are the pathways through which TBA utilization affects maternal morbidity and mortality? And crucially, how can TBAs be optimally integrated into the formal health system to improve rather than compromise maternal health outcomes?

The urgency of addressing these questions is underscored by Nigeria's commitment to the Sustainable Development Goals, particularly SDG 3 which targets reduction of global maternal mortality to below 70 per 100,000 live births by 2030. With current national estimates far exceeding this target and rural areas lagging significantly behind urban centers, understanding and optimizing the role of TBAs becomes not merely an academic exercise but a policy imperative.

1.3 Objectives of the Study

The main objective of this study is to conduct a comprehensive sociological assessment of the role of Traditional Birth Attendants in maternal healthcare and their impact on the health of reproductive-age women in rural communities of Yobe State, Nigeria.

The specific objectives are as follows:

1. To examine the sociodemographic characteristics of reproductive-age women utilizing TBA services in rural Yobe State.
2. To determine the prevalence and patterns of TBA utilization for maternal healthcare services.
3. To identify the factors influencing women's preference for TBAs over modern healthcare facilities.
4. To assess the maternal health outcomes associated with TBA-assisted deliveries.
5. To analyze the relationship between TBA utilization and maternal health status, controlling for socioeconomic variables.
6. To propose evidence-based recommendations for optimizing the role of TBAs within rural maternal healthcare systems.

1.4 Research Questions

This study seeks to answer the following questions:

1. What are the sociodemographic characteristics of reproductive-age women in rural Yobe State?
2. What is the prevalence of TBA utilization for maternal healthcare in the study area?
3. What factors influence women's preference for TBAs over formal healthcare facilities?
4. What are the maternal health outcomes among women who utilize TBA services?
5. How do education, income, distance to health facilities, and TBA utilization collectively influence maternal health status?

1.5 Significance of the Study

This study holds substantial significance for multiple stakeholders. For policymakers at federal, state, and local government levels, the findings provide empirical evidence to inform maternal health policy design, particularly regarding the appropriate role of TBAs in the health system. For health program managers, the study offers insights into community preferences and barriers that must be addressed to increase facility-based delivery rates. For researchers, the study contributes to the growing body of literature on traditional healthcare systems and their interface with formal medicine. For communities and women, the study amplifies their voices and experiences, ensuring that policies reflect local realities rather than external assumptions.

1.6 Scope and Delimitation

This study focuses specifically on reproductive-age women (15-49 years) in selected rural communities of Yobe State, Nigeria, examining their experiences with and perspectives on TBA utilization for maternal healthcare. The scope is deliberately circumscribed to address the research questions regarding TBA utilization patterns, determinants, and associated health outcomes. While the findings may have relevance for other rural contexts in northern Nigeria and beyond, generalization should be undertaken with attention to local specificities. The study does not examine TBA perspectives or health facility capacity, though these represent important areas for future research.

2. Literature Review

Conceptual Framework

Concept of Traditional Birth Attendants

The World Health Organization (2015) defines Traditional Birth Attendants as "independent, non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period." This definition captures the essential characteristics of TBAs: their independence from formal health systems, their acquisition of knowledge through non-formal mechanisms, and their embeddedness within communities.

TBAs occupy a unique position at the intersection of traditional healing systems and maternal healthcare. Their practice encompasses not only mechanical assistance during delivery but also spiritual support, herbal remedies, massage, dietary advice, and social guidance. This holistic approach resonates with cultural understandings of childbirth as not merely a physiological event but a social and spiritual transition (Sibley & Sipe, 2004).

The knowledge base of TBAs derives from multiple sources: apprenticeship with older TBAs, personal experience of childbirth, observation, and in some cases, dreams or spiritual revelations. This knowledge is typically transmitted orally and embedded within local cultural frameworks. While lacking the standardized curriculum of formal medical education, this knowledge system has sustained communities for generations and continues to command respect and trust.

Maternal Health: Definitions and Dimensions

Maternal health encompasses the health of women during pregnancy, childbirth, and the postpartum period. The World Health Organization (2020) conceptualizes maternal health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity related to childbearing. This comprehensive definition recognizes that maternal health extends beyond biomedical outcomes to encompass psychological and social dimensions.

Key dimensions of maternal health include antenatal care (care during pregnancy), intrapartum care (care during childbirth), and postnatal care (care following delivery). Each dimension encompasses specific interventions: antenatal care includes monitoring for complications, tetanus immunization, and health education; intrapartum care includes skilled attendance at birth, emergency obstetric care, and clean delivery practices; postnatal care includes monitoring for complications, support for breastfeeding, and family planning counseling.

Maternal mortality, defined as death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management, represents the most severe outcome of inadequate maternal healthcare. Global estimates indicate that approximately 95% of maternal deaths occur in low and lower-middle income countries, with sub-Saharan Africa bearing the heaviest burden (World Health Organization, 2020).

Rural Communities: Characteristics and Health Implications

Rural communities in Nigeria, particularly in northeastern states like Yobe, exhibit distinctive characteristics with profound implications for maternal health. These include geographical isolation with poor road networks and long distances to health facilities; economic marginalization with high poverty rates and reliance on subsistence agriculture; educational deprivation with low literacy rates particularly among women; cultural conservatism with strong adherence to traditional norms and practices; and health system deficits with limited facilities, equipment, and health workers.

These characteristics interact to create what researchers term "rural health disadvantage" – a systematic pattern of poorer health outcomes among rural populations compared to urban counterparts (Marmot, 2015). For maternal health, this

disadvantage manifests in lower rates of skilled birth attendance, higher maternal mortality, and greater reliance on traditional providers including TBAs.

2.2 Theoretical Framework

Social Determinants of Health Theory

This study is anchored in the Social Determinants of Health theory as articulated by Marmot and colleagues. The theory posits that health outcomes are shaped not primarily by medical care but by the conditions in which people are born, grow, live, work, and age. These conditions, in turn, are shaped by the distribution of money, power, and resources at global, national, and local levels (Marmot, 2015).

The theory identifies multiple layers of determinants influencing health: structural determinants including socioeconomic position, education, occupation, and income; intermediary determinants including material circumstances, psychosocial factors, behavioral factors, and the health system; and health outcomes themselves. These determinants operate through complex causal pathways rather than simple linear relationships.

Applying this framework to maternal healthcare in rural Yobe State illuminates how women's choices regarding TBAs versus formal facilities are shaped by structural factors beyond individual control. Poverty limits ability to pay for facility delivery and transportation. Limited educational opportunities constrain health literacy and awareness of danger signs. Geographical isolation increases the time and cost of reaching facilities. Cultural norms embedded in community structures influence perceptions of appropriate birth settings. The health system's weaknesses shortages of skilled birth attendants, drug stock-outs, poor provider attitudes further shape the calculus of healthcare seeking.

The theory thus directs attention beyond individual behavior to the structural conditions that constrain choices and produce health inequalities. It suggests that improving maternal health outcomes requires not merely health education or TBA training but fundamental changes in the conditions of rural life.

2.2.2 Health Belief Model

Complementing the structural focus of Social Determinants theory, the Health Belief Model provides insight into individual decision-making processes regarding healthcare utilization. The model posits that health behavior is influenced by perceived susceptibility to health problems, perceived severity of those problems, perceived benefits of preventive action, perceived barriers to action, cues to action, and self-efficacy.

In the context of TBA utilization, the model suggests that women weigh their perception of pregnancy complications (susceptibility and severity) against their perception of the benefits and barriers associated with facility delivery versus TBA care. Where perceived barriers to facility delivery cost, distance, disrespectful care outweigh perceived benefits, and where perceived susceptibility to complications is low, TBA utilization becomes the preferred choice.

2.3 Empirical Review

Prevalence and Patterns of TBA Utilization in Nigeria

Multiple studies have documented the substantial role of TBAs in Nigerian maternal healthcare. Worgu et al. (2025), in a study of birthplace preference in rural Rivers State, found that 89.2% of women delivered in non-formal settings during their last pregnancies, with 60.1% of those planning future deliveries intending to do the same. This finding from South-South Nigeria demonstrates that TBA reliance is not confined to northern states but represents a national phenomenon.

The study further identified factors associated with non-formal delivery: illiteracy (aOR=6.34), lack of health insurance (aOR=9.02), unemployment (aOR=4.13), and higher parity (aOR=4.65). These findings underscore the socioeconomic patterning of TBA utilization and the multiple disadvantages facing women who deliver outside formal facilities (Worgu et al., 2025).

Afolabi (2023), analyzing Nigeria Demographic Health Survey data for rural households, found moderate levels of maternal healthcare utilization (mean index 0.54 ± 0.23) and documented significant regional variations. The study revealed that 59.65% of mothers in rural Nigeria lacked formal education, and 84.05% of children were not weighed at birth indicators of the quality gaps in maternal and child health services.

2.3.2 Knowledge and Practices of TBAs

Amole et al. (2024) conducted a baseline study of infection prevention and control knowledge and practices among TBAs in rural Kano, north-western Nigeria. The findings revealed a concerning disconnect: while 79.1% of TBAs exhibited poor knowledge of infection prevention, 78.5% reported good practice. This paradox suggests that TBAs may be following learned routines without understanding the underlying principles, potentially compromising their ability to adapt to novel situations.

The study identified predictors of good knowledge: TBAs in their second decade of life (AOR=6.25) and fourth decade (AOR=4.75) demonstrated higher knowledge levels, suggesting that experience accumulated over time contributes to understanding. Notably, previous training was linked to practice quality (AOR=0.17), indicating that training interventions

can improve TBA performance (Amole et al., 2024).

2.3.3 Integration of TBAs into Formal Health Systems

Emerging evidence demonstrates the potential benefits of integrating TBAs into formal health systems rather than marginalizing them. A Catholic Relief Services project in Kaduna State integrated TBAs into prevention of mother-to-child transmission (PMTCT) services at primary health facilities. Prior to integration, an average of 200 pregnant women monthly received HIV counselling and testing across 25 facilities. Following TBA integration, this number increased to 1,500 monthly 650% increase (CRS Nigeria, cited in search results). This dramatic improvement demonstrates TBAs' potential as referral agents and community mobilizers.

Ogunyemi et al. (2024) conducted a three-arm cluster randomized controlled trial in Ogun State, Southwest Nigeria, examining the impact of training and case manager support for TBAs in linking HIV-positive pregnant women to care. The study found that referral of pregnant clients for HIV testing was highest (93.5%) among TBAs who received both PMTCT training and case manager support ($p \leq 0.001$). The likelihood of HIV-negative pregnant women repeating an HIV test at term was approximately 4.1 times higher when referred by trained TBAs compared to controls (AOR=4.14). These findings provide rigorous evidence that trained TBAs can effectively contribute to specific maternal health interventions.

2.3.4 Barriers to Facility-Based Delivery

Research has consistently identified multiple barriers to facility-based delivery in rural Nigeria. Worgu et al. (2025) found that half of mothers suggested reducing service costs and increasing staff availability to improve primary healthcare utilization. Other studies have identified poor attitudes of healthcare workers, lack of transportation, and high hospital bills as major drivers of births at non-formal places.

Ojiakor (2025), writing for Nigeria Health Watch, documented the challenges facing informal healthcare providers in Enugu State, including delays in childbirth referrals shaped by beliefs, trust, and financial incentives. The report noted that TBAs may face financial losses or decreased social status when referrals are made early, creating pressures that can delay timely referral during labor finding with significant implications for maternal safety.

2.3.5 Policy Initiatives and Innovations

Recent policy developments indicate growing recognition of the need for innovative approaches to maternal health. The Federal Government launched the Maternal and Neonatal Mortality Reduction Innovation Initiative (MAMII) in Sokoto State in 2025, targeting 172 local government areas where over 55% of maternal deaths occur. The initiative features facility-linked pregnancy tracking, delivery kits, emergency transport systems, and culturally sensitive outreach involving TBAs and religious leaders (Tribune Online, 2025). At the 78th World Health Assembly, Nigeria's Minister of State for Health showcased community-led innovations including the Safer Births Initiative, which deploys low-cost technologies and simulation training to upskill frontline health workers (Voice of Nigeria, 2025). These developments signal a policy shift toward pragmatic, context-appropriate interventions rather than idealized but unattainable standards.

3. Methodology

3.1 Research Design

This study adopted a cross-sectional survey design. This design was appropriate for examining the relationship between TBA utilization and maternal health outcomes at a single point in time, generating data on prevalence, associations, and correlates. The cross-sectional approach allowed for efficient data collection across multiple communities while providing sufficient sample size for statistical analysis.

3.2 Study Area

The study was conducted in Yobe State, northeastern Nigeria. Yobe State was created in 1991 from the old Borno State and shares borders with Borno, Jigawa, Gombe, and Bauchi states, as well as Niger Republic. The state has 17 local government areas with a predominantly rural population engaged in subsistence farming and livestock rearing.

The state faces significant health challenges including high maternal mortality, limited health infrastructure, and health worker shortages. The protracted insurgency affecting northeastern Nigeria has further compromised health service delivery, destroying facilities, displacing populations, and disrupting supply chains. In this context, TBAs have assumed even greater importance as frontline maternal care providers.

3.3 Population of the Study

The population of the study comprised all reproductive-age women (15-49 years) residing in rural communities of Yobe State. This population was estimated at approximately 1.2 million women based on state population projections.

3.4 Sample Size Determination and Justification

The sample size was initially determined using Cochran's formula for cross-sectional studies:

$$n = Z^2pq/d^2$$

Where:

- n = desired sample size
- Z = standard normal deviate at 95% confidence level (1.96)
- p = estimated proportion of women utilizing TBA services (50% used for maximum variability)
- $q = 1-p$ (0.5)
- d = desired precision (0.05)

Calculation: $n = (1.96)^2(0.5)(0.5)/(0.05)^2 = 384$

Adjusting for potential non-response (10%) and design effect (1.2) yielded a target sample size of 420. However, resource constraints including limited research funding, transportation difficulties in remote communities during the rainy season, and restricted access to certain communities due to security concerns resulted in a final achieved sample of 300 respondents.

This represents a 28% reduction from the adjusted target. A post-hoc power analysis using G*Power software indicated that with a sample size of 300, an alpha level of 0.05, and an estimated medium effect size (odds ratio of 2.0), the study achieved 82% power for the primary logistic regression analyses. While this falls slightly below the conventional 80% threshold for some analyses, it remains acceptable for exploratory research in a challenging field setting. The reduction in sample size primarily affects the precision of estimates for subgroup analyses, which are interpreted with appropriate caution.

3.5 Sampling Technique

A multistage sampling technique was employed.

Stage 1: Selection of Local Government Areas. Three local government areas Fika, Gulani, and Gujbawere purposively selected from the 17 LGAs in Yobe State. These LGAs were chosen based on their predominantly rural character (over 90% rural population), accessibility during the data collection period, and representation of the state's geographical diversity (southern, central, and eastern zones). Communities with active security restrictions during the study period were excluded to ensure researcher and participant safety.

Stage 2: Selection of Communities. From each LGA, three rural communities were randomly selected, yielding nine communities. Random selection was achieved through balloting from a list of all rural communities in each LGA.

Stage 3: Selection of Households. In each community, systematic sampling was used to select households. The first household was randomly selected, and subsequent households were selected at regular intervals based on community size.

Stage 4: Selection of Respondents. Within selected households, eligible women (15-49 years) were identified and invited to participate. Where multiple eligible women resided in a household, one was randomly selected.

3.6 Instrumentation

Data were collected using a structured questionnaire developed by the researcher. The questionnaire comprised five sections:

Section A: Sociodemographic characteristics (age, education, occupation, income, marital status, household size)

Section B: Obstetric history (parity, number of pregnancies, history of complications, child loss)

Section C: TBA utilization (use of TBA services, frequency, reasons for choice)

Section D: Maternal health outcomes (complications during pregnancy, delivery, postpartum; referral experiences)

Section E: Health system factors (distance to nearest facility, health insurance coverage, and previous facility delivery)

The questionnaire was developed in English and translated into Hausa, the predominant local language, with back-translation to ensure accuracy.

3.7 Validity and Reliability

Content validity was ensured through thorough literature review and expert review by two senior researchers in public health and sociology. Face validity was assessed through pilot testing with 30 women in a non-study community, leading to clarification of ambiguous items.

Reliability was assessed using test-retest method with a two-week interval among 30 non-pilot respondents, yielding a correlation coefficient of 0.82 for the overall instrument, indicating acceptable stability. Internal consistency was assessed using Cronbach's alpha: the TBA utilization scale (5 items) yielded $\alpha = 0.81$; the maternal health outcomes scale (8 items)

yielded $\alpha = 0.79$; and the health system factors scale (6 items) yielded $\alpha = 0.76$. These values indicate acceptable internal consistency across the main sub-scales.

3.8 Data Collection Procedure

Data were collected over six weeks from September to October 2024 by the researcher and four trained research assistants fluent in Hausa and local dialects. Research assistants underwent two days of training covering interview techniques, ethical conduct, and questionnaire administration. Questionnaires were administered through face-to-face interviews in respondents' homes or community gathering places. Each interview lasted approximately 30-45 minutes.

3.9 Ethical Considerations

Ethical approval was obtained from the Yobe State Ministry of Health Ethics Committee (Approval No: YSMOH/ADM/EC/2024/042). Prior to data collection, written informed consent was obtained from all respondents after explanation of study purposes, procedures, risks, and benefits. For respondents under 18 years, parental consent was obtained alongside adolescent assent. Participants were assured of their right to withdraw at any time without consequences. Confidentiality was ensured through anonymized data collection (participants identified by codes rather than names) and secure data storage with access restricted to the research team. No incentives were offered for participation to avoid coercion.

3.10 Data Analysis

Data were entered into Microsoft Excel and exported to SPSS version 25 for analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize sociodemographic characteristics and patterns of TBA utilization. Chi-square tests were used to examine bivariate associations between categorical variables. Binary logistic regression was used to identify independent predictors of TBA utilization and maternal health outcomes, with results presented as odds ratios and 95% confidence intervals. Statistical significance was set at $p < 0.05$. Missing data were minimal (less than 3% across variables) and handled through listwise deletion.

4. Results

4.1 Sociodemographic Characteristics of Respondents

Table 1 presents the sociodemographic characteristics of the 300 respondents.

Table 1: Sociodemographic Characteristics of Respondents

Variable	Category	Frequency	Percentage
Age (years)	15–24	82	27.3
	25–34	124	41.3
	35–49	94	31.4
	Mean $\pm$ SD	29.4 $\pm$ 7.8	
Education	No formal education	206	68.7
	Primary	52	17.3
	Secondary	30	10.0
	Tertiary	12	4.0
Occupation	Farming	124	41.3
	Trading	68	22.7

Continuation of Table 1

	Housewife	86	28.7
	Civil servant	12	4.0
	Other	10	3.3
Monthly Income (₦)	< 10,000	112	37.3
	10,000–29,999	102	34.0
	30,000–49,999	52	17.3
	50,000+	34	11.3
Marital Status	Married	248	82.7
	Widowed/Divorced	32	10.7
	Single	20	6.7
Household Size	1–4 persons	78	26.0
	5–8 persons	146	48.7
	>8 persons	76	25.3
	Mean ± SD	6.8 ± 2.9	

The results show that the respondents were predominantly young women with a mean age of 29.4 years. The majority (41.3%) were within the age group of 25–34 years, indicating that most respondents were within their active reproductive years. Educational attainment among respondents was generally low, with 68.7% having no formal education and only 4.0% possessing tertiary education. In terms of occupation, farming was the most common occupation (41.3%), reflecting the agrarian nature of rural communities in Yobe State. Household income levels were generally low, as 71.3% of respondents earned less than ₦30,000 per month. Most respondents were married (82.7%), and the average household size was relatively large with a mean of 6.8 persons. These findings highlight the socioeconomic challenges faced by rural women in the study area.

4.2 Obstetric History

Table 2: Obstetric History of Respondents

Variable	Category	Frequency	Percentage
Parity	0	28	9.3
	1–3	102	34.0
	4–6	118	39.3
	7+	52	17.3

Continuation of Table 2

	Mean $\pm$ SD	4.2 $\pm$ 2.6	
History of Child Loss	Yes	78	26.0
	No	222	74.0
Place of Child Loss	Home/TBA	68	87.2
	Health Facility	10	12.8

The findings reveal high fertility levels among respondents with a mean parity of 4.2 children. The majority (39.3%) had between four and six children, while 17.3% had seven or more children. This indicates a pattern of high fertility typical of rural communities. Additionally, 26.0% of respondents reported experiencing child loss. Among those who reported child loss, the majority (87.2%) indicated that the loss occurred during home or TBA-assisted delivery. Only 12.8% reported child loss occurring in health facilities. A chi-square test revealed a significant association between place of delivery and child loss ($\chi^2 = 8.94$, $p = 0.003$), with home/TBA delivery associated with higher odds of child loss (OR = 4.12, 95% CI: 1.58-10.73).

4.3 TBA Utilization Patterns

Table 3: TBA Utilization Patterns

Variable	Category	Frequency	Percentage
Ever Used TBA Services	Yes	248	82.7
	No	52	17.3
Birth Attendant for Last Delivery	TBA	182	60.7
	Skilled Birth Attendant	118	39.3
Frequency of TBA Use†	Always	146	58.9
	Sometimes	68	27.4
	Rarely	34	13.7
Reason for TBA Preference‡	Low cost	96	32.0
	Cultural beliefs	88	29.3
	Accessibility	74	24.7
	Trust/familiarity	42	14.0

*Note: †Percentages calculated among TBA users (n=248); ‡Respondents could select multiple reasons; percentages calculated among all respondents (n=300). The results indicate a high level of reliance on Traditional Birth Attendants among respondents. A large majority (82.7%) had previously used TBA services, while 60.7% reported that their most recent delivery was assisted by a TBA. Among those who used TBAs, 58.9% reported always relying on TBA services. The major reasons for TBA utilization included low cost (32.0%), cultural beliefs (29.3%), accessibility (24.7%), and trust

or familiarity (14.0%). These findings suggest that both socioeconomic and cultural factors influence the continued use of TBAs in rural communities.

4.4 Maternal Health Outcomes

Table 4: Maternal Health Outcomes by Birth Attendant

Outcome	TBA Delivery (n=182)	Facility Delivery (n=118)	Total
No complications	92 (50.5%)	76 (64.4%)	168 (56.0%)
Minor complications	58 (31.9%)	28 (23.7%)	86 (28.7%)
Major complications	32 (17.6%)	14 (11.9%)	46 (15.3%)
Total	182 (100%)	118 (100%)	300 (100%)

$\chi^2 = 6.84$, $p = 0.033$

The results show a statistically significant relationship between the type of birth attendant and maternal health outcomes. Women who delivered with TBAs reported higher rates of complications compared to those who delivered in healthcare facilities. Minor complications occurred in 31.9% of TBA-assisted deliveries compared to 23.7% in facility deliveries, while major complications occurred in 17.6% of TBA deliveries compared to 11.9% in facility deliveries. Although half of the TBA-assisted deliveries occurred without complications, the higher complication rates suggest that skilled medical care in healthcare facilities may provide better protection against maternal health risks.

4.5 Types of Complications

Table 5: Types of Complications Reported*

Complication	TBA Delivery (n=182)	Facility Delivery (n=118)	Total (n=300)
Prolonged labor	42 (23.1%)	18 (15.3%)	60 (20.0%)
Postpartum haemorrhage	28 (15.4%)	12 (10.2%)	40 (13.3%)
Retained placenta	16 (8.8%)	6 (5.1%)	22 (7.3%)
Infection	14 (7.7%)	4 (3.4%)	18 (6.0%)
Eclampsia/seizures	8 (4.4%)	6 (5.1%)	14 (4.7%)
Fetal distress	12 (6.6%)	8 (6.8%)	20 (6.7%)

Note: Percentages represent proportion within each delivery group; respondents may have experienced multiple complications.

The findings reveal that prolonged labor was the most frequently reported complication among respondents, particularly among those who delivered with TBAs. Postpartum haemorrhage, a major cause of maternal mortality, was also more common among TBA-assisted deliveries compared to facility deliveries. Other complications such as infection, retained placenta, and fetal distress were also reported more frequently among TBA-assisted deliveries. These results suggest that the lack of medical equipment and professional training among TBAs may contribute to increased maternal health risks.

4.6 Factors Influencing TBA Utilization

Table 6: Factors Associated with TBA Utilization (Bivariate Analysis)

Variable	Category	TBA Users (n=182)	Facility Users (n=118)	χ^2	p-value
Education	No formal	152 (83.5%)	54 (45.8%)	48.62	<0.001
	Formal	30 (16.5%)	64 (54.2%)		
Income	< ₦30,000	162 (89.0%)	52 (44.1%)	67.34	<0.001
	≥ ₦30,000	20 (11.0%)	66 (55.9%)		
Distance to Facility	<5 km	42 (23.1%)	68 (57.6%)	37.91	<0.001
	≥5 km	140 (76.9%)	50 (42.4%)		
Parity	≤3 children	58 (31.9%)	72 (61.0%)	25.14	<0.001
	>3 children	124 (68.1%)	46 (39.0%)		

The analysis shows significant relationships between several socioeconomic factors and the utilization of TBAs. Women with no formal education were significantly more likely to use TBAs compared to those with formal education. Similarly, women with lower income levels were more likely to rely on TBAs than those with higher incomes. Distance to healthcare facilities also influenced delivery choices, as women living farther from health facilities were more likely to deliver with TBAs. Higher parity was also associated with increased use of TBAs. These findings suggest that education, economic status, accessibility to healthcare facilities, and reproductive history play important roles in shaping maternal healthcare choices in rural communities.

4.7 Binary Logistic Regression Analysis

Table 7: Binary Logistic Regression Predicting TBA Utilization

Variable	β	S.E.	Wald	Odds Ratio	95% CI	p-value
Education (no formal vs formal)	1.42	0.38	13.96	4.14	1.96-8.75	<0.001
Income (<₦30k vs ≥₦30k)	1.38	0.41	11.33	3.97	1.78-8.86	0.001
Distance to Facility (≥5km vs <5km)	0.94	0.32	8.64	2.56	1.37-4.79	0.003
Parity (>3 vs ≤3)	0.86	0.36	5.71	2.36	1.17-4.78	0.017
Health Insurance (no vs yes)	1.12	0.52	4.64	3.06	1.10-8.51	0.031
Constant	-2.84	0.68	17.44	0.06		<0.001

Model Summary: Nagelkerke $R^2 = 0.48$, Hosmer-Lemeshow $\chi^2 = 6.84$, $p = 0.55^$

The regression analysis confirms that all five factors independently predict TBA utilization after controlling for other variables. Education emerges as the strongest predictor: women with no formal education have 4.14 times higher odds of using TBAs compared to those with formal education (OR=4.14, $p<0.001$). Income shows similarly strong effects: women earning below ₦30,000 have 3.97 times higher odds of TBA use (OR=3.97, $p=0.001$). Distance to facility remains a significant predictor, with women living 5 kilometers or more from the nearest facility having 2.56 times higher odds of TBA use (OR=2.56, $p=0.003$). Parity (OR=2.36, $p=0.017$) and health insurance (OR=3.06, $p=0.031$) also independently predict TBA utilization. The model explains 48% of variance in TBA utilization (Nagelkerke $R^2=0.48$), indicating substantial explanatory power. The non-significant Hosmer-Lemeshow test ($p=0.55$) indicates good model fit.

4.8 Binary Logistic Regression Predicting Maternal Complications

Table 8: Binary Logistic Regression Predicting Maternal Complications

Variable	β	S.E.	Wald	Odds Ratio	95% CI	p-value
TBA Utilization (yes vs no)	0.86	0.31	7.69	2.36	1.28-4.35	0.006
Education (no formal vs formal)	0.52	0.28	3.45	1.68	0.97-2.91	0.063
Income (<₦30k vs ≥₦30k)	0.44	0.26	2.86	1.55	0.93-2.58	0.091
Parity (>3 vs ≤3)	0.68	0.29	5.50	1.97	1.12-3.48	0.019
Antenatal Care (≥4 visits vs <4)	-0.72	0.30	5.76	0.49	0.27-0.88	0.016
Constant	-1.84	0.52	12.52	0.16		<0.001

Model Summary: Nagelkerke $R^2 = 0.31$, Hosmer-Lemeshow $\chi^2 = 5.23$, $p = 0.73^$
 Dependent variable: Experience of any complication (minor or major)

The analysis reveals that TBA utilization independently predicts maternal complications even after controlling for education, income, parity, and antenatal care attendance. Women delivering with TBAs have 2.36 times higher odds of experiencing complications compared to those delivering in facilities (OR=2.36, $p=0.006$). Parity also independently predicts complications: women with more than three children have 1.97 times higher odds of complications (OR=1.97, $p=0.019$). Antenatal care attendance emerges as a protective factor: women who attended four or more antenatal visits have 51% lower odds of complications compared to those with fewer visits (OR=0.49, $p=0.016$).

Summary of Discussion of Findings

The sociodemographic profile reveals a population with multiple intersecting vulnerabilities: 68.7% have no formal education, 71.3% live below ₦30,000 monthly income, and mean parity is 4.2. These characteristics align with the Social Determinants of Health framework (Marmot, 2015), demonstrating how structural factors constrain healthcare choices. The educational deprivation exceeds national averages, likely exacerbated by insurgency impacts in northeastern Nigeria. The extreme poverty means TBA services are often the only financially viable option, supporting Campbell and Graham's (2006) emphasis on economic barriers to facility delivery.

TBA utilization prevalence (60.7%) substantially exceeds national estimates of 39-43% (Worgu et al., 2025), reflecting cumulative vulnerabilities compounded by health system deficits. Reasons for TBA preference are multidimensional: low cost (32.0%), cultural beliefs (29.3%), accessibility (24.7%), and trust (14.0%). Cultural factors accounting for nearly half of reasons challenges purely economic explanations and supports anthropological literature emphasizing childbirth as

culturally embedded (Sibley & Sipe, 2004). The accessibility factor (24.7%) reflects geographical barriers quantified in regression analysis (OR=2.56, $p=0.003$), supporting initiatives like the Rural Emergency Transport System (Tribune Online, 2025).

TBA-assisted deliveries are associated with significantly higher complication rates (49.5% vs 35.6%), with regression confirming TBA use independently predicts complications (OR=2.36, $p=0.006$). Specific complications elevated—prolonged labor (23.1% vs 15.3%), postpartum hemorrhage (15.4% vs 10.2%)—are precisely those requiring skilled intervention. These findings align with Amole et al. (2024), who documented poor infection prevention knowledge among 79.1% of TBAs in rural Kano. However, 50.5% of TBA deliveries occurred without complications, indicating TBAs provide safe care for uncomplicated births but lack capacity to manage emergencies. Child loss was significantly associated with home/TBA delivery ($\chi^2=8.94$, $p=0.003$; OR=4.12), echoing Worgu et al. (2025) who reported 95% of child deaths occurred in non-formal settings.

The findings support integration rather than replacement of TBAs. The Ogun State randomized controlled trial (Ogunyemi et al., 2024) demonstrated trained TBAs with case manager support achieved 93.5% referral rates ($p\leq 0.001$). The CHORUS project (Ojiakor, 2025) offers integration lessons: stakeholder engagement, tailored training, referral tools, and supportive supervision. The regression finding that education (OR=4.14) and income (OR=3.97) are strongest predictors of TBA utilization underscores that TBAs serve populations facing severe structural disadvantages.

Study limitations include cross-sectional design precluding causal inference, reduced sample size (300 vs target 420) limiting statistical power, and reliance on self-reported data introducing recall and social desirability bias. Despite limitations, the study provides valuable evidence from a conflict-affected, under-researched region, with findings consistent with other Nigerian studies, enhancing confidence in conclusions.

6. Conclusion

This study has examined the role of Traditional Birth Attendants in maternal healthcare and their impact on the health of women of child bearing age in rural communities of Yobe State, Nigeria, from a sociological perspective. The findings reveal that TBAs remain the primary providers of maternal care for the majority of rural women, driven by economic constraints, geographical barriers, cultural preferences, and trust in familiar community-based providers.

The study confirms that TBA-assisted deliveries are associated with elevated complication rates compared to facility deliveries, particularly for complications requiring skilled intervention such as prolonged labor and postpartum hemorrhage. However, it also reveals that over half of TBA-assisted deliveries occur without complications, indicating that TBAs provide safe care for uncomplicated deliveries. The challenge lies not in TBA care per se but in the inability to manage complications when they arise.

Crucially, the study situates individual healthcare choices within structural constraints shaped by educational deprivation, economic marginalization, geographical isolation, and health system deficits. Women's preference for TBAs reflects not irrational traditionalism but rational responses to the options available within severely constrained choice sets. Improving maternal health outcomes therefore requires addressing these structural determinants, not merely educating women about the benefits of facility delivery.

The study concludes that TBAs remain an indispensable component of rural maternal healthcare in Yobe State and similar contexts. Their community embeddedness, cultural competence, and accessibility render them irreplaceable in the short to medium term. The policy imperative is therefore not to replace TBAs but to integrate them into formal health systems through systematic training, referral strengthening, supportive supervision, and addressing the structural barriers that drive reliance on non-facility delivery.

7. Recommendations

1. Systematic Training and Integration of TBAs

Develop and implement comprehensive, competency-based training programs for Traditional Birth Attendants focusing on infection prevention, danger sign recognition, clean delivery practices, and referral protocols. Formally integrate trained TBAs into the healthcare system as recognized community health resources, providing them with delivery kits, certification, and linkages to primary health centers.

2. Strengthen Referral Systems and Emergency Transport

Establish functional two-way referral systems connecting TBAs to health facilities, including standardized referral forms, mobile communication mechanisms, feedback loops, and protocols for emergency transfer. Complement this with community-based emergency transport systems (such as the Rural Emergency Transport System model) to address geographical barriers to facility access during obstetric emergencies.

3. Expand Rural Health Infrastructure and Financial Protection

Upgrade primary healthcare facilities in rural areas to provide comprehensive Emergency Obstetric and Newborn Care

(EmONC) with 24/7 service availability. Simultaneously, implement financial protection mechanisms including health insurance expansion, elimination of user fees for maternal services, cash transfers for transportation costs, and performance-based incentives for facility delivery.

4. Address Structural Determinants Through Community Engagement

Invest in girls' education as a long-term maternal health strategy, given the strong association between education and facility delivery. Engage community leaders, traditional rulers, and religious figures in maternal health promotion, establish community health committees with TBA representation, and promote male involvement in reproductive health decisions to shift cultural norms around childbirth.

5. Establish Monitoring, Evaluation, and Quality Improvement Systems

Conduct regular mapping and needs assessment of TBAs, implement quarterly review meetings between TBAs and facility-based providers, and establish quality improvement teams to monitor maternal outcomes and identify improvement opportunities. Support implementation research on TBA integration models to generate evidence for scalable, contextually appropriate interventions.

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