

Trained Health Personnel and Skilled Birth Attendance in Primary Healthcare Facilities in Kogi State, Nigeria

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Abstract

Trained health personnel have been playing a significant role in providing maternal and child healthcare services in rural communities of Nigeria. Quite a number of studies relating to trained health personnel and their effects on skilled health personnel have been carried out across the country, but not many have been done in Kogi State. This study examines the role and effectiveness of trained health personnel in promoting skilled birth attendance in primary healthcare facilities in Kogi State. A survey method of research design was adopted. The study has a total population 529465 and Yamane's formula was used to arrive at 339 respondents being sample size drawn from health workers and programs beneficiaries across six local government areas of Kogi State. The study is anchored on Ludwig von Bertalanffy's System Theory. The data obtained from primary source were analyzed using chi-square to test stated hypotheses which revealed that the majority of respondents perceived limited improvement in the skilled birth attendants across the selected LGAs and chi-square analysis further revealed a statistically significant result with $\chi^2 = 191.03$, $df = 4$, at 0.05 significant level. The study reveals that trained health personnel were able to play their role in promoting skilled birth attendance effectively through wider health system environment in Kogi State. The findings suggest that improving maternal and newborn health requires sufficient funding, equipment, infrastructure, supervision, referral systems, and community support with skilled personnel adequately and equitably distributed. It is therefore recommended that: the government of Kogi State together with other health agencies should deploy and assign more trained health personnel and other health workers in PHC facilities to encourage facility-based delivery over home delivery and enhance quality of maternity service.

Keywords: Maternal and Child Health Care Service, Skilled Birth Attendance, Trained Health Personnel, Primary Healthcare Facilities, Kogi State, Nigeria

Introduction

The literature on maternal healthcare show contributions of trained health personnel to the wellbeing of mothers and newborn healthcare in Nigeria, especially in providing antenatal care, identifying danger signs during and after pregnancy, conducting skilled deliveries and making referrals to appropriate health facilities. Okeke, Agwu, Etiaba, & Onwujekwe (2024) improper attention of the health workers to enable pregnant women and mothers access their services can amount to delays in obtaining appropriate care. Adewuyi (2024) in his perspective emphasizes the need to engage competent personnel in addressing disparities in maternal healthcare utilization between rural and urban communities. Similarly, WHO (2023, 2024) says that adequate distribution of competent health workers to the facilities can go a long way in enhancing the quality and accessibility of maternal healthcare. Therefore, in-service training is key in improving health worker's knowledge, clinical decision making and capacity to manage complications and by so doing increase women's confidence to patronize facility-based delivery. These studies provide

important evidence on workforce competence and access, they tend to examine these factors separately rather than providing a multidimensional assessment of how trained personnel actually function within primary healthcare facilities, especially the Nigerian rural settings.

Following the Alma Ata declaration to provide health for all, Nigeria implements health policies such as the National Health Policy, National Strategic Health Development Plan, Basic Health Care Provision Fund, Midwives Service Scheme (MSS) and Primary Healthcare Under One Roof to provide access to important healthcare services, particularly the rural communities. These policies intentions are to provide necessary primary healthcare and ensure women receive proper care before, during and after given birth. Despite that, the literature indicates continual implementation gap coming from inadequate allocation of funds, unserious coordination, ineffective monitoring, infrastructural deficiencies, and inequitable distribution of health resources (Federal Ministry of Health, 2023). HMOHSW, 2025, further demonstrate the essence of standard treatment guidelines in managing continuous assessment, stabilization and referral of women complications while Sampson, Umar, Obi-Jeff, Oni, Ayodeji, Ebinim, Eboreime, Omeje, Ujah, Oluwatola, Shuaib, Samuel, Nto, & Okagbue, (2024) indicate that adherence to minimum standards of quality care remain problematic.

The research problem is that despite all the government policies and presence of trained personnel, there are problems of insufficient number and incompetent health workers in primary healthcare facilities in Nigeria. Again, in-service competence, equitable deployment, and adherence to treatment guidelines within primary healthcare facilities remain the same. More especially, there is inadequate empirical evidence that examines these dimensions in rural and urban PHC facilities in Kogi State and determines how policy implementation conditions influence the capacity of trained personnel to promote skilled birth attendance. This gap provides the justification for investigating the role and challenges of trained health personnel in promoting skilled birth attendance in Kogi State primary healthcare facilities.

Objectives of the Study

The overall objective of this study is to investigate the impact of health personnel training on skilled birth attendance in primary health care centers in Kogi State. Specific objectives of the Study include, to:

- i. investigate the impact of health personnel training on the early diagnosis and referral of pregnancy complications in primary healthcare centers in Kogi State.
- ii. find out to what extent in-service training of health personnel increases the preference for delivery within the healthcare centers over home delivery in Kogi State.
- iii. investigate the impact of the distribution of trained health personnel in rural and urban areas on the use of maternity services in Kogi State.
- iv. find out to what extent adherence to standard guidelines for treatment minimizes delays in delivery services in primary healthcare centers in Kogi State.

Literature Review

Concept of Maternal and Child Health Care Services

Maternal and child healthcare services constitute an essential component of primary healthcare and are directed toward improving the health and survival of mothers, newborns, and children. These services encompass antenatal care, skilled delivery, postnatal care, immunization, health education,

nutrition, and community-based interventions. In Nigeria, maternal and newborn health remains a significant public health concern due to the persistent burden of morbidity and mortality. The provision of accessible and quality maternal healthcare is therefore essential for improving pregnancy and childbirth outcomes. Within this context, skilled birth attendance is particularly important because trained healthcare professionals are expected to provide appropriate care during pregnancy, labour, delivery, and the postnatal period.

The literature indicates that the availability and competence of trained health personnel are critical to the effective management of pregnancy and childbirth. Skilled healthcare workers possess the professional knowledge and clinical abilities required to identify danger signs, initiate appropriate interventions, manage uncomplicated cases, and refer women with complications to higher levels of care. Early recognition and timely referral of conditions such as pre-eclampsia, haemorrhage, and obstructed labour can reduce the likelihood of severe maternal and newborn complications. However, the effectiveness of frontline personnel may be constrained by inadequate accessibility and responsiveness, which can contribute to delays in referral and access to appropriate obstetric care (Okeke et al., 2024). This demonstrates that the contribution of trained personnel to skilled birth attendance depends not only on their availability but also on their competence, responsiveness, and capacity to facilitate timely referral.

Another important finding concerns the role of continuous professional development and the equitable distribution of trained personnel. In-service training enables healthcare workers to update their knowledge, improve clinical skills, strengthen decision-making, and perform maternity-care procedures more effectively. Competent and adequately trained personnel can also enhance women's confidence in healthcare facilities and encourage greater preference for facility-based delivery over home delivery (Adewuyi et al., 2024; WHO, 2023). However, the benefits of trained personnel may not be realized equally where their distribution is uneven. Rural communities frequently experience greater barriers to maternal healthcare because of shortages of skilled personnel, geographical remoteness, inadequate transportation, and weak healthcare infrastructure (Adewuyi, 2024; Adejorin et al., 2024; WHO, 2024). Consequently, equitable deployment of nurses, midwives, doctors, and other skilled professionals across rural and urban PHC facilities is necessary to reduce disparities in access and utilization.

The literature further establishes that the quality and timeliness of maternal healthcare depend on adherence to established treatment guidelines. Standard treatment guidelines provide evidence-based procedures for assessing, diagnosing, treating, stabilizing, and referring pregnant women and mothers during childbirth (FMoHSW, 2024; WHO, 2025). Compliance with these procedures enables trained personnel to recognize complications promptly, provide appropriate interventions, and make timely referrals when higher-level care is required. Although Nigeria has established national standards to guide clinical practice, adherence to minimum quality standards remains a concern (Sampson et al., 2024). Overall, the evidence suggests that improving skilled birth attendance requires more than simply increasing the number of healthcare workers; it requires competent personnel, continuous training, equitable workforce distribution, effective referral mechanisms, and consistent adherence to clinical guidelines. These interrelated factors provide a basis for examining the role and challenges of trained health personnel in promoting skilled birth attendance in primary healthcare facilities in Kogi State.

Policies of the Government and the Delivery of Services for Maternal Healthcare

The literature indicates that government health policies provide the institutional and strategic foundation for improving maternal and child healthcare delivery in Nigeria. Policies such as the National Health Policy and the National Strategic Health Development Plan are designed to guide government interventions, strengthen the health system, and improve access to healthcare personnel, infrastructure, and essential maternal health services. These policies are particularly important in promoting access to quality care during antenatal, delivery, and postnatal periods, with the broader objective of reducing maternal and newborn morbidity and mortality.

A further finding is that government programmes such as the Basic Health Care Provision Fund (BHC PF), Midwives Service Scheme (MSS), and Primary Healthcare Under One Roof (PHCUOR) are intended to improve access to essential maternal healthcare services. These interventions seek to strengthen primary healthcare facilities through improved financing, increased availability of skilled health personnel, better infrastructure, and improved coordination of services. The literature suggests that when effectively implemented, these programmes can enhance women's access to skilled maternal healthcare throughout pregnancy, childbirth, and the postnatal period, thereby contributing to reductions in preventable maternal deaths. However, the literature also reveals that the effectiveness of government health policies is constrained by implementation challenges. Inadequate funding, poor institutional coordination, weak monitoring mechanisms, and unequal distribution of healthcare resources can prevent policies from achieving their intended objectives, particularly in underserved communities. The Federal Ministry of Health (2023) therefore emphasizes the importance of strengthening policy implementation through adequate financing, effective coordination, continuous monitoring, accountability, and equitable resource allocation. Thus, the success of maternal healthcare policies depends not merely on their formulation but on the effectiveness with which they are implemented and translated into improved healthcare access and outcomes.

Skilled birth attendance

Skilled birth attendance is fundamentally dependent on the availability of qualified, appropriately trained, and competent healthcare professionals who can provide maternal and newborn care throughout pregnancy, labour, childbirth, and the immediate postnatal period. Physicians, nurses, and midwives with the necessary education and clinical competencies are expected to provide safe and effective childbirth services by applying evidence-based practices and responding appropriately to the needs of mothers and newborns (World Health Organization [WHO], 2018, 2024; WHO, United Nations Population Fund [UNFPA], United Nations Children's Fund [UNICEF], International Confederation of Midwives [ICM], International Council of Nurses [ICN], International Federation of Gynecology and Obstetrics [FIGO], & International Pediatric Association [IPA], 2018). The literature therefore indicates that the effectiveness of skilled birth attendance goes beyond the mere presence of health workers; it depends largely on their professional knowledge, practical skills, and capacity to deliver appropriate and quality care.

A further finding is that skilled health personnel are particularly important in ensuring safe childbirth through the early recognition and management of maternal and neonatal complications. Complications associated with pregnancy, labour, and delivery can occur unexpectedly and may require immediate professional intervention. Trained birth attendants are therefore expected to identify danger signs, assess and diagnose complications, provide appropriate interventions within

their professional capacity, and make timely referrals when higher-level care is required (WHO, 2018, 2024). The availability of competent personnel at the point of delivery consequently provides an important opportunity for preventing complications from becoming life-threatening and for improving the safety and quality of care received by mothers and newborns.

The literature further establishes that access to skilled birth attendance is an important strategy for reducing preventable maternal and newborn deaths and strengthening the capacity of the health system to provide essential maternal healthcare. WHO (2024) emphasizes that access to skilled birth attendants is crucial to preventing avoidable deaths, while WHO et al. (2018) underscore the importance of competent maternal and neonatal health professionals in delivering high-quality childbirth care. Skilled birth attendance therefore serves not only as a means of ensuring professional assistance during delivery but also as an indicator of the ability of healthcare facilities to provide effective maternal and newborn services. Consequently, improving the number, competence, distribution, and responsiveness of trained health personnel is essential for strengthening skilled birth attendance and improving maternal and newborn health outcomes.

Primary healthcare facilities

Primary healthcare (PHC) facilities play a fundamental role in connecting individuals, families, and communities with the formal healthcare system by providing preventive, promotive, curative, and rehabilitative services (World Health Organization [WHO], 2023; Federal Ministry of Health and Social Welfare [FMOHSW], 2023). In Nigeria, these facilities are expected to provide essential maternal and reproductive healthcare services, including antenatal care, delivery and postnatal services, immunization, family planning, health education, disease prevention, and treatment of common illnesses (National Primary Health Care Development Agency [NPHCDA], 2024; WHO, 2023). Their physical proximity to communities, particularly rural and hard-to-reach populations, makes PHC facilities important for improving women's access to facility-based childbirth and skilled birth attendance (Abimbola et al., 2023; FMOHSW, 2023). Evidence from Nigeria further indicates that the availability and quality of PHC services are associated with women's access to appropriate maternal and delivery care (Adebayo et al., 2025; Oweibia & Agbedi, 2026). Thus, the accessibility and availability of essential maternal health services at the PHC level are important factors in encouraging women to utilize skilled delivery services.

Beyond physical accessibility, the literature emphasizes that the functionality and quality of PHC facilities are critical to achieving effective maternal and newborn healthcare. Functional PHC facilities require adequate numbers of trained health workers, essential medicines, appropriate medical equipment, effective referral systems, and community-based services capable of responding to maternal and newborn health needs (WHO, 2023, 2024; NPHCDA, 2024). These resources strengthen the ability of facilities to provide timely care, manage complications, make appropriate referrals, and support the utilization of skilled delivery services. Consequently, the effectiveness of PHC facilities is reflected not only in their availability but also in their capacity to provide accessible, adequately staffed, well-equipped, and quality services. Strengthening these dimensions can contribute to improved maternal and neonatal outcomes and the reduction of preventable mortality, while also supporting universal health coverage and the achievement of Sustainable Development Goal 3 (WHO, 2023, 2024).

All the keywords discussed above are interconnected and interrelated components of a functional maternal healthcare system. The literature consistently shows that the availability, competence,

continuous training, equitable distribution, responsiveness, and adherence to clinical guidelines among trained personnel are central to effective skilled birth attendance. The effectiveness of trained health personnel is influenced by policies and institutional environment in which maternal healthcare is delivered. This effectiveness depends on accessibility, adequate staffing, trained personnel, essential machines, medical equipment, functional referral systems and community-based services (WHO,2023,2024; FMOHSW,2023; NPHCDA,2024). The literature suggests that improving skilled birth attendance requires a functioning PHC system supported by competent and adequately distributed health personnel, effective government policies and

programmes, appropriate resources, strong referral mechanisms, and quality assurance practices. These interrelated factors provide the basis for examining the role and challenges of trained health personnel in promoting skilled attendance in PHC facilities in Kogi State.

Figure 1: Study Area Characteristics

Senatorial Districts	LGA	Population	No. of Public PHC Facilities
Kogi Central	Okene	320,260	69
	Ogori-Magongo	39,622	9
	District Total	359882	78 1:4,614
Kogi East	Dekina	260,312	57
	Ibaji	128,129	28
	District Total	388441	85 1:4,570
Kogi West	Lokoja	195,261	42
	Ijumu	119,929	26
	District Total	315190	68 1:4,635

Source: Population and Housing Census, 2026

The spatial distribution of Public Primary Health Care facilities in the chosen Local Government Areas in the three senatorial zones of Kogi State reveals great disparities in the availability of health facilities depending on the size of the population. This distribution is highly significant because it depicts the level of physical accessibility to the primary health care facilities and the relationship that exists between health facilities and population.

Theoretical approach

The theoretical approach entails many relevant theories such as stakeholder theory, theory of public policy implementation, institutional theory, diffusion of innovation theory, resource dependency theory, and health belief model. These theories are briefly explained as follow:

1. Systems Theory

Systems Theory sees an organization as integration of parts and as it relates to health system it means working together of all parts of a system as a whole. It emphasizes holistic nature of the system, feedback, openness, equilibrium, and hierarchy. Each of these is a component that directly connects to another such that changes in one of them can affect other components. In relation to public health, for example, changes in funding can influence number of staff to engage, the nature

of service to deliver and the quality of outcomes. A major strength of Systems Theory is its collective approach. It explains how different parts, be it departments, units, agencies, resources, and activities interact with one another rather than trying to treat each one of them differently. This makes it useful to see the system as a complex health system where individuals across parts must work together. Its major weakness, however is that it may be so general is looking at the whole relationships and processes making it difficult to develop testable hypotheses.

2. Stakeholder Theory

Stakeholder Theory, developed by Edward Freeman argues that interests of stakeholders should be taken seriously than that of shareholders. This is because organizational objectives can not only affect or affected by the shareholders, even the stakeholders like employees, customers, communities, governments, and other groups and individuals may affect or be affected. A major strength of this theory is that it recognizes that health institutions have responsibilities to many groups and therefore provides a useful basis for inclusive governance and decision-making. Its major weakness is the difficulty of prioritizing competing stakeholder interests.

3. Theory of Public Policy Implementation

The theory of Public Policy Implementation explains how intended objectives of government policies fail even though the policies may be well articulated and formulated. It came from the work of Pressman and Wildavsky which transformed into two perspectives: the top-down approach which expresses clear objectives, strong leadership, adequate resources and coordination while the bottom-up expresses the discretions and capabilities of frontliner implementers. A major strength of this theory is that it measures policy implementation gap. It argues that formulating good policies is not good enough to guarantee successful implementation and therefore place emphasis on considering important factors and actors in the cause of implementation. Its major weakness is its complexity and difficulty in making precise predictions as it involves many variables like political, administrative, institutional and contextual variables.

4. Institutional Theory

Institutional theory explains how the location of an organization through social, cultural, political, and regulatory environment influences its behavior. Rather than thinking that organization act on the bases of efficiency and rationality. A major strength of institutional theory is its ability to explain legitimacy and environmental influence. It explains that may times policies are not adopted because is the most efficient but because they are socially accepted or required by regulations and professional norms. Its major weakness is its limited attention to organizational efficiency and individual agency.

5. Diffusion of Innovation Theory

Diffusion of Innovation Theory, developed by Everett M. Rogers, explains how every social system is known for new ideas, practices, or technologies. The theory identifies four main elements: innovation, communication channels, time and social systems and further describes the stages of adoption as knowledge, persuasion, decision, implementation and confirmation. A major strength is that the theory is the practical explanation of how innovations are adopted by stages, adopter categories, and factors. Its major weakness is that is seen as rational decision-making.

6. Resource Dependence Theory

Resource Dependence Theory was introduced by Pfeter and Salancik. It argues that for any organization to flourish it depends on its external environment to provides essential resources such as money, personnel, materials, knowledge and political influence. This is because no organization can work efficiently without controlling these resources to creating power differences, manage their relationships with other organizations and institutions, negotiate for resources, form alliances and adapt to uncertainty. A major strength of RDT is that it explains how organizations manage external dependencies. They relate with governments, donors, communities and other stakeholders to access resources and survive. Its major weakness is that it talks much on depending on external factors.

7. Health Belief Model

The Health Belief Model (HBM) explains health related behavior by the way individual belief and perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy. These perceptions explain reasons individuals choose to participate or not participate in preventive health activities. A major strength of the Health Belief Model is that identifying specific beliefs and perceptions is useful in designing health policies and interventions, its major weakness is that it places too much emphasis on individual beliefs while underestimating social and environmental influences.

Materials and Methods

The study adopted survey research design as a method of gathering information from a sample of individuals. This is because it seeks to examine how the implementation of trained health personnel influence skilled birth attendance in primary healthcare facilities in Kogi State covering a period of 10 years from 2015 to 2026. The study strictly utilized quantitative method of data collection. The population for this research work comes from two main sources, which are the permanent and temporary employees of the facilities in the selected LGAs and the beneficiaries.

The target population for this study covers only women residing in the selected Local Government Areas. Based on an estimate of 49.5% of the proportion of the female population, the population of women in Dekina Local Government Area is 129,179 from a total population of 260,968. The female population in Ibaji is estimated at 63,148 from a total population of 127,572, and in Okene, which has a total population of 325,623, the female population is approximately 161,183. In Ogori/Magongo, where the population is 39,807, the female population is estimated to be 19,704. The population of women in Lokoja where the total population is 196,643 is estimated to be 97,338, and that of Ijumu with a total population of 118,593 is approximately 58,704. Therefore, the total female population in the six Local Government Areas is 529,256 out of a total population of 1,069,206 (National Bureau of Statistics, 2006). Therefore, the total population for this study is 529,465 while Taro Yamane formula was used to determine sample size with 399 respondents.

A multistage sampling technique was employed with two LGAs purposely selected from each of the three senatorial districts at first, following by selected from each LGA, Primary Health Care facilities urban and rural, and a simple random sample was taken from each stratum. In determining the sample percentage to be distributed to the six local governments representing each senatorial district; the formula is as follows:

$$\frac{\text{Population of female in each local government}}{\text{Total Population}}$$

Furthermore, in order to obtain the number of questionnaire copies to be distributed in the six local governments representing the three senatorial districts, the following formula was used:

$\frac{N}{l}$ Sample percentage Where N = Sample size

Data for this research were generated from only primary source. Primary information related to this study is generated from the administration of questionnaire to the sample population. This study involves the use of statistical tool such as percentages and chi-square test with the aid of SPSS vs 20 in order to make comparison, test the hypotheses and draw conclusion.

Figurer 2: Summary of Primary Data Sources

Data Source	Respondent Category	Number of Respondents (Target)	Number of Respondents (Actual)
Questionnaire	Health workers (Permanent & Adhoc)	90	78
Questionnaire	Program Beneficiaries (Women in the Communities)	309	269
Total		399	347

Source: Compiled by the Authors based on Questionnaire

Theoretical Framework

Systems Theory is more relevant to the study of trained health personnel and skilled birth attendance in primary health facilities in Kogi State than other theories mentioned because it views the health system as an interconnected whole in which the performance from any of the components affects the overall performance of the system. Systems theory by Ludwig von Bertalanffy, perceived that an organization or process forms a component of a larger system that function as a unit. In the primary healthcare delivery, skilled birth attendance is not only connected to the availability of trained health personnel. Rather, it is influenced by many interconnected factors, such as availability and distribution of qualified health workers, training and retraining, availability of essential equipment and medicines, funding, supervision, facility infrastructure, management, referral systems, and the cooperation of communities.

This study is anchored on Systems Theory due to its holistic nature, interdependence, openness, feedback, equilibrium, and hierarchical nature as follows: The holistic nature of Systems Theory chooses it more suitable for this study. The availability of trained health personnel alone does not make skilled birth attendance to function effectively. The presence of personnel require environment that would them to perform effectively. Systems theory therefore, provides a framework for examining how the various units of the primary healthcare system collectively influence skilled birth attendance in Kogi State.

The principle of interdependence is also strategic in application of systems theory to the topic of study. In primary healthcare system, the components depend on one another to achieve the desired outcomes; trained health personnel depend on available maternal health resources and effective administration to provide quality services and health facilities depend on government agencies and other stakeholders for recruitment, development, training, remuneration, and retention of health workers,

The concept of openness further proves the suitability of Systems Theory for this study because it talks about how health facilities interact with their environment like the state and local governments, health agencies, communities, professional bodies, development partners and other organizations. The above external actors can influence the availability and effectiveness of trained health personnel in the primary facilities in many ways.

The feedback mechanism of Systems Theory is another important perspective. Feedback enables a health system to assess progress, identify problems and make adjustment when necessary to improve performance. In relation to trained health personnel and skilled birth attendance, information concerning staff shortages and facility challenges can provide feedback to authorities. A system that responds effectively and promptly to this kind of feedback is more likely to improve performance. The concept of equilibrium is another key application of Systems Theory to this study which emphasizes reasonable balance between available human resources, workload, infrastructure, equipment, funding and patient demands. Systems theory therefore helps in examining whether the different resources and capacities of primary facilities are sufficiently balanced to support effective skilled birth attendance.

The hierarchical nature of Systems theory also makes it relevant to this study because primary healthcare facilities form part of a larger health system. Therefore, the availability of trained health personnel and skilled birth attendance in primary facilities in Kogi State can be understood as an outcome of interactions across different levels of the health system. Systems Theory is the most suitable theory for the study because trained health personnel and skilled birth attendance are products of an interconnected primary healthcare system. The theory enables the study to examine how human resources interact with infrastructure, equipment, financing, management, training, supervision, government policies, referral mechanisms, and community factors to influence the capacity of primary healthcare facilities to provide skilled birth attendance. Although the theory has limitations, particularly, its broad and abstract nature, its holistic and interrogative perspective makes it highly appropriate for examining the factors affecting trained health personnel and skilled birth attendance in primary healthcare facilities in Kogi State.

Results

Out of the 399 copies of questionnaire administered 347 representing 86.75% were successfully returned, while 52 (13.03%) were not returned, showing a high rate of response given sufficient data for analysis. It indicates that only 29 respondents (8.36%) strongly agreed and 38 (10.95%) agreed that trained health personnel influence skilled birth attendance in primary healthcare in Kogi State. In contrast, 184 (53.3%) disagreed and 82 (23.63%) strongly disagreed, while 11 (3.1%) were undecided. This shows that the majority of respondents perceived limited improvement in the skilled birth attendants across the selected LGAs. The chi-square analysis further revealed a statistically significant result with $\chi^2 = 191.03$, $df = 4$, at 0.05 significant level. Since the calculated chi-square value is substantially greater than the critical value of 9.488, the null hypothesis is rejected. The result therefore indicates that the role and availability of trained health personnel have a significant relationship with the promotion of skilled birth attendance in primary healthcare facilities in Kogi State, although the majorly negative responses suggest persistent shortages, uneven distribution, and other constraints affecting their availability.

Figure 3: Questionnaire Administered and Returned

Response Category	Frequency (n)	Percentage %
Returned questionnaire	347	86.75
Unreturned questionnaire	52	13.03
Total	399	100

Source: Field Survey, 2006

From the result, 399 copies of the questionnaire were distributed among the six selected local governments. Of the 96 copies of questionnaire distributed in Dekina Local Government, Kogi East (Urban), 78 were completed and returned; of the 48 copies distributed in Ibaji Local Government, Kogi East (Rural), 40 were completed and returned; of the 119 copies distributed to Okene Local Government, Kogi Central (Urban), only 102 were completed and returned; of the 16 copies distributed to Ogori/Magongo Local Government, Kogi Central (Rural), 15 were completed and returned; of the 72 copies distributed to Lokoja Local Government, Urban, only 68 were completed and returned; and of the 48 copies distributed to Ijumu Local Government, Rural, only 43 were completed and returned. That is, of the total 399 copies of the questionnaire distributed, 347 copies which is 86.75% of the total were returned while 52 copies which is 13.03% of the total were not returned.

Figure 4: Availability of trained health personnel promotes skilled birth attendance in Primary Health Care facilities in Kogi State

Opinions	Dekina LGA (n=78)	Ibaji LGA (n=40)	Okene LGA (n=103)	Ogori/Magogo LGA (n=15)	Lokoja LGA (n=68)	Ijumu LGA (n=43)	Total
Strongly Agree (SA)	8	3	4	1	8	5	29
Agree (AG)	10	5	10	3	8	2	38
Undecided (UD)	2	1	3	0	4	1	11
Disagree (DA)	40	22	56	8	34	24	184
Strongly Disagree (SD)	18	9	28	3	14	10	82
Total	78	40	103	15	68	43	347

Source: Field Survey, 2026

From the above table, it is evident that 8.36% strongly agreed that the programs of the National Primary Health Care Development Agency have increased the availability of skilled birth attendants at the Primary Health Care Centers in Kogi State, while 10.95% agree with the statement. It therefore implies that a total percentage of 19.31% strongly believes that the programs of the National Primary Health Care Development Agency have increased the availability of skilled birth attendants at the Primary Health Care Centers in Kogi State.

Figure 5: What is the role of trained health personnel in promoting skilled birth attendance in Primary Health Care facilities in Kogi State?

Response Category	Observed (O)	Expected (E)	(O-E) ²	$\frac{(O-E)^2}{E}$
Strongly Agree	43	69.4	696.96	10.04
Agree	45	69.4	595.36	8.58
Undecided	11	69.4	3410.56	49.14
Disagree	160	69.4	8208.36	118.28
Strongly Disagree	88	69.4	345.96	4.99
Total χ^2	347	347		191.03

Source: Field Survey, 2026

Test Statistics

What is the role of trained health personnel in promoting skilled birth attendance in Primary Health Care facilities in Kogi State?	
Chi-Square (χ^2)	191.03
Df	4
Sig	0.05

Sources: SPSS v20, 2026

The value of χ^2 for the hypothesis being tested is 191.03 while the T-value at 0.05 level of significance is 9.49. This implies that $\chi^2 < T$ -value at 0.05 level of significance for degree of freedom (df) 4. We can therefore reject the null hypothesis that availability of trained health personnel has not promoted skilled birth attendance in Primary Health Care facilities in Kogi State, and accept the alternate hypothesis which states that availability of trained health personnel has promoted skilled birth attendance in Primary Health Care facilities in Kogi State.

From the analysis, it was observed that there exists statistically significant relationship between the availability of trained health personnel and promotion of skilled birth attendance in Primary Health Care facilities in Kogi State. Most responses showed that the improvement in the availability of trained health personnel in promotion of skilled birth attendance in Primary Health Care facilities in Kogi State remains low and unsatisfactory.

Discussion

The existing literature completely agrees that trained health personnel are essential to promoting skilled birth attendance since their competence enables early detection of complications, appropriate management, timely referral, and increased confidence in facility-based delivery. This again, reveals that equitable distribution of skilled personnel, continuous in-service training, and adherence to treatment guidelines are genuine for effective maternal healthcare delivery, especially in rural areas (WHO, 2023; Odede et al., 2024; Adewuyi et al., 2024). The literature is therefore consistent with the finding that says there is a statistically significant relationship between the availability of trained health personnel and the promotion of skilled attendance in PHC facilities in Kogi State.

Notwithstanding, while the existing literature presents that trained personnel is the major means of improving maternal healthcare utilization and skilled birth attendance, the findings on the other hands shows a practical gap between their expected role and actual availability and effectiveness

in Kogi State. Although the chi-square result indicates that there is a significant relationship, the responses reveal that only a small proportion of respondents expressed agreement, whereas the majority disagreed or strongly disagreed. The findings therefore support the literature on the importance of trained personnel but contrast with the assumption that their availability is adequate, suggesting persistent shortages, even their availability is enough, suggesting persistent shortages, uneven distribution, and other service delivery constraints that all limit their contribution to skilled birth attendance.

In applying the theory, the study theory (system theory) explains that the shortcomings affecting skilled birth attendance in Kogi State are interconnected since the health system operates through interdependent components. This is because unequal distribution of trained personnel, poor infrastructure, weak supervision, inadequate funding, insufficient equipment and inadequate participation of the community can affect one another to reinforce or reduce the quality and accessibility of maternal healthcare. Therefore, a weakness in one component can affect other components by limiting skilled birth attendance and contributing to poor maternal and newborn outcomes. The study observed that limitations cannot be attributed to availability of trained health personnel only, as limited staffing, funding, infrastructure, equipment and supervision are challenges that may jointly affect skilled birth attendance.

Conclusion and Recommendations

The study reveals that trained health personnel were able to play their role in promoting skilled birth attendance effectively through wider health system environment in Kogi State. The findings therefore suggest that improving maternal and newborn health requires sufficient funding, equipment, infrastructure, supervision, referral systems, and community support with skilled personnel adequately and equitably distributed. The study strengthens existing literature by providing context specific evidence and demonstrating, through Systems Theory, the interconnected nature of factors influencing skilled birth attendance in PHC facilities.

Recommendations

Based on the findings the following recommendations were made in the study:

1. **Timely detection and referral of complications:** The government of Kogi State together with other health agencies should deploy and assign more trained health personnel and other health workers in PHC facilities and provide regular training in the early identification, stabilization, and timely referral of complications.
2. **In-service training and facility-based delivery:** In order to encourage facility based delivery over home delivery and enhance quality of maternity service, the government of Kogi State should have in-service regularly to support, supervise and train health workers and professional development should be strengthened to improve the competence and confidence of health personnel.
3. **Equitable distribution of trained personnel:** The Kogi State government should adopt an equitable staffing policy that prioritizes underserved and rural PHC facilities. Adequate incentives, accommodation, and supportive working conditions should be provided to attract and retain trained nurses, midwives, and other skilled personnel in rural areas.
4. **Adherence to standard treatment guidelines:** With serious and regular monitoring and supervision of trained health personnel to adhere to standard treatment and referral procedures,

PHC facilities should be adequately supplied with essential drugs, equipment and updated clinical guidelines.

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