Journal of Advances in Developmental Research (IJAIDR)

E-ISSN: 0976-4844 ● Website: www.ijaidr.com ● Email: editor@ijaidr.com

# Determinants of Patronage of the Skilled Birth Attendants among Women in Oshiri, Onicha Local Government Area, Ebonyi State

**Mr. Monday Isaiah Eze[1], Dr. Chibueze Aphogu Okereke[2], Mr. Peter Nwede Iziogo[3], Mr. John Chukwuemeka Odaa[4]**

[1]Community Health worker, David Umahi Federal University of Health Sciences, Uburu
[2]Medical Laboratory Scientist, Ebonyi State University
[3]Community Health worker. EBSU
[4]Community Health worker, David Umahi Federal University of Health Sciences, Uburu

## 1. Introduction

Worldwide, the health of the mothers is of a great public health concern. Patronage of skilled healthcare services has been known as an effective approach for preventing pregnancy associated morbidity and mortality. Women of reproductive age remain the most susceptible group and continue to experience different diseases and deaths during pregnancy and childbirth. Universally, there has been a growing concern over high rate of maternal morbidity and mortality especially in developing countries. [1] about one in twenty-two women in Nigeria are at danger of dying due to pregnancy, childbirth, or during the post delivery period, and this is much higher than in developed nations, and keeps Nigeria's maternal mortality ratio (MMR) as 814/100,000 live births. This is because only about 30% of deliveries in Nigeria take place in healthcare facilities and are attended to by trained and experienced health workers including midwives, nurses, Community Health Officer (CHO), Community Health Extension Workers (CHEW) and doctors.[1] The problem of healthcare workers to develop economies for better opportunities to work with 'standard equipment' to build competencies and for better pay, has resulted in an alarming shortage of healthcare staff within health facilities in low-and-middle-income countries.[2] Among the targets for Sustainable Development Goal (SDG) 3 on good health and wellbeing, is a reduction of global maternal mortality ratio to under 70 per 100,000 live births and putting a stop to preventable deaths of new-borns and infants by 2030 is crucial.[3] To ensure these targets are met, global health authorities have maintained uninterrupted access to high quality maternal care provided by skilled birth attendants like medical doctors, nurses, CHOs, and CHEWs or midwives during pregnancy, childbirth, and postpartum cannot be opposed.[4] While 99 percent of childbirths in high-income countries benefit from the services of skilled attendants, the score is about 70 percent for low- and middle-income countries (LMICs) and approximately 45 percent for Nigeria.[4] This explains why sub-Saharan Africa accounts for about 70 percent of global maternal deaths, with Nigeria taking lead of about 20 percent.[4] [5] opined that the key objective of maternal health care is to ensure that expectant and nursing mothers have normal delivery, bear healthy children and maintain good health. The death of a woman while pregnant or during puerperium has been regarded as a public health problem for over a century. According to [6], stated that the major indices to assess the improvement in attaining Sustainable Development Goals (SDGs) is the

utilization of Skilled Birth Attendance (SBA), which is the handling of labour/delivery by qualified health care worker (Nurses, midwives, CHOs, CHEWs and doctors) to proficiently recognize and handle birth associated problems and to swiftly sought referrals for expert care when required. Despite the fact that childbirth complications cannot be forecasted but they are avoidable and manageable with the involvements of skilled personnel in the health facility. It has been proven that the utilization of the health facility and services of the highly trained skilled professionals during prenatal and natal period drastically reduce the complications and subsequent maternal mortality.[7] Moreover, reducing the mortality among mothers and their children is the key objective of sustainable development goals (SDGs), which Nigeria is given more attention because of the poor maternal, new-born and child health records.[8] To achieve the sustainable development (SDGs), maternal deaths in Nigeria must decrease to less than 15.1% by 2030.[9] Worldwide, among 1.6 million estimated maternal mortality risk, 33.3% is estimated to be from Nigeria (Imo, 2022). The [10], stated that in 2017, it was estimated that mother's death accounts for 917 per 100,000 live births and by 2020 it increased to 1047 death almost with 14% increase. In 2020, the death ratio in the African region was estimated to be 531 deaths per 100,000 live births. South Sudan accounts highest with 1223 deaths, Chad with 1063 deaths and Nigeria with 1047 deaths per 100,000 live births. Quality and 24 hours availability of health services in primary health facilities in Nigeria have remained an issue, even though the distribution of the facilities has been relatively progressive.[11] Primary healthcare facilities are known for the provision of essential obstetrical care, including antenatal and postnatal care. Yet, even in many contexts in Nigeria where the facilities are functional, patronage of unskilled birth attendants, referred to as traditional birth attendants (TBAs), has remained high.[11] [12] [13]Delivery by highly trained skilled birth attendants is of great impact on the survival of the child [14] and is crucial in the reduction of death of mothers (National Population Commission, 2018). Studies have proven that a well-trained skilled birth attendant is capable of reducing deaths associated with labour, delivery and after birth by ensuring clean delivery practices are observed, labour surveillance, and neonatal resuscitation to tackle intrapartum associated birth asphyxia and treatment of infections.[15] Prompt handling and management of complaints from pregnant mothers by highly trained and skilled professional can be a yardstick in ensuring both mother and child survival.[16] [17] opined that most of these causes of maternal deaths are to great extent avoidable, if birth are handled by skilled health personnel like doctors, nurses, or midwives, CHOs and CHEWs who constantly supervise the progress of labour and also have required equipment and materials to handle the previous and developing risks and can take prompt referral of pregnant women at risks to emergency obstetric care when complications are diagnosed. It is very clear that complications resulting to maternal death can arise without warning at any stage of pregnancy or child birth which require prompt or timely referral for quality obstetric care equipped with lifesaving drugs, antibiotics and ability to provide blood transfusion in the case of emergency caesarean section. However, it is pertinent to evaluate the knowledge, attitude and patronage of skilled birth attendants among women of child bearing.

## 2. Methods

### Research Design

The work adopted a cross-sectional research design.

### Ethical Approval

An ethical clearance was obtained from the research ethics committee, school of public health, university of Port Harcourt, River State.

**Sample size determination**

The researcher employed Cochran formula to derive the sample size for the study.

$$n=\frac{z^2pq}{e^2}$$

Where

n = sample size

Z = confidence level

e = allowable error

q = 1-p

p = proportion of the population

Therefore,

n=?

z=1.96

p=72.4% (0.724) [18]

q=1-p

e=5 % (0.05)

$$n=\frac{1.96^2x0.724x0.276}{0.05^2}$$

$$= \frac{3.8416x0.199824}{0.0025}$$

$$= \frac{0.77}{0.0025}$$

= 308.

Non response rate of 10% (31)

Then, final sample size = 308+31 =339

**Sample Population**

A total of 339 comprising all the pregnant mothers aged 15-49 years in Oshiri, Onicha local Government area of Ebonyi State were recruited for the study.

**Sampling technique**

The researcher adopted two stage sampling techniques to select his respondents for this study.

- Stage one involves selection of the villages. Oshiri has 16 villages which include: Amaokpara, Umuorie, Mgboji, Amankalu, Ufuezeokwu, Umuefia, Umumboke, Isieke, Umungbala, Agbabi, Isinkwo, Umuimam, Iyiazu, Amaegu, Amaocha and Owom. Out of which, ten (10) villages which include: Amaokpara, Umungbala, Amankalu, Isieke, Umorie, Mboji, Isinkwo, Umuefia, Umuimam, and Amaocha were selected using simple random sampling techniques by balloting.
- Stage two involved the selection of the respondents. The respondents were selected from the various villages selected for the study using systematic sampling techniques. The sampling frame is 1000. Apart from Amaokpara with 120 respondents and umungbala with 80 respondents, others are 100 respondents from each village, making it total of 1000 respondents forming the total population size. To determine sampling interval, the formula K=N/n was used.

Where:
K = sampling interval
N = total population size
n = desired sample size (n = 339)
K= 1000/339 = 2.9
Therefore, K = 3 (which is the sampling interval).

**Instrument for data collection**

The study tool or instrument used for this study is self-structured questionnaire, which comprised of four (4) sections:

- **Section A**: comprises of respondent's demographic data.
- **Section B:** comprises of questions on knowledge of the women towards skilled birth attendants (SBAs).
- **Section C:** comprises of questions on the attitude of women towards skilled birth attendants.
- **Section D:** comprises of questions on level of patronage of the skilled birth attendants among women.

**Statistical Analysis**

Data collected were subjected to descriptive statistics and analysed using chi square and odd ratio. The probability value less than 0.05 were considered statistically significant.

## 3. Results

**Table 4.1: Socio-demographic Characteristics of Respondents**

| Variables | Frequency (n=339) | Percentage (%) |
|---|---|---|
| **Age** | | |
| 15-24 | 63 | 18.6 |
| 25-34 | 178 | 52.5 |
| 35-44 | 59 | 17.4 |
| 45 and above | 39 | 11.5 |
| **Marital status** | | |
| Single | 32 | 9.4 |
| Married | 296 | 87.3 |
| Divorced | 11 | 3.2 |
| **Highest level of education completed** | | |
| Primary | 66 | 19.5 |
| Secondary | 162 | 47.8 |
| Tertiary | 91 | 26.8 |
| Others | 20 | 5.9 |
| **Religion** | | |
| Christianity | 327 | 96.5 |

| | | |
|---|---|---|
| Traditionalist | 12 | 3.5 |
| **Occupation** | | |
| Farmer | 135 | 39.8 |
| Civil servant | 42 | 12.4 |
| Trader | 138 | 40.7 |
| Others | 24 | 7.1 |

**Table 4.2: Knowledgeof the Skilled Birth Attendance (SBAs)**

| Variables | True n(%) | False n(%) |
|---|---|---|
| Skilled birth attendants include midwives, doctors, CHOs, nurses and CHEWs. | 329(97.1) | 10(2.9) |
| Childbirth complications cannot be forecasted but are avoidable and manageable with skilled bith attendants | 339(100.0) | - |
| Delivery by skilled birth attendants has a great impact on the survival of the child | 335(98.8) | 4(1.2) |
| Prompt handling and management of complaints of pregnant mothers ensures mother and child survival. | 335(98.8) | 4(1.2) |
| Skilled birth attendants provide counselling and emotional support to mothers during child birth | 335(98.8) | 4(1.2) |
| A well-trained skilled birth attendant is capable of reducing deaths associated with labour. | 311(91.7) | 28(8.3) |

**Table 4.3: Assessment of Knowledge of the Skilled Birth Attendance (SBAs)**

| Variables | Frequency (n=339) | Percentage (%) |
|---|---|---|
| Good | 335 | 98.8 |
| Poor | 4 | 1.2 |
| **Total** | **339** | **100.0** |

**Table 4.4: Association between Socio-Demographics and Knowledge of the Skilled Birth Attendance (SBAs)**

| Variables | Knowledge on (SBAs) | | | | $X^2$ | Odd ratio (OR) |
|---|---|---|---|---|---|---|
| | Good (n(%) | Poor (n(%) | Total | df | (p-value) | 95% (CI) |
| **Age (years)** | | | | | | |
| ≤25yrs | 241(100) | 0(0.0) | 241(100) | 1 | 9.954 (0.002) * | 1.043 (1.001-1.086) |
| ≥36yrs | 94(95.9) | 4(4.1) | 98(100.0) | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Total** | **335(98.8)** | **4(1.2)** | **339(100 %)** | | | |
| **Marital Status** | | | | | | |
| Married | 296(100) | 0(0.0) | 296(100.0) | 1 | 27.86 (0.001)* | 1.103 (1.003-1.213) |
| Separated | 39(90.7) | 4(9.3) | 43(100.0) | | | |
| **Total** | **335(98.8)** | **4(1.2)** | **339(100 %)** | | | |
| **Education** | | | | | | |
| ≤Secondary | 228(100) | 0(0.0) | 228(100.0) | 1 | 8.314 (0.004)* | 1.037 (1.001 - 1.075) |
| ≥Tertiary | 107(96.4) | 4(3.6) | 111(100.0) | | | |
| **Total** | **335(98.8)** | **4(1.2)** | **339(100 %)** | | | |
| **Occupation** | | | | | | |
| Farmer | 135(100) | 0(0.0) | 135(100.0) | 4 | | |
| Civil servant | 38(90.5) | 4(9.5) | 42(100.0) | | | |
| Trader | 138(100) | 0(0.0) | 138(100.0) | | 28.623 (0.001)* | - |
| Others | 24(100.0) | 0(0.0) | 24(100.0) | | | |
| **Total** | **335(98.8)** | **4(1.2)** | **339(100 %)** | | | |
| **Religion** | | | | | | |
| Christianity | 323(98.8) | 4(1.2) | 327(100.0) | | 0.149 (0.700) | 0.988 (0.976-1.000) |
| ≥11years | 12(100) | 0(0.0) | 12(100.0) | 1 | | |
| **Total** | **335(98.8)** | **4(1.2)** | **339(100 %)** | | | |

*P≤0.05 (statistically significant), Fischer's exact*

**Table 4.9: Association between Socio-Demographics and Attitude of Women towards Skilled Birth Attendants**

| Variables | Attitude | | | | $X^2$ | Odd ratio (OR) |
|---|---|---|---|---|---|---|
| | Good (n(%) | Poor (n(%) | Total | df | (p-value) | 95% (CI) |
| **Age (years)** | | | | | | |
| ≤25yrs | 193(80.1) | 48(19.9) | 241(100.0) | 1 | 6.979 (0.008)* | 0.357 (0.162-0.787) |
| ≥26yrs | 90(91.8) | 8(8.2) | 98(100.0) | | | |
| **Total** | **283(83.5)** | **56(16.5)** | **339(100%)** | | | |
| **Marital Status** | | | | | | |
| Married | 244(82.4) | 52(17.6) | 296(100.0) | 1 | 1.860 (0.0173)* | 0.481 (0.165-1.405) |
| Separated | 39(90.7) | 4(9.3) | 43(100.0) | | | |
| **Total** | **283(83.5)** | **56(16.5)** | **339(100%)** | | | |
| **Education** | | | | | | |
| ≤Secondary | 188(82.5) | 40(17.5) | 228(100.0) | 1 | 0.530 (0.467) | 0.792 (0.422-1.486) |
| ≥Tertiary | 95(85.6) | 16(14.4) | 111(100.0) | | | |
| **Total** | **283(83.5)** | **56(16.5)** | **339(100%)** | | | |
| **Occupation** | | | | | | |
| Farmer | 115(85.2) | 20(14.8) | 135(100.0) | 4 | 6.651 (0.084) | - |
| Civil servant | 34(81.0) | 8(19.0) | 42(100.0) | | | |
| Trader | 110(79.7) | 16(16.3) | 138(100.0) | | | |
| Others | 24(100.0) | 0(0.0) | 24(100.0) | | | |
| **Total** | **283(83.5)** | **56(16.5)** | **339(100%)** | | | |
| **Religion** | | | | | | |
| Christianity | 271(82.9) | 56(17.1) | 327(100.0) | | 2.462 (0.117) | 0.829 (0.789-12.606) |
| ≥11years | 12(100) | 0(0.0) | 12(100.0) | 1 | | |
| **Total** | **283(83.5)** | **56(16.5)** | **339(100%)** | | | |

*P≤0.05 (statistically significant), Fischer's exact*

## 4. Discussion

The findings of this study revealed a very high level of knowledge regarding skilled birth attendants (SBAs) among the respondents. A vast majority (97.1%) recognized that SBAs include midwives, doctors, CHOs, nurses, and CHEWs trained to provide quality care during labour, delivery, and the postpartum period. All (100%) of the women knew that childbirth complications cannot be predicted but can be avoided and managed through skilled personnel within health facilities. Similarly, almost all respondents (98.8%) understood that delivery by skilled birth attendants positively impacts child survival and ensures better maternal outcomes. An equal proportion (98.8%) believed that skilled professionals' prompt management of complaints enhances maternal and neonatal survival, while 91.7% agreed that skilled attendants reduce deaths associated with labour through clean delivery practices. Overall, the results demonstrate that 98.8% of the respondents possess good knowledge of skilled birth attendance, while only 52.3% exhibited poor knowledge, implying a generally strong awareness and understanding of the concept and importance of skilled birth attendance.

These findings are consistent with those of [19] who reported a high proportion of skilled birth attendants possessing good knowledge of labour pain management and associated maternal care practices in Northwest Ethiopia. Both studies highlight strong knowledge levels within the health and maternal care context. However, while [19] study focused on *healthcare providers'* knowledge and competencies, the present study emphasizes *women's knowledge* of SBAs, showing that awareness is high not only among providers but also among the end-users of maternal health services. This similarity suggests that increased advocacy, community sensitization, and access to information have positively influenced women's understanding of the role of SBAs.

When compared with the findings of [18] the present study shows a much higher level of knowledge among women. Eden et al. reported that 72.4% of women had good knowledge, 61.3% had a positive attitude, and 70.4% had good practice towards skilled maternal healthcare services in the Oromia Region, Ethiopia. In contrast, this study recorded an almost universal awareness (98.8%) and knowledge of SBAs. The contrast may stem from contextual differences particularly in education, access to healthcare facilities, and maternal health sensitization programs. While the Ethiopian study recommended intensified interventions to improve women's awareness and equity in healthcare access, the present findings indicate that in Lagos State, Nigeria, education, urbanization, and exposure to media and healthcare outreach have contributed significantly to women's strong understanding of SBA importance.

Similarly, [20] found a good knowledge level of 92.1% among women of reproductive age in a rural community in Southern Nigeria. This aligns closely with the 98.8% good knowledge level found in the current study, reinforcing that women in Nigeria increasingly recognize the importance of skilled delivery. The consistency between the two studies suggests that awareness campaigns and the presence of healthcare programs promoting institutional delivery are yielding positive outcomes, even in rural areas. However, the current study demonstrates a slightly higher knowledge rate, which may be explained by the urban setting of Lagos State, better access to maternal healthcare services, and higher literacy levels among women compared to those in rural communities.

Taken together, the findings of this study and previous ones show a general trend of improving awareness and knowledge about skilled birth attendance across different regions, although variations persist. Studies from Ethiopia [18] reported relatively lower levels of knowledge and practice, suggesting that cultural, educational, and infrastructural barriers continue to influence women's utilization and understanding of maternal health services in some settings. Conversely, studies in Nigeria [20] demonstrate that with improved education, access to healthcare facilities, and active public health interventions, women's

knowledge of SBAs can be substantially increased. In conclusion, while previous research in some low-income regions still indicates gaps in knowledge and utilization, the present findings underscore a high level of enlightenment among women in Lagos State regarding the importance of skilled birth attendance. This implies that continuous public health education, coupled with improved access to healthcare services, can sustain and even enhance the utilization of skilled birth attendants, leading to safer deliveries and better maternal and child health outcomes.

The findings of this study indicate that the majority of respondents demonstrated a positive attitude toward skilled birth attendants (SBAs). Specifically, most of the participant agreed that skilled birth attendants improve the health outcomes of mothers and babies. Majority of the participants reported that skilled birth attendants respect women's autonomy and decision making during child birth. Majority of the participants reported skilled birth attendants are necessary for a safe delivery. Most of the participants agreed that skilled birth attendants provide quality care. Also, most of the participants agreed to recommend skilled birth attendants to their friends and family, and strongly agreed skilled birth attendants reduce maternal and neonatal mortality. Overall, most of respondents displayed positive attitudes toward SBAs, reflecting strong confidence in their competence, professionalism, and impact on safe delivery.

These findings are consistent with [19] who reported a high proportion of skilled birth attendants in Northwest Ethiopia exhibiting favorable attitudes toward labor pain management and safe delivery practices. While Solomon et al.'s study focused on the providers' attitudes, the present study highlights the recipients' (women's) positive attitudes toward the same group of professionals. Both findings align in underscoring that positive attitudes whether among healthcare providers or service users are crucial for improving maternal health outcomes. The consistency also reflects growing awareness and trust in the effectiveness of professional delivery care.

Similarly, the results align with [20] who found that 88.6% of women in a rural community in Southern Nigeria had a positive attitude toward skilled birth attendants. The present study's 83.5% positive attitude rate is slightly lower but still within the same range, suggesting that women across different Nigerian regions increasingly appreciate the importance of skilled delivery services. However, the slightly higher attitude rate in the Ogboghodo et al. study may be due to the community engagement strategies and health education initiatives specific to that region, as well as the influence of focus group discussions, which allowed for more in-depth awareness creation and attitudinal shift among participants.

In contrast, the findings of [21] in Akpabuyo LGA of Cross River State also reflect a relatively high level of skilled birth attendant utilization (80.7%), but their study uncovered significant economic and cultural barriers that influenced women's attitudes and utilization patterns. For instance, 33.9% of respondents agreed that the use of SBAs conflicts with cultural beliefs, while 95.1% reported that poverty and spousal unemployment hindered access to SBA services. This contrasts with the present study, where a much larger proportion (83.5%) of respondents showed positive attitudes toward SBAs, with fewer reporting negative perceptions. The difference may stem from the urban–rural divide, as the current study likely involved women with better socioeconomic conditions, educational attainment, and access to healthcare facilities compared to the rural population of Akpabuyo. Furthermore, while [21] emphasized the role of male involvement and cultural sensitivity in improving SBA utilization, the present findings suggest that such barriers may be diminishing in more urban or semi-urban communities. Women in the current study not only acknowledged the value of SBAs but also expressed readiness to recommend them to others, reflecting a high level of trust in formal healthcare systems.

Overall, the present findings and those of previous studies converge on the conclusion that positive attitudes toward skilled birth attendants are increasing, though variations persist depending on location, socioeconomic status, and cultural context. Studies from both Nigeria and Ethiopia demonstrate that where awareness, education, and health promotion are strong, attitudes toward SBAs are overwhelmingly favorable. Conversely, in communities where poverty, traditional beliefs, and gender norms remain dominant, negative attitudes and under-utilization of SBA services continue to pose challenges. In summary, the current study confirms that women's attitudes toward skilled birth attendants are largely positive and comparable to previous findings across different African contexts. However, continuous community-based education, cultural integration, and economic empowerment programs are essential to further strengthen women's confidence in SBAs, especially in undeserved rural areas.

**Conclusion**

The findings of this study demonstrate that women in the study area generally possess a high level of knowledge, positive attitudes, and encouraging utilization patterns toward Skilled Birth Attendants (SBAs). Most respondents clearly understood the critical roles played by trained professionals such as doctors, nurses, midwives, Community Health Officers (CHOs), and Community Health Extension Workers (CHEWs) in ensuring safe labour, delivery, and postpartum care. The results further revealed a strong awareness that childbirth complications, though unpredictable, can be effectively managed with the involvement of skilled health personnel, thereby improving maternal and neonatal survival outcomes. The study also established that the majority of women hold favourable attitudes toward SBAs, recognizing their competence, professionalism, and respect for women's autonomy during childbirth. Many expressed confidences in SBA-led care, showing willingness to recommend such services to others, and acknowledged the contribution of skilled birth attendants in reducing maternal and neonatal mortality. In terms of practice, most respondents had utilized SBA services for childbirth and indicated their intention to continue doing so in the future. These finding underscores growing trust in skilled maternity care.

**REFERENCES:**

1. World Health Organization. Trends in maternal mortality: 1990 to 2015: estimates by WHO, UNICEF,UNFPA,World Bank Group and the United Nations Population Division [Internet]. WHO; 2023 [cited 2023 21 February]. Available from:*https://www.afro.who.int/sites/default/files/2017-05/trends-in-maternal-mortality-1990-to-2015.pdfwho.int/maternal-health/en/*
2. Saluja S, Rudolfson N, Massenburg BB, Meara JG, Shrime MG. The impact of physician migration on mortality in low and middle-income countries: an economic modelling study. BMJ Glob Health. 2020; 5:e001535.
3. United Nation Women SDG 3: Ensure healthy Lives and Promote Well-Being For All At All Ages [Online] (2020) Available:*https://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-3-good-health-well-being#:~:text=Women%20and%20men%20have%20different,about%20303%2C000%20women%20in%202015.&text=UN%20Women%20acts%20to%20advance,and%20reproductive%20health%2Dcare%20services [Accessed October 28, 2024`]Google Scholar*

4. World Health Organization 2024a Maternal Mortality [Online] (2024) Available *https://www.who.int/news-room/fact-sheets/detail/maternal-mortality* [Accessed October 29, 2024] Google Scholar
5. Eke PG, Ossai EN, Eze II. Ogbonnaya LU. Exploring Providers' Perceived Barriers to Utilization of Antenatal and Delivery Services in Urban and Rural Communities of Ebonyi State, Nigeria. A Qualitative Study. LoS ONE16, 2021; (5): e0252024. https://doi.org/10.1371/journal.pone.0252024.
6. Ntoimo LFC, Okonofua FE, Ekwo C, Solanke TO, Igboin B, Imongan W, Why women utilize traditional rather than skilled birth attendants for maternity care in rural Nigeria: implications for policies and programs. Midwifery.2022; 104:103158.
7. Udenigwe O, Okonofua FE, Ntoimo LFC, Yaya S. Seeking maternal health care in rural Nigeria: through the lens of negofeminism. Reproductive Health. 2023; 20:103.
8. Imo CK, De Wet-Billings N, Isiugo-Abanihe UC. The impact of maternal health insurance coverage and adequate healthcare services utilisation on the risk of under-five mortality in Nigeria: a cross-sectional study. Arch Public Health. 2022; 80:206.
9. Alex-Ojei CA, Odimegwu CO, Akinyemi JO. Patterns of delivery assistance among adolescent mothers in Nigeria. Midwifery. 2020; 82:102619.
10. Integrated African Health Observatory. Maternal mortality: The urgency of a systemic and multisectoral approach in mitigating maternal deaths in Africa. 2023;Retrieved from*https://files.aho.afro.who.int/afahobckpcontainer/production/files/iAHO_Maternal_Mortality_Regional_Factsheet.pdf*
11. Mohammed P. Agwu U. Okoye. When primary healthcare facilities are available but mothers look the other way: maternal mortality in Northern Nigeria Soc. Work Public Health, 35 (2020), pp. 11-20 View at publisherCrossrefGoogle Scholar
12. Ogu SS, Oladele OL, Abdulraheem T, Cooke CG. Synergizing phytoremediation and geopolymerization: A sustainable waste-to-wealth approach for heavy metal-contaminated soils. Chemosphere, 2023; 144539.
13. Agwu A, Michal M, Abdelsatir A, Abdelsatir AA, Abdulrahim S, Laco J, Michal M. TFE3-rearranged head and neck neoplasms: Twenty-two cases spanning the morphologic continuum between alveolar soft part sarcoma and pecoma and highlighting genotypic diversity. The American Journal of Surgical Pathology, 2023; 49(2), 104-112.
14. Adewemimo AW, Msuya SE, Olaniyan CT, Adegoke AA. Utilization of skilled birth attendance in Northern Nigeria: A cross-sectional survey. Midwifery [Internet]. 2014 [cited 2021 16 February];30:e7–e13. Availablefrom:https://www.sciencedirect.com/science/article/pii/S0266613813002866
15. Singh K, Brodish P, Suchindran C. A Regional Multilevel Analysis: Can Skilled Birth Attendants Uniformly Decrease Neonatal Mortality? Matern Child Health J [Internet].2014 [cited 2021 16 February];18:242–249.
16. World Health Organization. Maternal health. 2020. Available at: *https://www.World Health Statistics 2016*: Monitoring health for the SDGs [Internet]. [cited 2020 15 March]. Available from:*https://www.who.int/gho/publications/world_health_statistics/2016/Annex_B/en*

17. National Institute of Health (NIH., 2020). What are examples and causes of maternal morbidity and mortality? Retrieved May 14, 2021. from *https://www.nichd.nih.gov/health/topics/maternal-morbidity-mortality/conditioninfo/causes.*
18. Eden Girmaye, Kassa Mamo , Birhanu Ejara, Fikadu Wondimu, and Maru Mossisa. Assessment of Knowledge, Attitude, and Practice of Skilled Assistance Seeking Maternal Healthcare Services and Associated Factors among Women in West Shoa Zone, Oromia Region, Ethiopia.2021; 115-120.
19. Solomon ET, Kassie FY, Mekonnen DG, Mihret MS, Abate AT, Dessie AA. Knowledge, attitude, and practice towards labour pain management and associated factors among skilled birth attendants working at hospitals found in central, west, and north Gondar zones, Northwest Ethiopia, 2019: a multicentre cross-sectional study. *Pain Research and Management*, *2021*(1), 8835677.
20. Ogboghodo EO, Adam VY, Omuemu VO, Okojie OH. Knowledge, attitude and utilization of skilled birth attendants in a rural community in Southern Nigeria: a mixed method survey. Int J Med Sci Pub Health, 2019; 8(1), 61-69.
21. Uka A,Vasudeva M, Nakka R, Stock S, Ghebremichael M. Associations between Awareness of Sexually transmitted infections (STIs) and prevalence of STIs among Sub-Saharan African men and women. Tropical Medicine and Infectious Disease, 2022; 7(8), 147.