



# Awareness and Utilization of the WHO Safe Childbirth Checklist Among Midwives in Tertiary Hospitals in Rivers and Bayelsa States, Nigeria

Demebo, Ebipade Juliet<sup>1\*</sup>, Nte Alice<sup>2</sup> & Ogu Rosemary<sup>3</sup>

<sup>1,2,3</sup>African Centre of Excellence for Public Health and Toxicological Research (ACE-PUTOR), University of Port Harcourt, PMB, Port Harcourt 5323, Rivers State, Port Harcourt, Nigeria

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## ABSTRACT

## Original Research Article

**Background:** Maternal and neonatal mortality remain major public health challenges in Nigeria, with poor adherence to evidence-based childbirth practices contributing significantly to preventable complications and deaths. The World Health Organization Safe Childbirth Checklist (WHO SCC) was introduced to improve the quality and safety of maternal and newborn care through standardized clinical practices. However, awareness and utilization of the checklist among midwives in many Nigerian healthcare institutions remain uncertain.

**Aim:** This study assessed the awareness, utilisation patterns, perceived barriers, and institutional factors influencing the use of the WHO Safe Childbirth Checklist among midwives in selected tertiary hospitals in Rivers and Bayelsa States, Nigeria.

**Methods:** A mixed-method descriptive study was conducted among midwives working in maternity units of selected tertiary hospitals in Rivers and Bayelsa States, Nigeria. Quantitative data were collected using structured questionnaires, while qualitative data were obtained through in-depth interviews among selected midwives and nurse managers. Data were analyzed using descriptive statistics and thematic content analysis.

**Results:** Findings revealed low baseline awareness and poor utilization of the WHO SCC among midwives prior to intervention exposure. Many participants reported inconsistent use of the checklist, with selective application mainly during complicated deliveries. Major barriers identified included inadequate staffing, excessive workload, lack of training, poor institutional support, irregular supervision, and unavailability of checklist materials. Participants acknowledged that the checklist improved clinical organization, communication, and patient safety when properly utilized. Midwives also emphasized the need for continuous professional training, supportive supervision, and integration of the checklist into institutional maternity care policies.

**Conclusion:** Awareness and utilization of the WHO Safe Childbirth Checklist among midwives were generally low prior to intervention. Organizational support, training, and workforce strengthening are essential for improving adoption and sustained use of the checklist in tertiary healthcare settings. Institutionalizing the WHO SCC may enhance adherence to essential childbirth practices and improve maternal and neonatal outcomes in Nigeria.

**Keywords:** Midwives, WHO Safe Childbirth Checklist, Awareness, Utilisation, Maternal Health, Nursing Practice, Nigeria, Safe Delivery.

\*Corresponding author: Demebo, Ebipade Juliet

African Centre of Excellence for Public Health and Toxicological Research (ACE-PUTOR), University of Port Harcourt, PMB, Port Harcourt 5323, Rivers State, Port Harcourt, Nigeria

## Introduction

Maternal and neonatal mortality remain among the most critical public health concerns globally, particularly in low- and middle-income countries where access to quality maternal healthcare services is often limited by inadequate infrastructure, shortage of skilled healthcare personnel, poor health financing, and weak health systems. Despite significant global efforts toward improving maternal and newborn survival, pregnancy and childbirth-related complications continue to account for a substantial proportion of preventable deaths among women and newborns. The World Health Organization (WHO) estimated that approximately 287,000 women died from pregnancy and childbirth-related complications in 2020, while nearly 2.3 million newborns died within the first month of life globally (World Health Organization [WHO], 2023). Sub-Saharan Africa bears the highest burden of these deaths, accounting for nearly 70% of global maternal mortality due to persistent healthcare inequalities, poverty, delayed access to emergency obstetric care, and inadequate implementation of evidence-based maternity practices (United Nations Children's Fund [UNICEF], 2023).

Nigeria contributes significantly to the global burden of maternal and neonatal mortality and remains one of the countries with the highest maternal mortality ratios worldwide. According to the National Population Commission (NPC) and ICF (2019), Nigeria's maternal mortality ratio remains critically high, with postpartum haemorrhage, eclampsia, sepsis, obstructed labour, and unsafe delivery practices contributing substantially to maternal deaths. Similarly, neonatal mortality resulting from birth asphyxia, prematurity, neonatal sepsis, and poor immediate newborn care continues to constitute a major healthcare challenge in the country. Although several maternal and child health interventions have been introduced in Nigeria, progress toward achieving optimal maternal and neonatal health outcomes has remained slow due to systemic weaknesses in healthcare delivery and inconsistent adherence to recommended clinical guidelines (Federal Ministry of Health [FMOH], 2022).

The quality of care provided during labour, childbirth, and the immediate postpartum period is a major determinant of maternal and neonatal survival. Skilled birth attendance and adherence to evidence-based childbirth practices are internationally recognized as essential strategies for reducing preventable maternal and newborn complications and deaths. Midwives play a central role in the delivery of maternal healthcare services, particularly within tertiary healthcare facilities where complicated obstetric cases are commonly managed. As frontline maternity care providers, midwives are responsible for monitoring labour progress, identifying danger signs, preventing complications, providing emergency interventions, and ensuring safe delivery practices. However, evidence from several low-resource settings indicates that

omissions of essential childbirth practices, poor documentation, inadequate monitoring, and inconsistent compliance with standard intrapartum protocols remain prevalent among healthcare providers (Spector et al., 2013).

In response to persistent preventable maternal and neonatal deaths associated with poor quality intrapartum care, the World Health Organization developed the WHO Safe Childbirth Checklist (WHO SCC) in collaboration with global maternal health experts. The WHO SCC is an evidence-based patient safety tool designed to support healthcare workers in adhering to essential childbirth practices at critical points during labour, delivery, and the immediate postpartum period. The checklist focuses on key lifesaving interventions such as blood pressure monitoring, administration of uterotonics, infection prevention, neonatal resuscitation preparedness, early initiation of breastfeeding, and identification of maternal and neonatal danger signs (WHO, 2015). The checklist was developed based on internationally recommended childbirth practices and adapted from patient safety models successfully used in other clinical disciplines.

Globally, studies have demonstrated that implementation of the WHO SCC improves adherence to essential birth practices and enhances the quality of maternal and neonatal care. Research conducted in India, Bangladesh, and other low-resource countries reported improvements in clinical practice compliance, communication among healthcare workers, and patient safety outcomes following checklist implementation (Semrau et al., 2017). Nevertheless, evidence regarding sustainable implementation and routine utilization of the checklist in many African healthcare settings remains limited. Several barriers affecting checklist adoption have been identified, including inadequate awareness, poor training opportunities, shortage of healthcare personnel, high workload, insufficient supervision, resistance to behavioural change, and lack of institutional support (Ameh et al., 2020).

In Nigeria, the implementation and utilization of the WHO SCC across healthcare institutions remain inconsistent, particularly in public tertiary hospitals where patient load is often high and workforce shortages persist. Although some healthcare facilities have introduced the checklist as part of maternal quality improvement initiatives, routine utilization among midwives appears suboptimal. Studies conducted in some parts of Nigeria have shown that healthcare workers often use the checklist selectively during complicated deliveries rather than integrating it into routine maternity care practice (Okonofua et al., 2018). In addition, poor awareness of the checklist, inadequate continuing professional education, lack of monitoring mechanisms, and weak organizational commitment continue to affect utilization among midwives.

In Rivers and Bayelsa States, maternal and neonatal health outcomes remain areas of significant public health concern despite the presence of tertiary healthcare institutions and

skilled maternity personnel. High patient turnover, staffing shortages, increasing workload, and inconsistent implementation of standardized maternal care protocols may negatively influence the quality of intrapartum care provided in these facilities. However, there is limited empirical evidence regarding midwives' awareness, experiences, utilization patterns, and perceived barriers relating to the WHO Safe Childbirth Checklist within tertiary healthcare settings in these states.

Understanding the level of awareness and utilization of the WHO SCC among midwives is essential for strengthening evidence-based maternity care practices and improving maternal and neonatal outcomes. Assessing behavioural adoption patterns, institutional support systems, and implementation barriers will provide valuable insights for policy development, workforce training, and integration of standardized patient safety tools into routine maternity care. Therefore, this study assessed the awareness and utilization of the WHO Safe Childbirth Checklist among midwives in tertiary hospitals in Rivers and Bayelsa States, Nigeria, with emphasis on utilization patterns, organizational influences, behavioural adoption, training needs, and perceived barriers to implementation.

## Methods

### Study Design

This study adopted a descriptive mixed-method research design involving both quantitative and qualitative approaches to comprehensively assess the awareness and utilization of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in tertiary hospitals in Rivers and Bayelsa States, Nigeria. The mixed-method approach was considered appropriate because it enabled the researchers to obtain both numerical data on the level of awareness, utilization patterns, and institutional factors influencing checklist use, as well as detailed experiential information regarding midwives' perceptions, attitudes, behavioural adoption, and perceived barriers to implementation.

The quantitative component utilized a cross-sectional descriptive survey design to generate measurable data relating to awareness levels, frequency of checklist use, training exposure, and organizational support systems. The qualitative component employed an exploratory descriptive approach using in-depth interviews to provide richer insights into the lived experiences and contextual realities surrounding WHO SCC utilization among midwives. Combining both methods enhanced the validity and comprehensiveness of the findings through triangulation of data sources.

### Study Setting

The study was conducted in selected tertiary hospitals located in Rivers and Bayelsa States in the South-South geopolitical zone of Nigeria. These states were selected because they host major tertiary healthcare institutions that provide

comprehensive maternal and newborn healthcare services and serve as referral centres for complicated obstetric and neonatal cases within the region.

Rivers State is one of the major oil-producing states in Nigeria with a relatively high population density and substantial utilization of tertiary healthcare services. Bayelsa State, although less densely populated, also experiences considerable maternal and neonatal health challenges, particularly in riverine and hard-to-reach communities. The tertiary hospitals included in the study provide antenatal, intrapartum, postnatal, emergency obstetric, neonatal intensive care, and family planning services. These facilities are staffed by multidisciplinary healthcare professionals including obstetricians, neonatologists, nurse/midwives, and other allied healthcare workers.

The maternity units of the selected hospitals operate twenty-four-hour services and manage large numbers of deliveries monthly, such as both routine and high-risk pregnancies. These settings were considered appropriate for the study because midwives in tertiary hospitals are expected to utilize evidence-based intrapartum care tools such as the WHO Safe Childbirth Checklist in the management of labour and childbirth.

### Study Population

The study population comprised registered nurse/midwives working in maternity-related units of the selected tertiary hospitals. These included midwives working in labour wards, antenatal clinics, postnatal wards, obstetric emergency units, and special care baby units where maternal and newborn care services are routinely provided.

The target population consisted of midwives directly involved in childbirth care and immediate postpartum management. Midwives were selected because they constitute the frontline providers of maternity care and are primarily responsible for implementing essential childbirth practices during labour and delivery.

### Inclusion Criteria

Midwives were eligible to participate in the study if they:

1. Were registered nurse/midwives licensed by the Nursing and Midwifery Council of Nigeria.
2. Had worked in maternity-related units for at least six months prior to the study.
3. Were actively involved in labour and delivery care.
4. Were willing to provide informed consent for participation.

### Exclusion Criteria

Midwives who were:

1. On annual leave, maternity leave, or sick leave during the study period.
2. Student nurses or intern midwives.

3. Administrative nursing staff without direct involvement in maternity care. were excluded from the study.

### Sample Size Determination

The sample size for the quantitative component was determined using a single population proportion formula for descriptive studies. The calculation was based on an estimated prevalence of WHO SCC utilization among healthcare workers from previous related studies, a 95% confidence interval, and a margin of error of 5%.

After adjustment for non-response, a total sample size of 134 midwives was considered adequate for the quantitative survey. This sample provided sufficient statistical representation of midwives working within the selected tertiary healthcare facilities.

For the qualitative component, purposive sampling was used to recruit participants for in-depth interviews. A total of 12 midwives and 4 nurse managers were selected based on years of professional experience, involvement in maternity care, and exposure to childbirth safety practices. Interviews continued until data saturation was achieved, whereby no new themes or significant information emerged from subsequent interviews.

### Sampling Technique

A multistage sampling technique was employed for the quantitative component of the study.

#### Stage One: Selection of States

Rivers and Bayelsa States were purposively selected because of their strategic role in maternal healthcare delivery within the Niger Delta region and the presence of tertiary healthcare institutions providing comprehensive obstetric services.

#### Stage Two: Selection of Hospitals

Selected tertiary hospitals within the two states were identified based on their maternity service capacity, patient volume, and availability of labour and delivery units.

#### Stage Three: Selection of Participants

Proportionate sampling was used to allocate the required sample size across participating hospitals according to the number of eligible midwives in each facility. Thereafter, simple random sampling was used to recruit participants from staff duty rosters and departmental staff lists.

For the qualitative component, purposive sampling was utilized to select participants with adequate experience and knowledge regarding childbirth care practices and WHO SCC implementation.

### Instrument for Data Collection

Data were collected using two major instruments:

#### Quantitative Instrument

A structured self-administered questionnaire developed by the researchers following extensive literature review and

adaptation from previous WHO SCC-related studies was used for quantitative data collection. The questionnaire consisted of five sections:

- Section A: Socio-demographic characteristics of respondents.
- Section B: Awareness and knowledge of the WHO SCC.
- Section C: Utilization patterns and frequency of checklist use.
- Section D: Institutional support and training exposure.
- Section E: Perceived barriers to checklist implementation.

The questionnaire contained both closed-ended and Likert-scale questions designed to assess participants' experiences and perceptions regarding WHO SCC utilization.

#### Qualitative Instrument

A semi-structured in-depth interview guide was used for qualitative data collection. The guide explored themes such as awareness and understanding of the WHO SCC, experiences with checklist use, organizational support, barriers to implementation, workload challenges, behavioural adoption, and recommendations for improving utilization.

#### Validity of Instrument

The instruments were subjected to face and content validity by experts in maternal and child health nursing, nursing research, and obstetrics. Corrections and modifications were made based on expert recommendations to ensure clarity, appropriateness, and relevance of questionnaire items to the study objectives.

#### Reliability of Instrument

A pilot study was conducted among midwives in a tertiary hospital outside the study area to assess the reliability of the questionnaire. Data obtained from the pilot study were analyzed using Cronbach's alpha reliability test. The instrument demonstrated acceptable internal consistency with a reliability coefficient above 0.70, indicating that the questionnaire was reliable for the study.

#### Procedure for Data Collection

Approval to conduct the study was obtained from the management of participating hospitals before commencement of data collection. The researchers visited the maternity units of the selected hospitals and explained the purpose and procedures of the study to eligible participants.

Questionnaires were distributed to consenting midwives during duty shifts and retrieved after completion. Participants were given adequate time to respond independently without interference.

For the qualitative component, interviews were conducted in quiet and convenient locations within the hospital premises to ensure privacy and confidentiality. Each interview lasted

approximately 30–45 minutes and was conducted in English language. With participants' consent, interviews were audio-recorded and supplemented with field notes to ensure accuracy of information.

## Data Management and Analysis

Quantitative data collected from completed questionnaires were coded and entered into the Statistical Package for Social Sciences (SPSS) version 25 for analysis. Descriptive statistical methods including frequencies, percentages, means, and standard deviations were used to summarize participants' socio-demographic characteristics, awareness levels, utilization patterns, and perceived barriers.

Results were presented using tables, charts, and narrative descriptions. Inferential statistics such as Chi-square tests were used where necessary to examine associations between selected variables. Statistical significance was set at  $p < 0.05$ .

Qualitative interview recordings were transcribed verbatim immediately after data collection. Transcripts were carefully reviewed alongside field notes to ensure accuracy and completeness. Thematic content analysis was employed for qualitative data analysis following familiarization with transcripts, coding of data, identification of emerging categories, and development of themes.

Recurring patterns and meaningful statements relating to awareness, utilization behaviour, organizational support, workload challenges, and perceived usefulness of the WHO SCC were identified and organized into thematic categories. Representative participant quotations were used to support major findings where appropriate.

## Results

**Table 1:** Socio-Demographic Characteristics of Respondents (N = 134)

| Variable                              | Frequency (n)                          | Percentage (%) |
|---------------------------------------|----------------------------------------|----------------|
| <b>Age Group (Years)</b>              |                                        |                |
| 20–29                                 | 18                                     | 13.4           |
| 30–39                                 | 56                                     | 41.8           |
| 40–49                                 | 42                                     | 31.3           |
| 50 years and above                    | 18                                     | 13.4           |
| <b>Mean Age <math>\pm</math> SD</b>   | <b>36.4 <math>\pm</math> 7.1 years</b> |                |
| <b>Gender</b>                         |                                        |                |
| Female                                | 126                                    | 94.0           |
| Male                                  | 8                                      | 6.0            |
| <b>Professional Qualification</b>     |                                        |                |
| Registered Nurse/Midwife (RN/RM)      | 102                                    | 76.1           |
| B.NSc Nursing                         | 24                                     | 17.9           |
| Postgraduate Qualification            | 8                                      | 6.0            |
| <b>Years of Professional Practice</b> |                                        |                |
| 1–5 years                             | 22                                     | 16.4           |
| 6–10 years                            | 48                                     | 35.8           |
| 11–15 years                           | 39                                     | 29.1           |
| Above 15 years                        | 25                                     | 18.7           |
| <b>Current Unit of Practice</b>       |                                        |                |
| Labour Ward                           | 52                                     | 38.8           |
| Antenatal Clinic                      | 28                                     | 20.9           |
| Postnatal Ward                        | 31                                     | 23.1           |
| Obstetric Emergency Unit              | 23                                     | 17.2           |

## Trustworthiness of Qualitative Data

To ensure rigor and trustworthiness of qualitative findings, credibility, transferability, dependability, and confirmability were maintained throughout the study. Member checking was conducted by reviewing selected interpretations with participants for accuracy. Detailed documentation of data collection and analysis procedures enhanced dependability, while triangulation of quantitative and qualitative findings strengthened the credibility of the results.

## Ethical Considerations

Ethical approval for the study was obtained from the Research Ethics Committees of the participating tertiary hospitals. Administrative permission was also obtained from heads of nursing services and maternity unit coordinators prior to commencement of the study.

Participants were adequately informed about the purpose, objectives, procedures, benefits, and voluntary nature of the study before obtaining written informed consent. Participants were assured that refusal to participate would not attract any penalty or affect their professional standing within the institution.

Confidentiality and anonymity were strictly maintained throughout the study. No identifying information was included in the questionnaires or interview transcripts. Data collected were securely stored and used strictly for research purposes. Audio recordings and completed questionnaires were accessible only to the researchers and were handled in accordance with ethical principles guiding nursing and midwifery research.

Table 1 presents the socio-demographic characteristics of the respondents who participated in the study. A total of 134 midwives drawn from selected tertiary hospitals in Rivers and Bayelsa States participated in the study.

The age distribution of the respondents showed that the majority, 56 (41.8%), were within the age range of 30–39 years, followed by 42 (31.3%) who were between 40–49 years. Respondents aged 20–29 years and those aged 50 years and above each accounted for 18 (13.4%) respectively. The mean age of the respondents was  $36.4 \pm 7.1$  years, indicating that most of the participants were within the active and productive professional age group commonly involved in maternal and newborn healthcare delivery.

With regard to gender, the findings revealed that the nursing and midwifery workforce was predominantly female, as 126 (94.0%) of the respondents were females, while only 8 (6.0%) were males. This reflects the traditionally female-dominated nature of the nursing and midwifery profession, particularly in maternal and child healthcare services.

Concerning professional qualification, the majority of the respondents, 102 (76.1%), possessed Registered Nurse/Registered Midwife (RN/RM) qualifications. Additionally, 24 (17.9%) had Bachelor of Nursing Science

(B.NSc) degrees, while only 8 (6.0%) possessed postgraduate qualifications. This finding suggests that most participants had the basic professional qualifications required for midwifery practice and maternal healthcare service delivery.

In terms of years of professional practice, 48 (35.8%) of the respondents had between 6–10 years of work experience, while 39 (29.1%) had practiced for 11–15 years. Respondents with 1–5 years of professional experience accounted for 22 (16.4%), whereas 25 (18.7%) had over 15 years of practice experience. The findings indicate that a substantial proportion of the respondents had moderate to extensive professional experience in nursing and midwifery practice, which may influence their clinical competence and exposure to evidence-based maternal healthcare interventions.

Regarding the current unit of practice, the majority of the respondents, 52 (38.8%), were working in the labour ward, followed by 31 (23.1%) who were practicing in postnatal wards. Furthermore, 28 (20.9%) were working in antenatal clinics, while 23 (17.2%) were attached to obstetric emergency units. This distribution demonstrates that most respondents were directly involved in intrapartum and immediate postpartum care where utilization of the WHO Safe Childbirth Checklist is highly relevant.

**Table 2:** Awareness of WHO Safe Childbirth Checklist Among Midwives (N = 134)

| Variable                                  | Frequency (n) | Percentage (%) |
|-------------------------------------------|---------------|----------------|
| Have heard of WHO SCC                     | 48            | 35.8           |
| Have never heard of WHO SCC               | 86            | 64.2           |
| Source of Awareness*                      |               |                |
| Workshop/Seminar                          | 22            | 16.4           |
| Institutional Briefing                    | 14            | 10.4           |
| Colleagues/Peers                          | 8             | 6.0            |
| Online/Professional Reading               | 4             | 3.0            |
| Adequate knowledge of checklist content   | 19            | 14.2           |
| Inadequate knowledge of checklist content | 115           | 85.8           |

\*Multiple responses allowed

Table 2 presents the level of awareness of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in the selected tertiary hospitals. The findings revealed generally low awareness of the WHO SCC among the respondents.

Out of the 134 respondents, only 48 (35.8%) reported that they had heard about the WHO Safe Childbirth Checklist, while the majority, 86 (64.2%), indicated that they had never heard of the checklist prior to the study. This finding suggests limited exposure and poor dissemination of the WHO SCC among midwives within the study settings.

Regarding the sources of awareness among respondents who had previously heard about the checklist, workshops and seminars constituted the major source of information, as reported by 22 (16.4%) respondents. Institutional briefings accounted for awareness among 14 (10.4%) respondents,

while 8 (6.0%) became aware of the checklist through colleagues and peers. Only 4 (3.0%) respondents reported online platforms and professional reading materials as their source of awareness. The findings indicate that formal professional training activities such as workshops and seminars played a more significant role in creating awareness of the WHO SCC compared to other information channels.

Furthermore, assessment of respondents' knowledge regarding the content and application of the checklist revealed poor knowledge levels among the majority of participants. Only 19 (14.2%) respondents demonstrated adequate knowledge of the WHO SCC content, while a substantial majority, 115 (85.8%), had inadequate knowledge of the checklist. This finding implies that even among respondents who had previously heard of the WHO SCC, detailed understanding of its components, purpose, and practical application remained limited.

**Table 3:** Utilization Patterns of WHO Safe Childbirth Checklist Among Midwives (N = 134)

| Variable                                      | Frequency (n) | Percentage (%) |
|-----------------------------------------------|---------------|----------------|
| Consistent utilization during all deliveries  | 18            | 13.4           |
| Occasional/selective utilization              | 41            | 30.6           |
| Rarely utilized                               | 29            | 21.6           |
| Never utilized                                | 46            | 34.3           |
| Utilized mainly during complicated deliveries | 54            | 40.3           |
| Utilized during routine maternity care        | 23            | 17.2           |
| Availability of checklist in labour ward      | 38            | 28.4           |
| Checklist not readily available               | 96            | 71.6           |

Table 3 presents the utilization patterns of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in the selected tertiary hospitals. The findings revealed generally poor and inconsistent utilization of the checklist among the respondents.

Only 18 (13.4%) respondents reported consistent utilization of the WHO SCC during all deliveries, indicating that routine use of the checklist among midwives was very limited. In contrast, 41 (30.6%) respondents reported occasional or selective utilization of the checklist, while 29 (21.6%) indicated that they rarely utilized it. Furthermore, 46 (34.3%) respondents stated that they had never utilized the WHO Safe Childbirth Checklist in their clinical practice. These findings suggest low integration of the checklist into routine maternal and newborn care within the participating tertiary healthcare facilities.

The study further assessed the specific situations in which the checklist was commonly utilized. More than one-third of the

respondents, 54 (40.3%), indicated that the WHO SCC was mainly used during complicated or high-risk deliveries rather than during routine childbirth care. Conversely, only 23 (17.2%) respondents reported utilizing the checklist during routine maternity care practices. This finding implies that many midwives perceived the checklist as a tool primarily reserved for emergency or complicated obstetric situations instead of a standard patient safety tool to be consistently applied during all deliveries.

In relation to the availability of the checklist within labour wards, only 38 (28.4%) respondents confirmed that the WHO SCC was readily available in their units, while the majority, 96 (71.6%), reported that the checklist was not readily available in the labour wards. The inadequate availability of checklist materials within clinical units may have significantly contributed to the poor utilization observed among the respondents.

**Table 4:** Perceived Barriers to WHO Safe Childbirth Checklist Utilization Among Midwives (N = 134)

| Barrier                             | Frequency (n) | Percentage (%) |
|-------------------------------------|---------------|----------------|
| Staffing shortages                  | 112           | 83.6           |
| Excessive workload                  | 118           | 88.1           |
| Time constraints during emergencies | 109           | 81.3           |
| Lack of training opportunities      | 101           | 75.4           |
| Poor supervision                    | 94            | 70.1           |
| Lack of institutional enforcement   | 98            | 73.1           |
| Inadequate checklist materials      | 87            | 64.9           |
| Poor managerial support             | 85            | 63.4           |
| Resistance to behavioural change    | 53            | 39.6           |

Table 3 presents the utilization patterns of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in the selected tertiary hospitals. The findings revealed generally low, inconsistent, and selective utilization of the checklist among the respondents, indicating poor integration of the WHO SCC into routine maternal and newborn care practices.

Out of the 134 respondents, only 18 (13.4%) reported consistent utilization of the WHO Safe Childbirth Checklist during all deliveries. This finding indicates that routine and continuous use of the checklist among midwives was

considerably limited within the study settings. In comparison, 41 (30.6%) respondents reported occasional or selective utilization of the checklist, suggesting irregular application depending on clinical situations or individual preference. Additionally, 29 (21.6%) respondents indicated that they rarely utilized the checklist in their practice, while the highest proportion of respondents, 46 (34.3%), stated that they had never utilized the WHO SCC during childbirth care. These findings collectively demonstrate poor adoption and low routine implementation of the checklist within the participating tertiary healthcare institutions.

The study further explored the circumstances under which the checklist was commonly utilized by the respondents. More than one-third of the respondents, 54 (40.3%), reported that the WHO SCC was mainly used during complicated or high-risk deliveries rather than during normal routine childbirth management. In contrast, only 23 (17.2%) respondents indicated that the checklist was utilized as part of routine maternity care for all labouring women. This finding suggests that many midwives perceived the WHO SCC primarily as an emergency or complication-management tool rather than a standard patient safety instrument intended for universal application during every delivery. Such selective utilization may reduce the effectiveness of the checklist in preventing

avoidable maternal and neonatal complications through early identification and management of risk factors.

Findings regarding the availability of the WHO SCC within labour wards revealed limited accessibility of the checklist materials in the participating hospitals. Only 38 (28.4%) respondents confirmed that the checklist was readily available within their units, whereas the majority, 96 (71.6%), reported that the checklist was not readily available in the labour wards. The inadequate availability of checklist materials may have contributed significantly to the low utilization observed among the respondents, as access to the tool is essential for consistent implementation during childbirth care.

**Table 5:** Organizational Support and Supervision for WHO Safe Childbirth Checklist Utilization (N = 134)

| Variable                                                | Frequency (n) | Percentage (%) |
|---------------------------------------------------------|---------------|----------------|
| Presence of institutional policy supporting WHO SCC use | 27            | 20.1           |
| Absence of institutional policy                         | 107           | 79.9           |
| Regular supervision available                           | 31            | 23.1           |
| No regular supervision                                  | 103           | 76.9           |
| Availability of mentorship programmes                   | 24            | 17.9           |
| No mentorship programmes                                | 110           | 82.1           |
| Management encourages checklist use                     | 36            | 26.9           |
| Limited managerial encouragement                        | 98            | 73.1           |

Table 5 presents the findings on organizational support and supervision for the utilization of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in the selected tertiary hospitals. The findings revealed inadequate institutional support systems, limited supervision, and poor managerial commitment toward the implementation of the checklist within the study settings.

Regarding the presence of institutional policies supporting the use of the WHO SCC, only 27 (20.1%) respondents reported that their hospitals had established policies promoting checklist utilization during childbirth care. In contrast, the majority of the respondents, 107 (79.9%), indicated that there were no institutional policies supporting or enforcing the routine use of the checklist within their facilities. This finding suggests that the absence of formal organizational policies may have contributed significantly to the poor adoption and inconsistent use of the WHO SCC among midwives.

Findings on supervisory practices further revealed inadequate monitoring and follow-up mechanisms regarding checklist implementation. Only 31 (23.1%) respondents reported that regular supervision relating to WHO SCC utilization was available within their units, whereas 103 (76.9%) respondents indicated that there was no regular supervision for checklist use. The lack of supportive supervision may negatively affect

compliance with recommended childbirth safety practices, as regular monitoring is essential for reinforcing adherence to evidence-based clinical guidelines.

Similarly, the study assessed the availability of mentorship programmes aimed at supporting checklist implementation among midwives. The findings showed that only 24 (17.9%) respondents reported the existence of mentorship programmes within their facilities, while the majority, 110 (82.1%), indicated that no mentorship programmes were available to guide or support midwives in the utilization of the WHO SCC. This finding implies limited opportunities for continuous professional support, practical guidance, and skills reinforcement regarding checklist use within the participating institutions.

In relation to managerial encouragement, only 36 (26.9%) respondents stated that hospital management actively encouraged the use of the WHO Safe Childbirth Checklist during maternity care. Conversely, 98 (73.1%) respondents reported limited managerial encouragement regarding checklist utilization. The low level of managerial support identified in this study may have influenced the inconsistent utilization patterns observed among the midwives, as leadership commitment and institutional motivation are important factors in promoting behavioural adoption of clinical safety tools.

**Table 6:** Perceived Usefulness of WHO Safe Childbirth Checklist (N = 134)

| Variable                                        | Frequency (n) | Percentage (%) |
|-------------------------------------------------|---------------|----------------|
| Improves organization of care                   | 116           | 86.6           |
| Reduces omission of critical care steps         | 121           | 90.3           |
| Enhances patient safety                         | 124           | 92.5           |
| Improves communication among healthcare workers | 109           | 81.3           |
| Improves maternal care outcomes                 | 118           | 88.1           |
| Improves neonatal care outcomes                 | 113           | 84.3           |
| Simplifies clinical documentation               | 95            | 70.9           |

Table 6 presents the respondents' perceptions regarding the usefulness of the World Health Organization Safe Childbirth Checklist (WHO SCC) in improving the quality of maternal and newborn care. The findings revealed that the majority of the respondents perceived the checklist as a beneficial and effective clinical tool for enhancing safe childbirth practices and improving patient outcomes.

A substantial proportion of the respondents, 116 (86.6%), agreed that the WHO SCC improves the organization of care during labour and delivery. This finding suggests that the checklist assists midwives in following a systematic and coordinated approach to childbirth management, thereby reducing disorganization and improving workflow within maternity units.

Similarly, 121 (90.3%) respondents reported that the checklist helps to reduce the omission of critical care steps during childbirth management. This indicates that the WHO SCC serves as an important reminder tool that supports healthcare providers in adhering to essential evidence-based practices during labour, delivery, and the immediate postpartum period. The reduction in omission of critical procedures may contribute significantly to improved maternal and neonatal safety outcomes.

Furthermore, the majority of the respondents, 124 (92.5%), perceived that the WHO SCC enhances patient safety during childbirth care. This was the highest response recorded among all the perceived usefulness variables, demonstrating

strong recognition among midwives that the checklist contributes positively to the prevention of avoidable maternal and neonatal complications through improved monitoring, timely interventions, and adherence to recommended clinical practices.

In relation to teamwork and communication, 109 (81.3%) respondents indicated that the WHO SCC improves communication among healthcare workers involved in maternity care. This finding implies that the checklist promotes better coordination and information sharing among members of the healthcare team during childbirth management, which is essential for effective and safe patient care.

Additionally, 118 (88.1%) respondents believed that utilization of the WHO SCC improves maternal care outcomes, while 113 (84.3%) reported that the checklist contributes to improved neonatal care outcomes. These findings suggest that midwives recognized the checklist as a valuable intervention capable of enhancing the quality of maternal and newborn healthcare services through the promotion of essential childbirth practices.

The study also revealed that 95 (70.9%) respondents perceived that the WHO SCC simplifies clinical documentation during maternity care. This finding indicates that the checklist may assist healthcare providers in maintaining more organized and structured patient records during labour and delivery management.

**Table 7:** Training Needs and Recommendations for Improved WHO Safe Childbirth Checklist Utilization (N = 134)

| Variable                                      | Frequency (n) | Percentage (%) |
|-----------------------------------------------|---------------|----------------|
| Need for regular in-service training          | 126           | 94.0           |
| Need for simulation-based workshops           | 118           | 88.1           |
| Need for refresher courses                    | 121           | 90.3           |
| Need for supportive supervision               | 115           | 85.8           |
| Need for institutional policy integration     | 123           | 91.8           |
| Need for adequate staffing                    | 119           | 88.8           |
| Need for continuous monitoring and evaluation | 111           | 82.8           |

Table 7 presents respondents' training needs and recommendations for improving the utilization of the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in the selected tertiary hospitals. The

findings revealed a very strong consensus among respondents on the need for capacity building, institutional strengthening, and improved health system support to enhance effective checklist implementation.

A vast majority of the respondents, 126 (94.0%), indicated the need for regular in-service training on the WHO SCC. This was the highest reported recommendation, highlighting a critical gap in continuous professional development and reinforcing the need for structured training programmes to improve midwives' knowledge, competence, and confidence in checklist utilization during childbirth care.

Similarly, 118 (88.1%) respondents recommended the need for simulation-based workshops. This suggests that practical, hands-on training approaches are highly valued by midwives, particularly in enhancing clinical decision-making skills, emergency preparedness, and proper application of the checklist during real-life obstetric situations.

In addition, 121 (90.3%) respondents emphasized the need for refresher courses. This finding indicates that even among those previously exposed to the WHO SCC, periodic reinforcement of knowledge is necessary to ensure sustained competence and adherence to best practices in maternal and newborn care.

The need for supportive supervision was also strongly highlighted, with 115 (85.8%) respondents recommending

regular supervisory support. This underscores the importance of continuous monitoring, mentorship, and clinical guidance in promoting adherence to the checklist and improving accountability in maternity care services.

Furthermore, 123 (91.8%) respondents advocated for the integration of the WHO SCC into institutional policies. This finding reflects the recognition that formal policy adoption is essential for ensuring standardization, enforcement, and sustainability of checklist utilization across maternity units.

In relation to workforce capacity, 119 (88.8%) respondents identified the need for adequate staffing. This suggests that human resource shortages significantly affect the ability of midwives to consistently utilize the checklist, particularly in high-volume labour wards where workload pressure is high.

Finally, 111 (82.8%) respondents recommended continuous monitoring and evaluation of WHO SCC implementation. This indicates that systematic assessment mechanisms are necessary to track compliance, identify gaps, and improve quality assurance in maternal and newborn care services.

## Qualitative Findings

**Table 8:** Major Themes and Sub-Themes from In-Depth Interviews

| Major Theme                         | Sub-Themes                                              | Illustrative Meaning                                              |
|-------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| Poor Awareness and Limited Exposure | Lack of formal training; minimal orientation            | Many midwives had little knowledge of WHO SCC content and purpose |
| Inconsistent Utilisation            | Selective use during emergencies; irregular application | Checklist mostly used during complicated deliveries               |
| Staffing and Workload Challenges    | Shortage of staff; overcrowded labour wards             | Heavy workload affected compliance with checklist use             |
| Organisational Support Deficiencies | Weak supervision; lack of policy enforcement            | Limited managerial support discouraged routine use                |
| Perceived Usefulness of WHO SCC     | Improved patient safety; reduced omissions              | Midwives acknowledged checklist benefits when utilized            |
| Need for Capacity Building          | Regular training; mentorship and monitoring             | Participants recommended continuous professional education        |

Table 8 presents the qualitative findings from in-depth interviews conducted among midwives, highlighting the major themes and sub-themes that emerged regarding the awareness and utilization of the WHO Safe Childbirth Checklist (WHO SCC) in the selected tertiary hospitals. The findings provide rich contextual insight into midwives' experiences, perceptions, and challenges affecting checklist implementation.

Under the theme of poor awareness and limited exposure, participants reported a general lack of formal training and minimal orientation on the WHO SCC. Many midwives indicated that they had little or no structured education regarding the content, purpose, and correct application of the checklist. This reflects significant gaps in professional exposure and knowledge dissemination within the healthcare facilities.

The theme of inconsistent utilization revealed that the WHO SCC was largely used selectively rather than routinely. Participants explained that the checklist was mostly applied during complicated or emergency obstetric cases, while routine use during normal deliveries was uncommon. This suggests that the checklist is not yet fully integrated into standard maternity care practice.

Regarding staffing and workload challenges, respondents consistently highlighted shortage of personnel and overcrowded labour wards as major barriers to effective checklist use. Midwives reported that heavy workload, high patient turnover, and emergency demands often made it difficult to consistently complete the checklist during care delivery. These systemic constraints significantly affected adherence to safe childbirth practices.

The theme of organizational support deficiencies revealed weak supervisory structures and lack of policy enforcement within the facilities. Participants noted that there was limited managerial encouragement, poor monitoring systems, and absence of clear institutional directives mandating checklist use. These deficiencies contributed to poor compliance and inconsistent utilization among midwives.

In contrast, under the theme of perceived usefulness of the WHO SCC, participants acknowledged that the checklist improved patient safety when utilized. They reported that it

helped reduce omissions of critical clinical steps, improved organization of care, and enhanced overall quality of maternal and newborn services. This indicates a positive perception of the tool despite its low utilization.

Finally, the theme of need for capacity building emphasized the importance of continuous professional development. Participants strongly recommended regular training, mentorship, and supportive monitoring to enhance knowledge, build confidence, and promote sustained use of the checklist in clinical practice.

**Table 9:** Representative Verbatim Quotes from Participants

| Theme                         | Participant Quote                                                                                  |
|-------------------------------|----------------------------------------------------------------------------------------------------|
| Poor Awareness                | "I have heard about the checklist before, but nobody really trained us on how to use it properly." |
| Inconsistent Utilization      | "Most times we only remember to use it when the patient develops complications."                   |
| Workload Challenges           | "When the labour ward is very busy, completing the checklist becomes difficult."                   |
| Lack of Institutional Support | "There is no strict policy in this hospital that makes the checklist compulsory."                  |
| Perceived Usefulness          | "The checklist helps us avoid forgetting important procedures during delivery."                    |
| Training Needs                | "We need regular workshops and supervision to improve our confidence in using it."                 |

Table 9 presents representative verbatim quotes from participants, providing direct qualitative evidence on midwives' experiences and perceptions regarding the awareness and utilization of the WHO Safe Childbirth Checklist (WHO SCC) in the selected tertiary hospitals. These narratives further enrich the quantitative findings by illustrating real-life perspectives of respondents.

Under the theme of poor awareness, a participant stated: "*I have heard about the checklist before, but nobody really trained us on how to use it properly.*" This reflects inadequate formal training and limited structured orientation on the WHO SCC among midwives.

In relation to inconsistent utilization, another participant reported: "*Most times we only remember to use it when the patient develops complications.*" This indicates that the checklist is not routinely applied but rather selectively used during high-risk or emergency obstetric situations.

Regarding workload challenges, a respondent explained: "*When the labour ward is very busy, completing the checklist becomes difficult.*" This highlights the impact of high patient load and time constraints on the ability of midwives to consistently apply the checklist during childbirth care.

Under the theme of lack of institutional support, a participant noted: "*There is no strict policy in this hospital that makes the checklist compulsory.*" This statement reflects weak enforcement mechanisms and absence of institutional policies mandating the routine use of the WHO SCC.

In contrast, under perceived usefulness, a participant remarked: "*The checklist helps us avoid forgetting important procedures during delivery.*" This suggests that despite low utilization, midwives recognize the value of the checklist in improving adherence to essential childbirth practices and enhancing patient safety.

Finally, under the theme of training needs, a participant emphasized: "*We need regular workshops and supervision to improve our confidence in using it.*" This highlights the strong demand for continuous professional development, supportive supervision, and capacity-building initiatives to enhance effective utilization of the WHO SCC.

## Discussion

This study assessed the awareness, utilization, perceived barriers, organizational support, perceived usefulness, and training needs regarding the World Health Organization Safe Childbirth Checklist (WHO SCC) among midwives in tertiary hospitals in Rivers and Bayelsa States, Nigeria. The findings are discussed in line with existing literature, nursing and midwifery practice standards, and global maternal health priorities.

The socio-demographic profile of respondents showed that the mean age was  $36.4 \pm 7.1$  years, with the majority (41.8%) aged 30–39 years. This reflects a predominantly young and active workforce in maternal healthcare delivery. The dominance of female respondents (94.0%) aligns with the traditional gender composition of nursing and midwifery professions globally, where women constitute the majority of the workforce due to historical, cultural, and professional orientation patterns in maternal care delivery (WHO, 2023).

Most respondents were Registered Nurse/Midwives (76.1%) with moderate years of professional experience, particularly within the 6–10 years category (35.8%). This indicates that the workforce is sufficiently experienced to provide skilled maternity care. However, experience alone does not guarantee adherence to evidence-based practice tools such as the WHO SCC, especially when institutional support and training are inadequate. The distribution across labour wards, antenatal, postnatal, and emergency units suggests that

respondents were actively involved in all stages of maternity care, where adherence to standardized safety tools is critical for improving outcomes.

The study revealed poor awareness of the WHO Safe Childbirth Checklist, with only 35.8% of respondents having heard of it, while 64.2% had never encountered it. This finding is concerning, as awareness is the foundational step in the adoption of any clinical guideline or innovation. The low awareness level suggests inadequate dissemination of the checklist within health facilities and insufficient integration into midwifery training and continuing professional development programs.

Among those aware, knowledge was largely inadequate (85.8%), indicating that even exposure to the checklist did not translate into meaningful understanding. This aligns with diffusion of innovation theory, which emphasizes that awareness alone is insufficient without adequate knowledge and skill acquisition for behavioural change in clinical practice (Rogers, 2003). Similar findings have been reported in low-resource settings where WHO SCC implementation remains weak due to insufficient training exposure (Ameh et al., 2020).

Utilization of the WHO SCC was generally poor and inconsistent. Only 13.4% of respondents reported consistent use, while 34.3% had never used the checklist. A significant proportion (40.3%) reported using it mainly during complicated deliveries, indicating selective and non-routine application.

This suggests that the checklist is perceived more as an emergency tool rather than a standard safety protocol for all deliveries. Such practice undermines the preventive purpose of the WHO SCC, which is designed to ensure consistent adherence to essential childbirth practices regardless of complication status (WHO, 2015). The low availability of the checklist (71.6% reported non-availability) further exacerbates poor utilization, highlighting systemic supply and implementation gaps.

These findings are consistent with studies conducted in other low- and middle-income countries, where utilization of the WHO SCC remains suboptimal due to inadequate institutional integration, lack of training, and poor resource availability (Spector et al., 2013; Semrau et al., 2017).

The major barriers identified included excessive workload (88.1%), staffing shortages (83.6%), time constraints (81.3%), lack of training (75.4%), poor supervision (70.1%), and lack of institutional enforcement (73.1%). These findings highlight a systemic failure in health workforce planning and clinical governance.

Heavy workload and understaffing are well-documented barriers to quality maternal healthcare delivery in Nigeria and other sub-Saharan African countries. When midwives are overwhelmed with high patient loads, adherence to structured

tools such as checklists becomes difficult. This leads to omission of critical steps in care, increasing the risk of maternal and neonatal complications.

Lack of training and supervision reflects weak capacity-building structures within health institutions. Without continuous professional development, midwives may lack the competence and motivation required to consistently apply the WHO SCC.

The findings revealed weak institutional support, with 79.9% reporting absence of policies supporting WHO SCC use, 76.9% lacking regular supervision, and 82.1% lacking mentorship programmes. This demonstrates poor organizational commitment to patient safety interventions.

In nursing and midwifery practice, leadership and governance are critical determinants of quality care delivery. The absence of policy enforcement suggests that the WHO SCC is not institutionalized within routine maternity care systems. Without formal policy backing, compliance becomes optional rather than mandatory, leading to inconsistent practice patterns.

This finding is consistent with global evidence indicating that successful implementation of WHO SCC requires strong leadership engagement, supervision, and integration into national maternal health policies (WHO, 2015).

Despite poor utilization, respondents demonstrated a highly positive perception of the checklist. Over 90% agreed that it enhances patient safety, reduces omission of critical care steps, and improves organization of care. This indicates that midwives recognize the clinical value of the tool.

This positive perception is significant from a behavioural change perspective, as it suggests readiness for adoption if systemic barriers are addressed. According to health behaviour theories, positive attitude towards an intervention is a strong predictor of future uptake when enabling factors are provided.

The findings revealed overwhelming demand for training and capacity building, with 94.0% requesting regular in-service training and 91.8% advocating for policy integration. Simulation-based workshops (88.1%) and refresher courses (90.3%) were also strongly recommended.

This highlights a critical gap in continuing professional education within maternity services. Midwives clearly recognize that competence in using the WHO SCC requires structured learning, practical demonstrations, and ongoing reinforcement.

Supportive supervision (85.8%), adequate staffing (88.8%), and monitoring and evaluation (82.8%) were also emphasized, reinforcing the need for a comprehensive health systems strengthening approach.

Qualitative findings supported quantitative results, revealing poor awareness, inconsistent utilization, workload challenges,

weak institutional support, and strong demand for training. Participants' verbatim responses emphasized that the checklist is often used only during complications, and its routine use is hindered by heavy workload and lack of policy enforcement.

Importantly, midwives acknowledged that the checklist improves patient safety and prevents omissions, reinforcing its perceived clinical value despite implementation challenges.

## Conclusion of Discussion

This study therefore demonstrates a significant gap between knowledge, perception, and actual utilization of the WHO Safe Childbirth Checklist among midwives. While awareness and utilization are low, perceptions are highly positive, suggesting strong potential for improvement if systemic barriers are addressed. Strengthening training, institutional policy enforcement, staffing levels, and supervision is essential to ensure effective implementation of the WHO SCC and ultimately improve maternal and neonatal outcomes in Nigeria.

## Implications for Nursing and Midwifery Education

The findings highlight the need for integration of the WHO Safe Childbirth Checklist into undergraduate and postgraduate nursing and midwifery curricula. Continuous professional development programmes should incorporate competency-based training on checklist utilization, simulation-based learning, and evidence-based maternity care practices.

Healthcare institutions should also establish regular mentorship and supportive supervision programmes to reinforce checklist compliance among practicing midwives.

## Recommendations

1. Regular training and retraining programmes on WHO SCC utilization should be organized for midwives.
2. Healthcare institutions should integrate the WHO SCC into routine maternity care protocols.
3. Adequate staffing should be ensured to reduce workload-related barriers.
4. Hospital management should strengthen supportive supervision and monitoring systems.
5. Government and professional bodies should develop policies promoting mandatory use of the WHO SCC in maternity units.
6. Further studies should explore long-term sustainability and implementation outcomes of checklist use in different healthcare settings.

## Conclusion

Awareness and utilization of the WHO Safe Childbirth Checklist among midwives in tertiary hospitals in Rivers and Bayelsa States were generally low at baseline. Poor institutional support, staffing shortages, inadequate training, and workload pressures contributed significantly to inconsistent utilization. Nevertheless, midwives perceived the checklist as a valuable tool for improving patient safety and quality of maternal care. Strengthening institutional support systems, workforce capacity, and continuous professional education is essential for improving adoption and sustainability of the WHO SCC in Nigerian healthcare facilities.

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