

## Healthcare Workers' Knowledge and Use of Safe Childbirth Checklist Tool in Tertiary Hospitals in Rivers State

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### ABSTRACT

Globally, maternal mortality is an indicator to monitor maternal health services. In 2010, the WHO indicated that maternal deaths in Nigeria contributed to 14% of global maternal deaths. In 2018 Nigeria's maternal mortality rate was 512 deaths per 100,000 live births. The WHO and other key partners developed the Safe Childbirth Checklist (SCC) as a facility-based tool to serve as reminder to help health workers adhere to evidence-based practices to ensure safety of the mother and baby. SCC has reportedly been adopted for use in other countries like Brazil and Cameroon. The objective of this study was to assess the Doctors and Nurses' Knowledge and Use of SCC in public tertiary hospitals in Rivers State. Descriptive cross-sectional study was used. Structured questionnaires were self-administered to 207 respondents (35 nurses and 67 doctors at RSUTH, 49 nurses and 56 doctors at UPTH) working in obstetrics and gynaecology department. Chi-square was used to test the hypothesis. Descriptive statistics was used to assess the responses of the respondents. Responses obtained at Teaching Hospital A showed that 80% of the Nurses/Midwives have no knowledge of SCC tool, 100% of the House Officers have not seen the tool; 90% of the Resident Doctors have not also used SCC tool. At Teaching Hospital B, 80% of the Nurses have no knowledge of SCC tool; 20% of the Nurses had seen it earlier. The study showed evidence that SCC tool is not in use in the two tertiary hospitals in Rivers State. Null hypothesis was accepted.

### INTRODUCTION

The introduction of Safe Childbirth Checklist (SCC) is an important step towards bridging the gaps in practices related to mother and newborn in health facilities. The safe childbirth checklist was introduced as a unifying practice tool developed to ensure that there is universal delivery of minimum standard at the time of childbirth. It is provided as a bedside tool for the healthcare providers to improve the wellbeing of patients during care (Dohbit, et al, 2019).

The ultimate goal of using the safe childbirth checklist is to help ensure that healthcare workers consistently follow the core set of safety sets provided in the checklist thus minimizing common and avoidable risks that endanger patients lives. It assists in documenting the kind of care offered by healthcare workers during childbirth. Thus, by reviewing the completed checklist, it provides a guide that would help in the improvement and maintenance of quality of health care in delivery places (WHO, 2015).

The World Health Organization (WHO) (2013) indicated that the safe childbirth checklist development spanned between the period of October 2008 to June 2010. This was after a review of the following issues was carried out.

- Major causes of disease and death during the prenatal and postnatal periods alongside with audits of perinatal deaths which were done to help in determining the primary avoidable factors associated with mortality due to facility-based childbirth.
- Available evidence-based recommendations by the WHO that is directed towards major causes of maternal morbidity and mortality.
- Activities of key stakeholders, frontline health workers, policy-makers and maternal-new-born health advocates who had consultations to arrive at a common view with regards to selection of items and draft checklist pause points.
- Collaborative field testing draft checklist alongside with Better Birth Programme in 18 locations in five WHO regions. This was carried out in order to explore the factors that would influence checklist use in various settings around the world.

This report of the collaborative field testing was launched in late 2012. The aim of the field testing was to address salient gaps in knowledge which include how acceptable, feasible and usable, the checklist is, in line with best practices as the checklist is put to use, resources and mechanisms that would facilitate or hinder the use of the checklist, barriers and success factors and conditions that would facilitate the scaling up of the checklist various health facilities. The final version of the WHO safe childbirth checklist and its implementation was presented.

Maternal mortality has continued to be an issue of great public health importance as MMR represents the status of health care services and social wellbeing of any country (Shirin & Nahar, 2013). In a report of systematic review of causes of deaths of mothers during pregnancy, labour and delivery in Nigeria, Tasneem, et al (2019) asserted that a female dies every two minutes from pregnancy related causes, and these mortalities are also reported in Sub-saharan Africa. Women are often exposed to the risk of death from childbirth. Females in the age bracket of 15-19 are particularly vulnerable to maternal death. Women who survive child birth are also known to suffer from multiple chronic ailments thus giving rise to severe maternal mortality.

In an effort to improve the wellbeing of mothers and babies, a declaration on eight Millennium Development Goals (MDGs) was signed by 189 world leaders in 2000. Goal 5 has to do with 75% reduction of maternal mortality between the period of 1990 and 2015 (Filippi, et al, 2016). Nigeria being a signatory to MDG goals had put in efforts to reduce maternal mortality by 75%, although without steady progress. This is reflected in statistics. In 1990, 473 maternal deaths per 100,000 live births were reported. Between 2008 and 2013, maternal mortality ratio increased to 545 deaths per 100,000 live birth and 576 per 100,000 live births respectively, as reported in Nigeria Demographic and Health Survey key findings (Hussein, et al, 2016).

In a related report of review carried out at the teaching hospital of the University of Calabar between 2010 and 2014, the maternal mortality was observed to be 448 deaths per 100,000 live births (Agan, et al, 2018). A similar report of a 7-year review of magnitude, trends and causes of maternal mortality in Rivers State University Teaching Hospital, revealed that MMR from 2012 to 2018 was 644 deaths per 100,000 live births. Even though this is lower than Nigeria MMR of 814 in 2015; and higher than 512 figure of 2018, the MMR is still abysmally high in considering the agenda of Sustainable Development Goal 3.1. (Awoyesuku et al, 2020).

Despite the substantial progress registered globally, there are still challenges in Nigeria and other Sub-saharan African countries. In the post 2015 agenda on Sustainable Development Goal for 2030, it is recommended that global MMR should be reduced to 70 deaths per 100,000

live births, and no nation should exceed two time ratio (140 deaths per 100,000 live births). (UNFPA, 2020).

It is reported that in Nigeria, “the lifetime risk of a woman dying as a result of pregnancy, child delivery and postpartum, or after an abortion is 1 in 22, whereas for high income countries the lifetime risk is 1 in 4900”. (Aderinto, 2022). Evidence available indicates that the high occurrence of death of mother and neonates in Nigeria is attributed to the three main forms of delays, namely:

- Delay by the patient and relations in deciding when to seek medical attention for mothers care.
- Delay in identifying and reaching a health facility.
- Delay in rendering skilled care at the health facility (Ope, 2020).

Improving maternal health is one of the key priorities of WHO, who is making effort with partner member states to reduce maternal mortality by:

- Ensuring availability of evidence-based clinical procedures and programmes.
- Setting global standards
- Giving technical supports to member states
- Advocating for more effective and affordable and sustainable treatment methods.
- Designing guidelines and training materials for health workers.
- Encouraging partner countries to act on the policies and set our activities, and
- Monitoring of progress (WHO/HRP, 2014).

According to the report by United Nations Population Fund (UNFPA), the International Conference on Population and Development (ICPD) Programme of Action also identified ending maternal deaths from preventable causes as a key project, since this is an important indicator in the Sustainable Development Goal 3.1 for a “global maternal mortality ratio less than 70 per 100,000 live birth by 2030”. From this report, “Every Woman Every Girl” global movement was launched in 2010 for the purpose of mobilizing international and country-level action to “address the major health challenges facing mothers, infants and adolescents around the world”.

To prevent maternal deaths, it was identified that there is need to scale up evidence-based interventions which would be delivered through high quality and timely care (UNFPA, 2020). Further to this, in a bid to increase the quality of care at the health facility and thereby reducing the delay factor in rendering skilled services, the WHO introduced in 2015, the Safe Childbirth Checklist (SCC). The SCC is a facility based tool to serve as a reminder in assisting healthcare workers follow closely the evidence-based practices which are helping in providing improved outcomes in maternal and neonatal care.

SCC has reportedly been accepted globally. Custodio, et al (2021) gave report of the study conducted in two public teaching hospitals in Brazil that the adoption rate among all healthcare workers was 45.8% while knowledge on use of the checklist was 60.1%. Following a survey conducted at the Sree Benga Hospital in India, the completion rate of SCC was 77% by the end of cycle one. According to Thomas et al (2021) workers in Tanzania exhibited knowledge and were able to use the WHO SCC. Dohbit, et al (2021) reported that in Cameroon, the adoption rate of SCC was 84%. This high adoption rate was due to the commitment of staff. In West Africa, Kadidjatou et al (2020) reported that Burkina Faso and Cote D’voire have the implementation of SCC tool in their countries. The researcher is yet to come across any published work about health workers knowledge and use of SCC in Nigeria. However, Medical Personnel from the University of Port Harcourt Teaching Hospital and Orogbum Primary

Healthcare Centre were members of the collaborative committee that produced evaluation report of WHO in 2017 (WHO, 2017).

The implementation of the SCC requires that the healthcare worker must have adequate knowledge of the SCC. Knowledge is explained as being aware or familiar with facts, subjects or practical skills (Wikipedia). According to Monte (2020) when knowledge is documented as tasks, procedures, policy manuals, it is known as explicit knowledge. Thus, knowledge management in an organization like in healthcare setting involves proper documentation for the purpose of meeting technical and strategic requirements, and creating value. If healthcare workers are aware of the existence of SCC, and familiar with the items on the tool, then they will be empowered to carryout birth procedures as documented on the SCC. This would help bring about the desired outcome: safety of mother and child.

There are two public hospitals in Rivers State; the University of Port Harcourt Teaching Hospital (UPTH) and Rivers State University Teaching Hospital (RSUTH). In these tertiary hospitals, there are doctors and nurses rendering skilled maternal and child care. It is envisaged that their adherence to the use of SCC will help translate WHO's recommendations into high quality care with desirable outcomes for mother and baby. This research is therefore geared towards assessing health care workers knowledge and use of the SCC tool in the two tertiary health institutions.

Information generated will be useful to the nurse managers, the management of the two health facilities under study and Rivers State Ministry of Health, who will be prompted to respond to the identified need by ensuring that the safe childbirth checklist tool is provided in the facilities and ensuring that the healthcare workers are trained on the use of safe childbirth checklist tool for effective provision of maternal health services.

### **1.3 Aim and objectives of the study**

The aim of this research is to assess the health workers' knowledge and use of safe childbirth tool in Rivers State University Teaching Hospital and University of Port Harcourt Teaching Hospital.

Specifically, the research will be guided by the following objectives:

- To assess the knowledge of SCC tool among health workers in tertiary hospitals, Rivers State.
- To evaluate the use of the SCC tool among health workers in tertiary hospitals, Rivers State.

### **1.5 Hypotheses**

1. There is no significant relationship between knowledge of health workers and use of safe childbirth checklist tool in UPTH and RSUTH.
2. There is no significant relationship between factors affecting the use of safe childbirth checklist tool and the health workers' use of the checklist tool in UPTH and RSUTH.

## **METHODOLOGY**

This was a descriptive cross-sectional study. The population included all Doctors and Nurses working in Obstetrics and Gynaecology Department, and in labour ward. The sampling size was based on the total number of health workers in the designated areas of obstetrics and gynecology and labour ward. This was purposely chosen which involves conscious selection (Osuala, 2021). According to Regoli (2019) purposive sampling enables researchers to focus on "individuals with specific characteristics in a targeted population group of interest". In this

case, health workers who are directly involved in the use of SCC was recruited. In the present circumstance, in UPTH there are 49 nurses and 56 doctors while in RSUTH there are 35 nurses and 87 doctors working in these departments, making a total of 227. The nature of the instrument is structured questionnaire. The study instrument was self-administered questionnaire divided into 4 sections: Section A was general information about respondents; section B – assessed the knowledge of safe childbirth checklist among the health workers; section C –evaluated the use of SCC in these tertiary institutions; section D – elicited the factors that affect the use of SCC in these tertiary institutions. Descriptive statistics was used to analyze data relating to section A: General information on respondents: qualification, rank, sex, years of experience using frequencies, mean, proportions. The data collected from the respondents were sorted, cleared and coded. Quantitative analysis was performed using Pearson’s chi-square test to establish correlation between some respondents’ factors and use of items on the SCC tool.

### Research and Analysis

The following responses were received.

### Responses from Hospital A

**TABLE 4.1: Characteristics from Nurse/Midwives (30)**

Gender		Years of Experience (year)				
Male (N (%))	Female N (%)	< 1 N (%)	2-4 N (%)	5-7 N(%)	8-10 N(%)	>10 N(%)
3(10)	27(90)	3(16.7)	-	3(10)	9(30)	13(43.3)

Table 4.1 shows characteristics from nurses/midwives in Hospital A with sample size of 30. Information from the table reveals that 90% of the respondents are female, 10% of the nurse/midwives respondents are males while less than 56.7% of the respondents have spent less than 10 years while 43.3% of the respondents spent more than 10 years in the job.

**Table 4.2: Knowledge, Checklist use and factors affecting SSC tool (Nurse/Midwives)**

S/N	Nurses/Midwives Items	Yes (2)	No (1)	Total
5.	Did you receive any information about the checklist	5(10) (11.36)	25(25) (28.23)	35
6.	Do you know that the SCC contains four pause points?	2(4) (10.36)	28(28) (21.63)	32
7.	Do you know that the four pause points include on admission, just before pushing, soon after birth and before discharge?	2(4) (10.36)	28(28) (21.61)	32



8.	Did you receive any supervision, support or coaching while using the checklist?	3(6) (10.69)	27 (27) (22.3)	33
9.	Do you know that magnesium sulphate is recommended as anticonvulsive treatment on first three pause points?	25(50) (17.82)	5(5) (37.17)	55
10.	Did you receive any training on the use of the checklist?	0(0) (9.72)	30(30) (20.27)	30
11.	Do you know that item two on pause point 1 includes use of partograph?	0(0) (9.72)	30(30) (20.27)	30
12.	How often do you use the checklist?	0(0) (9.72)	30(30) (20.27)	30
13.	How did you find using the checklist?	0(0) (9.72)	30(30) (20.27)	30
14.	To what extent do you believe use of the checklist has improved your practice around childbirth?	0(0) (9.72)	30(30) (20.27)	30
15.	To what extent do you believe use of the checklist has improved awareness of patient safety at your health-care facility?	0(0) (9.72)	30(30) (20.27)	30
16.	To what extent do you believe use of the checklist has improved communication and teamwork?	0(0) (9.72)	30(30) (20.27)	30
17.	If you, a family member, or close friend were to give birth, would you want the WHO Safe Childbirth Checklist to be used?	25(50) (17.82)	5(5) (37.17)	55
18.	Would you like to see the WHO safe childbirth checklist used at your health facility in the future?	25(50) (17.82)	5(5) (37.17)	55
19.	Would you add or remove anything from the checklist?	0(0) (9.72)	30(30) (20.27)	30
	<b>Total</b>	<b>12</b>	<b>348</b>	<b>GT= 372</b>

The data analysis for table 4.2 was carried out using the chi-square statistics. Specifically, the test covers the hypothesis Ho1 to Ho3 stated and all stated in null form. The 0.05 significance level is adopted as criterion for the probability of either accepting the null or rejecting it.

### Test of Hypothesis

Ho1: There is no significant relationship between knowledge of health workers and use of safe childbirth checklist tool in RSUTH.

Weight are attached to the responses as follow; 'yes' attracts 2 points while 'No' attracts 1 point.

NB: Numbers in block parenthesis are to calculate expected frequency (Fe)

Numbers in circle are the product of observed value and affected weight for the options.

The chi-square ( $\chi^2$ ) calculated is 25.02.

The degree of freedom (df) = (c-1) x (R-1)

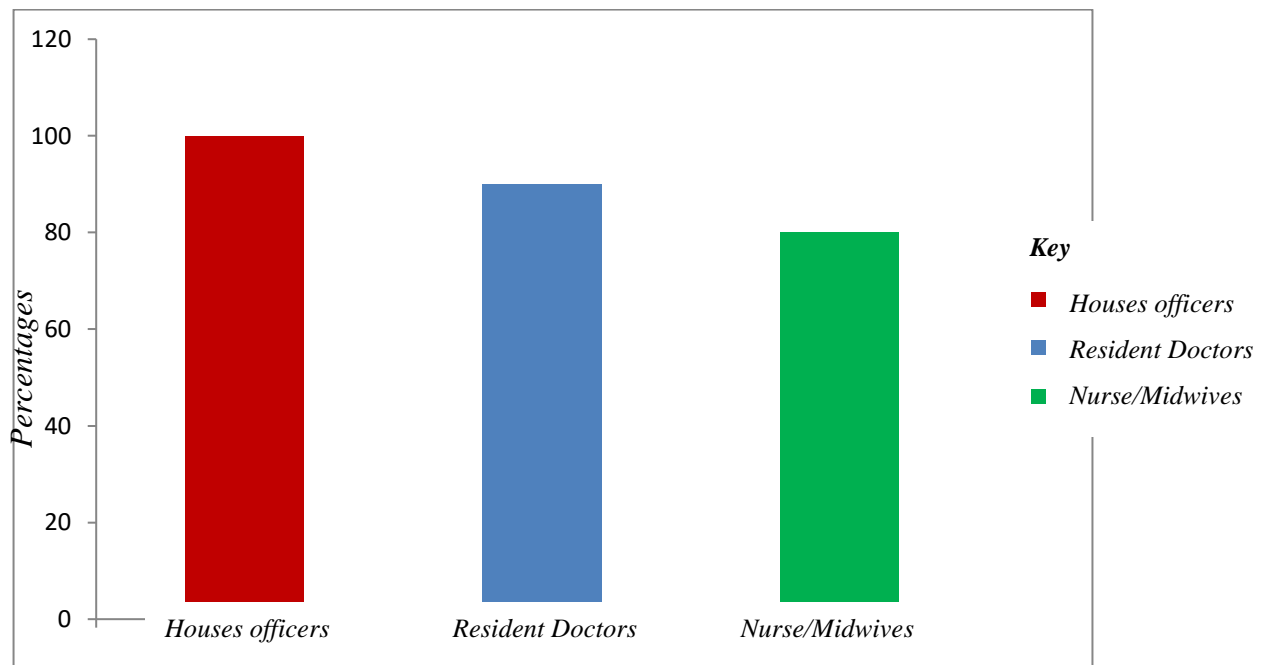
Where  $c = \text{column} = 2$ ,  $R = \text{Row} = 29$

Hence degree of freedom ( $df$ ) = 29

At  $df = 29$  under 0.05, chi-square value is  $\chi^2 = 28.34$ .

From the result in table 2 the calculated chi-square value (25.02) is less than the table value (28.34) i.e.  $\chi^2_{\text{calculated}} < \chi^2_{\text{table value}}$ . Therefore, based on empirical findings the null hypothesis earlier stated is accepted and the alternative rejected. Thus, there is no significant relationship between knowledge of health workers and use of safe childbirth checklist tool in RSUTH.

**Fig 4.1: Respondents' knowledge and use of checklist (SCC) (Doctors and Nurse/Midwives)**



*Responses from healthcare workers who neither have knowledge nor used the tool*

From the responses, 100% of house officers, 90% of resident doctors and 80% of the Nurses/Midwives have no knowledge of the SCC tool.

## Responses from Doctors (Hospital A)

**Table 4.4: Characteristics of respondents (Doctors - 67)**

Gender		Years of Experience (year)				
Male (N (%))	Female (N (%))	< 1 (N (%))	2-4 (N (%))	5-7 (N (%))	8-10 (N (%))	>10 (N (%))
41 (61.9)	26(38.81)	25(37.31)	10(14.93)	16(23.88)	7(10.45)	13(43.3)

Table 4.5 presents characteristics of respondents from doctors from hospital A with sample size of 67.

Information emanating from the table reveals that 41 (61.9%) of the doctors are males, while 26(38.81%) are females, 25 (37.31%) of doctors are house officers while 20 (53.75%) have served more than 8 years.

### Test of Hypothesis

The second hypothesis for table 4.6 is stated as follows:

Ho2: There is no significant relationship between factors affecting the use of safe childbirth checklist tool and the health workers' use of the checklist tool in UPTH.

Attaching weights for yes and No accordingly the analysis is presented as follow

**Table 4.5: Checklist use and factors affecting SSC tool (Doctors) and will be used to test the second hypothesis**

S/N	Doctors Items Statement	Yes (2)	No (1)	Total
5	Did you receive any information about the checklist	7(14) (24.05)	60 (60) (49.96)	75
6	Do you know that the SCC contains four pause points?	3 (6) (24.09)	64(64) (49.95)	70
7	Do you know that the four pause points include on admission, just before pushing, soon after birth and before discharge?	3 (6) (24.09)	64(64) (49.95)	70
8	Did you receive any supervision, support or coaching while using the checklist?	2(4) (22.45)	65(65) (29.32)	69
9.	Do you know that magnesium sulphate is recommended as anticonvulsive treatment on first three pause points?	0(0) (21.77)	67(67) (49.22)	67
10	Did you receive any training on the use of the checklist?	0(0) (21.77)	67(67) (49.22)	67
11	Do you know that item two on pause point 1 includes use of partograph?	0(0) (21.77)	67(67) (49.22)	67



12	How often do you use the checklist?	0(0) (21.77)	67(67) (49.22)	67
13	How did you find using the checklist?	0(0) (21.77)	67(67) (49.22)	67
14	To what extent do you believe use of the checklist has improved your practice around childbirth?	0(0) (21.77)	67(67) (49.22)	67
15	To what extent do you believe use of the checklist has improved awareness of patient safety at your health-care facility?	0(0) (21.77)	67(67) (49.22)	67
16	To what extent do you believe use of the checklist has improved communication and teamwork?	0(0) (21.77)	67(67) (49.22)	67
18	If you, a family member, or close friend were to give birth, would you want the WHO Safe Childbirth Checklist to be used?	0(0) (21.77)	67(67) (49.22)	67
19.	Would you like to see the WHO safe childbirth checklist used at your health facility in the future?	0(0) (21.77)	67(67) (49.22)	67
20	Would you add or remove anything from the checklist?	270	736	1,006

The chi-square calculated from the table is 17.08.

The degree of freedom (df) is (c-1) x (R-1)

Where c = column = 2, R = Row = 20

The degree of freedom = 19.

At df 19, under 0.05, chi-square value is  $\chi^2 = 18.34$ .

The result from table 5 reveals that the calculated chi-square value (17.08 is less than the table value (18.34).

On the basis of this finding, the earlier stated null hypothesis will not be rejected. Thus, there is no significant relationship between factors affecting the use of safe childbirth checklist tool and the health workers use of the checklist tool in RSUTH.

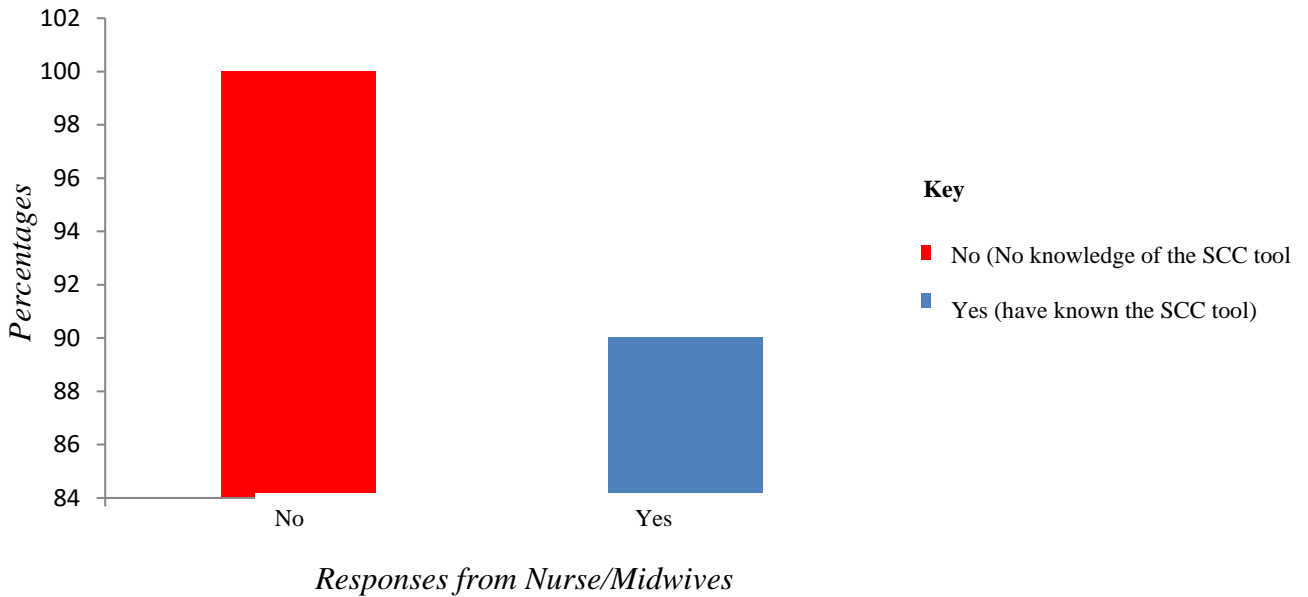
## RESPONSES FROM HOSPITAL B

**Table 4.6: Characteristics of respondents (Nurses/Midwives – 43)**

Gender		Years of Experience (year)				
Male (N (%))	Female (N (%))	< 1 N (%)	2-4 N (%)	5-7 N(%)	8-10 N(%)	>10 N(%)
-	43(100)	-	-	6(13.96)	4(9.30)	33(76.7)

Table 4.7 shows the characteristics from Nurses/Midwives with sample size of 43. The table reveals that over 76.74% of the respondents have spent over 10 years on the job. All the nurses/midwives are females.

**Fig 4.2 Respondents’ knowledge of the use of SCC checklist (Nurse/Midwives)**



80% of the nurses and midwives have no knowledge of the SCC tool facility, while 20% have seen the tool in the course of early years.

**DATA ANALYSIS AND RESULT OF HOSPITAL B**

Table 4.8 which is knowledge, checklist use and factors affecting SCC tool (Nurse/Midwives) is analyzed using chi-square statistics to test the second hypothesis for hospital B (UPTH).

The hypothesis is stated as follows:

Ho3: There is no significant relationship between factors affecting the use of safe childbirth checklist tool and the health workers’ use of the checklist tool in UPTH.

Using table 4.8 and attaching 2point for Yes and 1 point for No options the analysis is as follows:

**Table 7:**

S/N	Nurses/Midwives Items Response	Yes (2)	No (1)	Total
5	Did you receive any information about the checklist	8(16) (18.52)	37(37) (34.77)	53
6	Do you know that the SCC contains four pause points?	5(10) (16.77)	38(38) (27.97)	48
7	Do you know that the four pause points include on admission, just before pushing, soon after birth and before discharge?	5(10) (31.22)	38(38) (16.77)	48
8	Did you receive any supervision, support or coaching while using the checklist?	2(4) (15.72)	41(41) (29.27)	45

9	Do you know that magnesium sulphate is recommended as anticonvulsive treatment on first three pause points?	39(78) (28.65)	4(4) (63.34)	82
10	Did you receive any training on the use of the checklist?	0(0) (15.02)	43(43) (27.92)	43
11	Do you know that item two on pause point 1 includes use of partograph?	0(0) (15.02)	43(43) (27.92)	43
12	How often do you use the checklist?	0(0) (15.02)	43(43) (27.92)	43
13	How did you find using the checklist?	0(0) (15.02)	43(43) (27.92)	43
14	To what extent do you believe use of the checklist has improved your practice around childbirth?	0(0) (15.02)	43(43) (27.92)	43
15	To what extent do you believe use of the checklist has improved awareness of patient safety at your health-care facility?	0(0) (15.02)	43(43) (27.92)	43
16	To what extent do you believe use of the checklist has improved communication and teamwork?	0(0) (15.02)	43(43) (27.92)	43
17.	If you, a family member, or close friend were to give birth, would you want the WHO Safe Childbirth Checklist to be used?	0(0) (28.65)	4(4) (63.34)	82
18	Would you like to see the WHO safe childbirth checklist used at your health facility in the future?	39(78) (28.65)	4(4) (63.34)	82
19	Would you add or remove anything from the checklist?	0(0) (0)	0(0) (0)	0
20.	Is there anything else to comment on	0(0) (0)	0(0) (0)	0
	<b>Total</b>	<b>274</b>	<b>570</b>	<b>780</b>

The chi-square calculated is 15.05 and the degree of freedom is 19.

At df 19, under 0.05, chi-square value is  $x^2 = 18.34$ .

The result from table 8 shows that the calculated chi-square value (15.05) is less than the table value (18.34).

Based on the results the null hypothesis is accepted indicating that there is no significant relationship between factors affecting the use of safe childbirth checklist tool and the health workers use of the checklist tool in UPTH.

## 4.2 Discussion of Findings

Analysis of the data collected revealed that nurses/midwives at hospital A has no knowledge of the SCC tool. Their responses to items 21 and 22 on the questionnaire indicated that they are not aware of the existence of the WHO safe childbirth checklist, as it is not available in the facility. Focus group discussion with the nurses in the hospital also corroborated the evidence, and they inferred that they have no knowledge of the WHO safe childbirth checklist.

For the doctors all those who had spent at least 1 year or less on the labour wards are resident doctors who accounted for 37.31% of the respondents, and none of them has knowledge of the WHO SCC tool. The resident doctors who made 2.56% of the respondents have not also seen nor used the checklist in Hospital A.

Responses of the doctors to item 21 and 22 on the instrument indicate that they have no knowledge of the existence of the tool, since the tool is not available in the facility.

In hospital B, from the computations exactly over 80% (n = 35) of the nurses/midwives have no knowledge of the SCC tool. Over 19% (n=9) of the nurses/midwives have served for more than 8 years in the unit.

Similarly, a few of the nurse/midwives also admitted that they saw it earlier when the SCC tool was initially introduced, but since then the tool has been out of sight. In the presence circumstance, the SSC tool is not in use in Hospital B.

The researcher held a conference with the doctors and nurses from the obstetrics and gynaecology unit of Hospital B as one of the requirements for gaining access to the Department of Obstetrics and Gynaecology to distribute the questionnaires. In the course my introductions, some doctors also admitted that they have no knowledge of the existence of the SCC tool which also implies that the tool is not currently in use at the time of this study.

From the findings, the checklist is not in use in the two tertiary Hospitals in the State. From the reviews as contained in the WHO SCC implementation guide before the SCC tool is adopted for use in any health facility, there has to be a “buy-in” by the management since it is an innovation. Thus according to WHO (2015) for effective implementation of the WHO SCC, the stakeholder had to understand the checklist and establish a team of “champions” to drive its use. The checklist has to be launched in the health facility with the incorporation of technical training to address the gaps in practice.

Adequate coaching and evaluation are also required. This step is in line with what happened in countries that have adapted to use the WHO SCC. For example Dohbit et al (2021) highlighted that at the Yaouide Gynaeco-Obstetric and Paediatric Hospital in Cameroon, the WHO SCC tool had been adapted for use, with the management and end-users involvement.

Similarly, at the Gobabis District Hospital in Namibia , Kabongo, et al (2021) reported that the WHO SCC tool had been adopted for use. There was a facility champion, supervised by quality improvement team. In Burkina Faso and Cote d’voire, it was reported that 15 managers were trained to use the WHO SCC tool (Kadidjatou, et al, 2020).

For India and Riwanda, Molina et al (2022) reported that the WHO SCC tool was included as a standard in the patient’s medical record. Almost in all cases, for the WHO SCC tool to be used effectively, in many health facilities, the management and end-users should have adequate knowledge of the SCC tool. The tool had to be accepted for use in these two hospitals and the

management should set a machinery for its actualization, if the need for reducing its maternal mortality and morbidity to be realized in line with WHO global standards.

Since the WHO SCC tool is not in use in these two hospitals, there is no significant relationship between knowledge of healthcare workers and use of the safe childbirth checklist in the two tertiary hospitals, thus null hypothesis is accepted.

### 5.3 Conclusion

This study showed evidence that the WHO safe childbirth checklist tool is not in use in the two tertiary hospitals in Rivers State.

### 5.4 Recommendations

- Advocacy visits should be made to the chief medical directors in charge of the tertiary hospitals under study on the introduction of the safe childbirth checklist tool. The importance of the tool should be emphasized in relation to its usefulness in monitoring childbirth process and subsequent reduction of maternal mortality rate.
- The safe childbirth checklist tool should be included in the curriculum for training of midwives and public health nurses. This is to get them acquainted with the knowledge and use of the checklist tool. It is important to involve resource persons in the process of teaching and learning experience.
- The Safe Childbirth Checklist tool should be introduced as one of the modules for training of nurse/midwives and public health nurses during the Mandatory Continuing Professional Development Programme (MCPDP) organized by the nursing and midwifery council of Nigeria.
- Doctors especially those who work in the obstetrics and Gynaecology Department, should also be trained on the use of the safe childbirth checklist tool. This is necessary because of the fact that doctors also take deliveries. The aim of providing the checklist is to serve as a reminder to any healthcare worker taking care of a pregnant mother from admission to the labour ward until discharge. Infact, even if the patient is to be referred to another level of care, the checklist should still be used as a guide, to enable the healthcare worker to know exactly what he or she is supposed to do for the patient at the right time to achieve set goal.

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