

PATTERNS AND DETERMINANTS OF WHO SAFE CHILDBIRTH CHECKLIST UTILIZATION AMONG MIDWIVES IN IMO STATE

Dr. Emeka Chukwudi Nwafor

Africa Centre of Excellence in Public Health and Toxicological Research, University of Port Harcourt, Choba, Nigeria.

DOI:10.5281/zenodo.19660375

Abstract

Maternal and child health is fundamental to national development and remains a major priority in healthcare systems worldwide. Despite global initiatives and interventions, including the Sustainable Development Goals (SDGs), maternal and neonatal mortality and morbidity continue to pose significant challenges, particularly in developing countries. Annually, approximately 130 million births occur globally, with an estimated 303,000 women dying from pregnancy- or childbirth-related causes, 2.6 million stillbirths, and 2.7 million neonatal deaths—nearly 45% of all under-five child deaths. Many of these outcomes are preventable through the implementation of safe and effective childbirth practices. Understanding the utilization patterns of evidence-based tools, such as the WHO Safe Childbirth Checklist, among healthcare providers is essential to improving maternal and newborn outcomes. This study examines the usage patterns of the WHO Safe Childbirth Checklist among midwives in Imo State, highlighting areas for improvement in adherence and identifying potential strategies to enhance safe childbirth practices.

Keywords: Maternal health, Childbirth safety, Midwives, WHO Safe Childbirth Checklist, Neonatal outcomes

INTRODUCTION

Maternal and child health is very pivotal to the growth and development of any nation and a critical aspect of the healthcare practice that ensures that adequate and safe childbirth practices are in place for the well-being of both the mothers and infants. The effectiveness and efficiency of this practice remains a critical concern globally. In developing nations of the world, even with all these efforts and measures there are still high incidence of maternal mortality and morbidity among women of reproductive age and their newborn in developing countries of the world (Loudon, 2000). This is despite intense global, national and subnational interventions under past and the ongoing Sustainable Development Goals (SDGs) with major focus on the reduction of maternal and infant and newborn morbidity and mortality (Shiffman, 2000; Kurjak, A., Stanojević, M., & Dudenhausen, J. (2023). With about 130 million births per year, an estimated 303, 000 women die around the time of pregnancy and childbirth, 2.6 million results to still births; half of which were estimated to have occurred during labour, 2.7 million newborns die within the first month of life which represents about 45% of all deaths in those under the age of 5, the effects of these deaths would have been prevented if adequate measures are put in place (UNICEF, 2015). The need to reduce maternal and newborn morbidity and mortality was the basis for embarking on several initiatives targeted to curtail these challenges, some of these initiatives and measures were aimed at reducing neonatal and maternal mortality and morbidity. The United Nations (UN) confirmed their commitment in helping to address these issues pertaining to the prevention of these maternal and neonatal deaths as encapsulated in the

UN Sustainable Development Goals (20152030) which provided a framework for the implementation, follow up and review of the progress and to actually know if tangible progress has been made towards the relevant targets and to assess if the initiatives have been very beneficial to address the ongoing challenges (Bexell M, Jonsson K, 2017). The World Health Organisation (WHO) in envision a world in which every pregnant woman and newborn receives quality care throughout pregnancy, childbirth and immediate postnatal period (Albolino, S., Dagliana, G., Illiano, D., Tanzini, M., Ranzani, F., Bellandi, T., & Tartaglia, R. (2018). This prompted the development of the WHO safe Childbirth checklist (SCC), which was built on the success of the WHO Safe Surgical Checklist, with the aim of helping birth attendants through the process of the childbirth and the management of complications as they arise during the process.

The WHO Safe Childbirth (SCC) was developed from the efforts of WHO, together with the obstetricians, pediatricians, nurses, midwives and other patient safety experts as an evidence based birth practices drawn from the existing WHO guidelines which is based on adopting an implementation guidelines that will enable the health care workers adhere to care practices as well as utilise improved methods to save lives at birth and to target the major causes of maternal and neonatal deaths.

These global interventions were aimed at abating the high clustering rate of morbidity and mortality in women and patients around the time of childbirth and the need to have practical and handy tools to ensure the improvement of the quality of care they receive. There are reports of significant improvements in maternal and child health indices in countries that have deployed these interventions in developing countries (Dohbit, J., Agala, V., Chinwa-Banda, P., Anane-Fenin, B., Maduka, O., Edewor, U., & Ogu, R. 2019; Senanayake, H. M., Patabendige, M., & Ramachandran, R. 2018). This is because the greatest burden and challenge of maternal and neonatal mortality and morbidity happens around the time of birth, with most of the deaths occurring in the first 24 hours after delivery.

It becomes very imperatives that adequate training and institutional guidelines for administering the checklist by informed and skilled health personnel like the midwives becomes a priority especially in developing countries. In Nigeria, the introduction of the WHO SCC was timely and aligns with the broader global health initiatives designed to standardize the essential birth practices and ensure timely identification and management of complications that might arise during childbirth. It is expedient to engage the the relevant authorities for buy-in, establish team that will support the implementation, as well as create more awareness about the checklist so that people can get more insight about the checklist. Imo State, like other states in Nigeria despite the potential benefits and implementation of the SCC is grabbing with challenges in the improvement in maternal and child health outcomes, some of this challenges ranges from inadequate health infrastructures, limited resources, training and development, and shortage of health care providers like the nurses , midwives , doctors among others which have adversely affected their development and addressing these challenges requires a comprehensive understanding of the awareness, utilization and adherence to the guidelines of these vital tools such as the WHO Safe Childbirth Checklist. Midwives play a crucial role in the delivery of maternal and newborn care, and they are the vital force in improving maternal and neonatal health outcomes so it's very important and essential to assess the awareness

and utilization of this checklist as their effectiveness will be compromised if the health care providers do not have adequate knowledge to integrate it into their daily routine practice.

This study seeks to investigate the awareness and utilization of the WHO-Safe Childbirth Checklist among midwives in selected health institutions in Imo State, Nigeria. By exploring the knowledge and practices of midwives, the study will identify gaps in knowledge, training and healthcare system support needed as well as the barriers and opportunities for improvement in the implementation of this tool. Findings will inform policy recommendations and interventions that will enhance the improvement in the awareness and utilization of the SCC tools and ultimately contribute to the enhancement of maternal and child health outcomes in the region.

METHODOLOGY

Study Area.

The study area is Imo State which lies in the Southeast geopolitical zone of Nigeria with Owerri as its capital. The state occupies the area between the lower River Niger and the upper and middle Imo River. The state came into existence in 1976 along with other new states created under the leadership of the late military ruler of Nigeria, Murtala Muhammad, having been previously part of East-Central Region. The state was named after the Imo River and Part of it was split off in 1991 as Abia State, and another part became Ebonyi State. Imo State consists of twenty-seven (27) Local Government Areas. Imo State is bordered by Abia State on the East, River Niger and Delta State to the West, Anambra State on the North and Rivers State to the South. The State lies within latitudes 4°45'N and 7°15'N, and longitude 6°50'E and 7°25'E with an area of around 5,100 sq km. Besides Owerri, the major towns in Imo States are Isu, Okigwe, Oguta, Orlu, Atta Ikeduru, Akokwa, Mbaise, Mbaitoli, Mbieri, Ohaji/Egbema, Orodo, Nkwerre, Ubulu, Ngor Okpala, Omuma, Mgbidi, Awo-Omamma, Izombe, Orsu, and Mbano. The state has over 4.8 million people and the population density varies from 230–1,400 people per square kilometer. Christianity is the predominant religion and English is the official spoken language. Imo state is a predominantly Igbo speaking state, with Igbo people constituting a majority of 98%. There are about 28 General and Teaching health institutions in Imo state with a total of 43 private hospitals in the state.

Research design

The research design for this study was a descriptive survey design.

Study population

The population of the study consists of:

- i) The Selected Midwives in Public Health Institutions in Imo State ii) The Selected Midwives in Private Health Institution in Imo State.

Sampling methodology

A sample of one hundred and forty-five (145) respondents were used for the study. the stratified random sampling was used for the Midwives in the selected Health Institutions in Imo State. The number of midwives selected from each facility is shown in Table 1.

Table 1 the Population Size of the Midwives in the Selected Health Institutions in Imo

Name of health Institution	Number	of	Midwives
----------------------------	--------	----	----------

Selected for the study

Federal Medical Center Owerri	36
Umuguma Specialist Hospital	15
Aboh Mbaise General Hospital Mbaise	23
Orlu Teaching Hospital Orlu	31
Okigwe General Hospital Okigwe	22
St Davids Hospital and Maternity	18

Total 145

Field work: 2024

Study instrument

The research instrument used for this study was a self-structured questionnaire

The WHO safe childbirth checklist (SCC) is a simple set of evidence-based quality improvement tool that reminds healthcare workers to deliver high quality care from when the woman is admitted through childbirth until the woman and baby are safely discharged home. The SCC consists of 29 simple, actionable items grouped into four pause points which are the critical moments where the midwives or any birth attendant need to pause to confirm what they are supposed to do to check if they have completed the essential birth practices which is also known as checklist items should be completed. The SCC identifies basic preventive practices, such as handwashing and the preparation of antibiotics, which are very beneficial to manage complications like infections, hemorrhage and obstructed labour.

The study questionnaire had sections A and B respectively. Section A was used to elicit information on the Bio Data and demographic profile of the respondents while section B consists of 10 items with 4 clusters addressing the items. Item 1-5 focused on the level of awareness among midwives in selected health institutions in Imo State regarding the existence of WHO safe childbirth checklist, item 6-10 focused on the extent the midwives in Imo state in the selected health institutions integrate and incorporate the WHO safe childbirth checklist in their daily practice. The filled copies of the questionnaire were collected by the researcher and his trained assistant to elicit the required information and ensure the success of the study. The document analysis was used. The first stage of data collection was to compile the list of all the nurses on the wards in the maternity and children's ward. The selected respondents were given the questionnaire by trained research assistants. A period of one month was used for distribution and retrieval of the questionnaires. The questionnaire was structured on a modified 4-point Likert scale of:

Strongly Agree	(SA)	4 Agree	(A)	3
Disagree	(D)	2		
Strongly Disagree	(SD)	1		

Validity/ Reliability of the Instrument

Face and content validity assessments were conducted by subject experts in the field of Midwifery, Obstetrics and public health. The questionnaires were vetted for appropriateness of contents, clarity of words and relevance to

the objectives of the work. Their comments, observations and suggestions were used to upgrade and improve the content of the questionnaire. All the corrections and recommendations were affected before the final draft was produced.

The internal consistency reliability of the instrument was determined by the Cronbach Alpha Coefficient. The Cronbach's Alpha for the entire scale was 0.844 indicative of good internal consistency reliability. The researcher pre-tested the questionnaire on 5 Medical Personnel (Obstetrics and Gynecology) and 15 staff in other health professions outside the population target for the study and the general reliability index of the questionnaire using the Cronbach Alpha Statistics and the result showed that the instrument used for the study is highly reliable and suitable for the study.

Data Analysis

The Filled questionnaires were analyzed using Statistical Package for Social Sciences (SPSS) software. The descriptive and inferential analyses were presented using the frequency tables, charts and percentages. The independent variables were recategorized to dichotomized variables to aid interpretation of the data during the inferential statistical analysis. Inferential statistics was done using Chi-square test and Fisher's Exact test was done for variables with categories with expected frequencies less than 5.

Ethics/permission/consent

Ethical clearance for this research was obtained from the Ethics Committee of the University of Port Harcourt while permission was obtained from the administrators in the various health facilities used for the study. Participants in this study gave their consent after they were given details of the study and the nature of their involvements.

RESULT

Table 2: Socio-demographic characteristics of the midwives

Variables	Category	Frequency	Percentage
Age in years	≤ 35	37	25.5
	≥ 36	108	74.5
Years Experience	Of ≤ 10	61	42.1
	>10	84	57.9
Level of Education	Diploma	35	24.1
	Graduate	110	75.9
Facility type	Private	52	35.9
	Public	93	64.1
Current Role	Staff	69	47.6
	Admin/tutor	76	52.4
Membership Association	Yes	132	91.0
	No	13	9.0

Table 2 shows that more of the respondents were 36 years or older (74.5%), spent greater than 10 years in practice (57.9%), are graduates (75.9%), work in the public health facilities (64.1%). Most were involved in administration and teaching (52.4%) and belong to their professional body (91.0%).

Table 3: Level of midwives' awareness and routine use of the WHO Childbirth Checklist

<u>Variable</u>	<u>Frequency</u>	<u>Percentage</u>
<i>Level of awareness</i>		
Not aware	105	72.4
Aware	40	27.6
<i>Extent midwives incorporate checklist in routine function</i>		
Do not routinely incorporate checklist in practice	137	94.5
Routinely (consistently) incorporate checklist	8	4.8

From Table 3, only about a quarter (27.6%) of the midwives working in these facilities are aware of the WHO Childbirth Checklist and only 4.8% of them consistently incorporate the checklist in their routine care of women in labour.

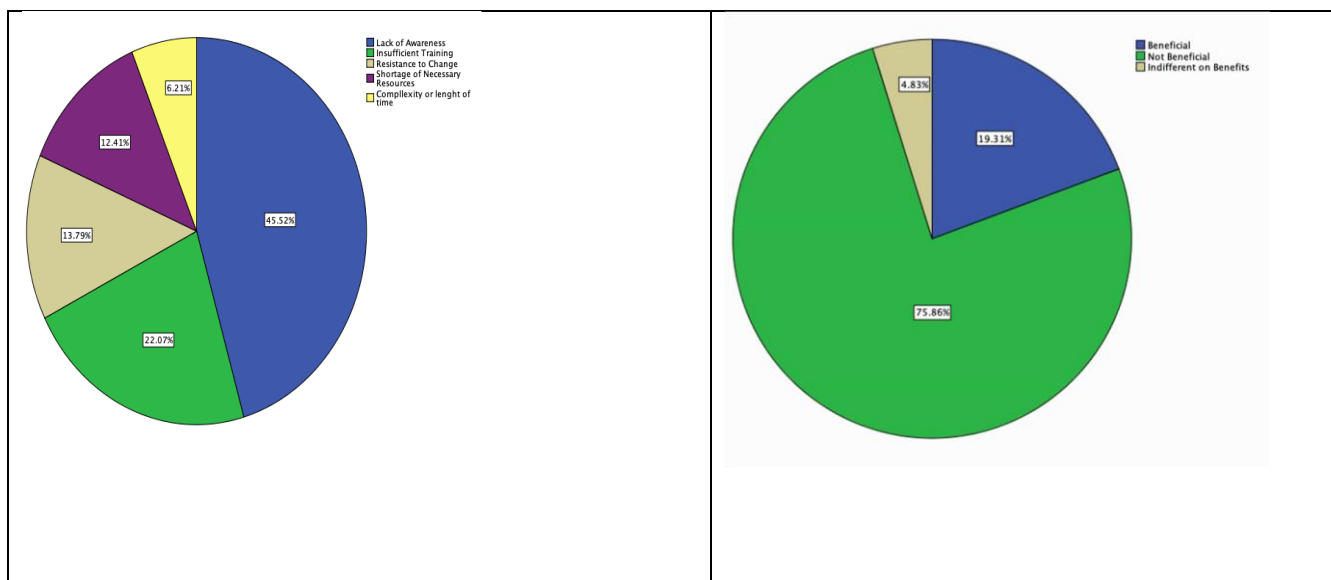


Figure 1: Challenges and benefits of the WHO Safe Childbirth Checklist

From Figure 1, 28 (19.3%) of the midwives indicated and agreed that the checklist has been beneficial, 108(75.9%) of the midwives do not agree that the checklist has been very beneficial and 9(6.2%) of the midwives were indifferent in their opinion about the impacts of the checklist. The most reported challenges with the effective implementation of the checklist were lack of awareness (n=66, 45.5%), insufficient training (n = 32, 22.1%) and resistance to change (n = 20, 13.8%).

Table 4: Relationship between staff socio-characteristics and awareness of WHO Checklist

Variables	Category	Awareness – frequency	Chi-square	p-value
-----------	----------	-----------------------	------------	---------

		(%)			
		Yes	No		
Age in years	≤35	0 (0.0)	37 (100.0)	**	0.000
	≥36	40 (37.0)	68 (63.0)		
Years Of Experience	≤10	0 (0.0)	61 (100.0)	**	0.000
	>10	40 (47.6)	44 (52.4)		
Level of Education	Diploma	0 (0.0)	35 (100.0)	**	0.000
	Graduate	40 (36.4)	70 (63.6)		
Facility type	Private	21 (40.4)	31 (59.6)	6.65	0.010
	Public	19 (20.4)	74 (79.6)		
Current Role	Staff	0 (0.0)	69 (47.4)	**	0.000
	Admin/tutor	40 (52.6)	36 (47.4)		
Membership Association	Yes	27 (20.5)	105 (79.5)	**	0.000
	No	13 (100.0)	0 (0.0)		

** - Fisher's Exact Test

As shown in Table 4, Staff aged more than 35 years, those with more than 10 years of experience, at least graduate level of education, involved in teaching/administration as well as those in public institutions were significantly more aware of the WHO Checklist than others.

Table 5: Relationship between staff socio-characteristics and routine use of the WHO Checklist

Variables	Category	Routine use – frequency		Chi-square	p-value
		(%)			
		Yes	No		
Age in years	≤35	0 (0.0)	37 (100.0)	**	0.114
	≥36	8 (7.4)	100 (92.6)		
Years Of Experience	≤10	0 (0.0)	61 (100.0)	**	0.021
	>10	8 (9.5)	76 (90.5)		
Level of Education	Diploma	0 (0.0)	35 (100.0)	**	0.199
	Graduate	8 (7.3)	102 (92.7)		
Facility type	Private	0 (0.0)	52 (100.0)	**	0.051
	Public	8 (8.6)	85 (91.4)		
Current Role	Staff	0 (0.0)	69 (100.0)	**	0.007
	Admin/tutor	8 (10.5)	68 (89.5)		
Membership Association	Yes	0 (0.0)	132 (100.0)	**	0.000
	No	8 (5.5)	5 (38.5)		

** - Fisher's Exact Test

As shown in Table 5, Staff with more than 10 years of experience ($p = 0.021$), involved in teaching/administration ($p = 0.007$), as well as those without professional memberships ($p < 0.001$) were significantly associated with consistent use of the WHO Checklist than others.

DISCUSSIONS

The results from the study indicates that there were serious variation in the level of awareness among the midwives in the utilization of the checklist as 72% of them responded in the negative of not being aware of the checklist, while 28% of the midwives responded of being aware of the checklist but because they have not seen the importance or well informed about its impacts in maternal and neonatal care and protection, they are not utilizing or using the checklist, it's only a minimal and insignificant 4.8% of the midwives responded that they consistently incorporate the checklist in their routine care of women in labour. The discrepancy between knowledge and consistent use of the SCC is synonymous with the situation in the application of clinical practice guidelines among physicians in resource-constrained setting (Alinnor, & Ogaji, 2022). With the increasing trend in facility-based delivery by trained birth attendants, there are indications that the universal deployment of the SCC will significantly reduce preventable maternal and newborn deaths in health facilities (Kumar, Yadav, Balasubramaniam, Jain, Joshi, Saran & Sood, 2016) The findings from the study indicated that a lot of factors contributed to this poor level of awareness among them are poor training and development, lack of professional exposures and programmes as it relates to maternal and neonatal health like utilizing the online resources available, gaining more knowledge through the use of the medical journals and other publications as well as being a participant in health care conferences and workshops would have been helpful and beneficial but most of the midwives hardly take part in any of the these activities and that has been very detrimental to their growth and awareness about the checklist.

These findings are in tandem with Ogu (2018) who advocated for the provision of adequate training and education programmes for the midwives, the study underscores the importance of awareness creation about the benefits of the checklist as well as investing in Education and training programmes so that the midwives will be well abreast with such knowledge to enhance their competence and confidence in the checklist. Besides training, strong administrative and policy support will be needed for universal domestication of the use of the SCC like other practice guidelines (Ogaji, 2017). This should be undertaken in addition to institutionalizing periodic nationwide survey of the use of SCC and tracking critical outcome measures for maternal and newborn mortality and morbidity in the region.

The findings from the study indicates that 94.5% of the midwives do not use or do not consistently incorporate the checklist in their daily routine practice, which is very poor, 4.8% of the midwives responded that they consistently incorporate the checklist in their daily routine practice. This calls for serious action and activities to bridge the gap so that more awareness will be created so that more midwives in Imo state will embrace the full implementation and utilization of the checklist in their daily routine practice especially during childbirth.

In the study, a lot of midwives indicated that they do not incorporate the checklist in their daily routine practice because they didn't see the importance of the WHO SCC and didn't see it as an important or requisite guide for patients care during childbirth, which is absolutely very bad. Sequel to their poor awareness level, they didn't know that the integration of the checklist actually aligns with the standard protocols and procedure in every health institution which when utilized will be very effective in enhancing the quality of neonatal and maternal health

outcomes and care in their practice, and because they hardly incorporate the checklist in their daily routine practice they don't share the importance, benefits and insights gained about the WHO checklist with their professional colleagues and other health professional.

As reported in earlier studies Alinnor, & Ogaji, 2022; Opara, Ogaji, & Onyemachi, 2023 in the same setting, the study highlights that a lot of organizational and economic factors contributed to low level of awareness and use of the checklist. These include inadequate training on its use, limited resources and essential supplies, organizational constraints within the health facilities among others and emphasized the need for an adequate resource allocation within the health institutions as well enhancing more awareness and training as expected so that every midwife in Imo State, Nigeria will see the need and importance to incorporate the checklist.

Implications of the findings of the study

The following implications can be drawn from findings of this study:

Training and Education- Regular training programmes should be organized for the midwives to get them familiarized with the WHO checklist and its importance in improving maternal and neonatal health outcomes, the trainings should focus not only on theoretical knowledge but practical hand on session to enhance their proficiency

Continuous Monitoring and Evaluation: A consistent monitoring and evaluation mechanisms should be put in place to assess the adherence to the checklist protocols and identify the areas that needs improvement. Feedback from the midwives should be actively sought and incorporated into quality improvement initiatives.

Collaboration and Advocacy: A timely collaboration between health authorities, professional associations, and non-governmental organizations should be fostered to advocate for the widespread adoption of the WHO Safe Childbirth Checklist. This could involve raising awareness through advocacy campaigns, engaging policymakers, and mobilizing community support for maternal and child health initiatives

Cultural Sensitivity and Stakeholder Engagement: Efforts should be made to address cultural barriers and engage stakeholders, including midwives, healthcare administrators, and community leaders, in promoting the importance of the Safe Childbirth Checklist.

Incentivization, rewards and Recognition: Health institutions could consider incentivizing midwives who consistently adhere to checklist protocols and demonstrate commitment to improving maternal and neonatal health outcomes this is established to acknowledge exemplary performance with the checklist.

CONCLUSIONS

The study sheds lights on the critical aspects of maternal and neonatal healthcare delivery in Imo state and underscores the importance of checklist utilization in improving the quality and safety of childbirth practices, yet the study revealed a significant gap in awareness and consistent use among the midwives as well as challenges affecting its effective implementation. Interventions aimed at increasing awareness through training and capacity development, in addition to improving the availability of resources to support the checklist among the midwives should be prioritized. The need for fostering a culture of quality improvement and patient safety within the health institutions is very essential to sustainably integrate the checklist into their routine clinical practice.

References

- Ahmed, M., et al. (2021). Prevalence and risk factors for postpartum depression among women attending maternal and child health clinic, University of Maiduguri Teaching Hospital, Maiduguri, Nigeria.
- Ahmed, S., et al. (2020). Community-level interventions for improving maternal and newborn health outcomes: A systematic review of systematic reviews.
- Albolino, S., Daghiana, G., Illiano, D., Tanzini, M., Ranzani, F., Bellandi, T., ... & Tartaglia, R. (2018). Safety and quality in maternal and neonatal care: the introduction of the modified WHO Safe Childbirth Checklist. *Ergonomics*, 61(1), 185-193.
- Alinnor, E. A., & Ogaji, D. S. (2022). Physicians' knowledge, attitude and practice of clinical audit in a tertiary health facility in a developing country: a cross-sectional study.
- Bexell, M., & Jönsson, K. (2017, January). Responsibility and the United Nations' sustainable development goals.
- Dohbit, J., Agala, V., Chinwa-Banda, P., Anane-Fenin, B., Maduka, O., Edewor, U., ... & Ogu, R. (2019). Improving maternal health: the safe childbirth checklist as a tool for reducing maternal mortality and morbidity.
- Kassebaum, N. J., et al. (2014). Global, regional, and national levels and causes of maternal mortality during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013.
- Kurjak, A., Stanojević, M., & Dudenhausen, J. (2023). Why maternal mortality in the world remains tragedy in low-income countries and shame for high-income ones: will sustainable development goals (SDG) help?
- Kumar, S., Yadav, V., Balasubramaniam, S., Jain, Y., Joshi, C. S., Saran, K., & Sood, B. (2016). Effectiveness of the WHO SCC on improving adherence to essential practices during childbirth, in resource constrained settings.
- Loudon, I. (2000). Maternal mortality in the past and its relevance to developing countries today.
- Ogaji, D. S. (2017). Patient-focused quality improvement in primary health care: opportunities with the patient evaluation scale.
- Opara, G. O., Ogaji, D. S., & Onyemachi, B. (2023). Midwives' Knowledge, Attitude and Use of Health Management Information System in Obstetrics and Gyneacology Departments in Teaching Hospitals in Abia State.