

# Challenges of Evidence-Based Practice and Nursing Education in Sub Saharan Africa: An Integrative Review

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## ABSTRACT

**Introduction:** This paper was conducted to explore the challenges of evidence-based practice and nursing education in sub-Saharan Africa.

**Methods:** An integrative review study was conducted with a search of PubMed, Web of Science, Scopus and Science Direct, the record so collected were identified, screened and reviewed.

**Results:** The search conducted produced a total of 1,296 records: 1,106 from PubMed; 90 from Web of Science; 54-Scopus and 46- Science direct. Seven themes emerged thus: Resources and infrastructure; Inadequate facilities and capacity building; Funding problem; Collaboration and teamwork; Curriculum reform; professional regulation; and nursing culture.

**Conclusions:** It is evidently apparent that in order to ensure improved quality and quantity of production, and the adoption of EBP in the care, developmental partners and government have to increase the allocation of fund for infrastructural development, teaching and learning materials as well as hospital facilities to create an enabling environment for the smooth running of the evidenced practice in Nursing.

**Keywords:** Evidence-based Practice; Challenges; Nursing education; African, Sub Saharan

## INTRODUCTION

There is a continuous report of poor health indicators which challenged health care systems in the region of Sub Saharan Africa, this may be due to the growing burden of both communicable diseases (CD) and non-communicable diseases (NCD) in the region. (Akinyemi, Chisumpa, & Odimegwu, 2016; Bvumbwe & Mtshali, 2018; Keino, Plasqui, Ettyang, & van den Borne, 2014; Mooketsane & Phirinyane, 2015; Negeri & Halemariam, 2016) Sub-Saharan Africa is the term used to explicitly describe the region of the African continent which lies south of the Sahara Desert (the largest hot desert in the world and the third-largest desert by size in the world after Arctic and Antarctica desert)(Cook & Vizy, 2015). There exists a general global shortage of healthcare workers and nursing in particular which threatens the sustainability of any health care systems and this region is the worst-hit, involving about 600,000 nurses needed to scale up the priority interventions (Kinfu, Dal Poz, Mercer, & Evans, 2009; Scheffler & Tulenko, 2016) since nurses and midwives make up the majority of the health workforce, which form the universal whole world access point for about 90% of healthcare users (Bvumbwe, 2016; Bvumbwe & Mtshali, 2018; Mosadeghrad, 2014; Rich et al., 2012; Truth, 2013) Taking into account of the significance quota of nursing workforce that is seen within the health care systems, there is need for the efficient production of nurses who are equipped with relevant competencies and deployed successfully with suitable place of work and ongoing retention by their employers thereby ultimately encouraging evidence-based practice (EBP) which are the major determinants to ensuring improvements in their functioning and ensuring direct impact of the health care system which should be the focus of any government responsible enough to take the plight of the people they govern at heart.(Fairman, Rowe, Hassmiller, & Shalala, 2011; Frenk et al., 2010) EBP evolved from Florence Nightingale's era in the 1800s to the nursing profession in the late 1990s as an idea to provide better outcomes for patient care.(Mackey & Bassendowski, 2017; Senyuva, 2016) It can best be described as a problem-solving approach that integrates the best possible evidence from the current research studies and theory-based in collaboration with clinician expertise, skills, and intuition taking into consideration patient expectation, preferences and values (Allen Hanberg MSN, 2006; Mackey & Bassendowski, 2017; Melnyk & Fineout-Overholt, 2011; Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010; Ruzafa-Martinez, López-Iborra, Armero Barranco, & Ramos-Morcillo, 2016; Senyuva, 2016; Skaggs, Daniels, Hodge, &

DeCamp, 2018; Taylor, Priefer, & Alt-White, 2016; Young, Garner, Clarke, & Volmink, 2017) which ultimately yield patient satisfaction and quality health care delivery. In general, EBP is one of the most practical ways to minimize the theory-practice gap in any profession, as it enhances one's capacity to comprehend, assess, and to apply evidence gathered in the research and text into practice as well as critical thinking with a collaborative effort between the various teams. (Mackey & Bassendowski, 2017; Spiva & Caramanica, 2017)

For EBP to have a practical effect as to attain its desired achievement in ensuring improved quality of care and efficient health care delivery as well as patient satisfaction, it must be enshrined into the curriculum of nursing training and that all hands must be on deck in order to achieve that. As it is seen in advance countries like North Americans, Australia and other European countries in the way they prepare and sensitize their future nurses to embrace EBP in clinical practice, so as to meet up with today's complex and continuously evolving and ever-changing healthcare environment especially seeing the benefit it poses to the quality of health care system and its delivery to any nation who adopt it. But the role it plays to the practical lives of the region's nursing students will depend on how the academicians promote it? and how the EBP is incorporated into the curriculum by which they are thought? As well as its application to the clinical setting.(Enuku & Igbinosun, 2012; Malik, McKenna, & Griffiths, 2016)

For EBP to be effectively implemented especially in the sub-Saharan African countries and their nurses, I think it will be better if not the best, that all country should adopt the Geneva Declaration of the SIDIEF which assert that all Francophone countries should introduce university education as a system for all nurses and to make undergraduate program as an entry requirement (meaning, a nurse should not be licensed to practice except with a Baccalaureate degree) for the nursing profession and other Diploma nurses who are of the majority currently, should be made to go back to school via continuing education, distance learning, etc. to acquire at least Baccalaureate degree.(Bvumbwe & Mtshali, 2018) However, other studies show that lack of necessary competencies required among graduates still exist, this may be due to either poor or lack of leadership who is strategic enough to drive the needed transformation, as well as curricula that is not responsive nor frequently updated, extreme shortage of nursing faculty members, and poor or inadequate teaching and learning resources (Brown & Crookes, 2016; Frenk et al., 2010; Ulrich et al., 2010) leading to inadequate productive capacity of their

training institutions (i.e. colleges and universities) as well as their products (graduates of those training institutions).

Nursing education is composed of both theoretical knowledge (which is the product of both research and textual body of knowledge) and practical training nurses received so as to prepare them to be competent, skillful, vibrant, endowed with critical thinking and quality professionals. (Kabir Ozigi Abdullahi, 2019) The training involves inculcating professional knowledge, attitudes, skills, values, and habits to students and all other learners in various settings, such as classrooms where face to face teaching-learning relationship occur, clinical training in demonstration rooms and simulation laboratories as well as in actual client/patient's care environment where the nurse-client interactions occur. (Adeniji, 2017; Anarado, Agu, & Nwonu, 2016) There is drastic improvement in the Nursing education in the region within the last few decades where Postgraduate studies in Nursing have really emerged in most of the countries in the region under study, (Agbedia, 2012; Bvumbwe & Mtshali, 2018; Dolamo & Olubiyi, 2013; NMCN, 2019; Yusuf, 2017) however, Most of them still have not really integrated quality in nursing education as such most of the practicing nurses are Diploma graduate without Baccalaureate degree this pose much of a threat to implement EBP as such informed the need for this research to find out the challenges and factors hindering EBP and Nursing education to inform a measure to put in place for the improvement of quality and articulate relevance evidence-based practice at local level in order to improve the Nursing education in a qualitative fashion which will in turns improve patient satisfaction.

## METHODS

This integrative review was done with the influence of the works of Whittemore and Knafel and that of Bvumbwe and Mtshali (Bvumbwe & Mtshali, 2018; Whittemore & Knafel, 2005) which have the following phases; Problem identification, Literature search, Evaluation of Data, Analysis, and Result as they informed the researcher's pathway.

**Problem identification:** The research problem started from the shortage of nursing workforce and enormous concerns over poor quality of nursing care which may be due to inefficiencies of the system of nursing education in place, and the existence of the education - practice gap as well as the increased and inevitable need for the evidence-based practice to be inculcated and enshrined into the curriculum of training of Nurses in all settings including School of Nursing, Universities and even post-graduate studies in the Universities. Not forgetting the challenges surrounding the implementation of EBP fully into nursing in particular and other health care professionals in general with the ultimate goal of improving and if possible standardizing the quality of health care delivery and increasing patient satisfaction. The review was guided by the research questions as follows: what is the state of Nursing evidence-based practice (EBP) and Nursing education in sub-Saharan Africa and what are the challenges affecting the full implementation of EBP?

**Literature Search:** A comprehensive search of PubMed, Scopus, Web of Science/Knowledge, and Science Direct was conducted using the keywords: Evidence-Based Practice; Education, Nursing; Africa South of the Sahara.

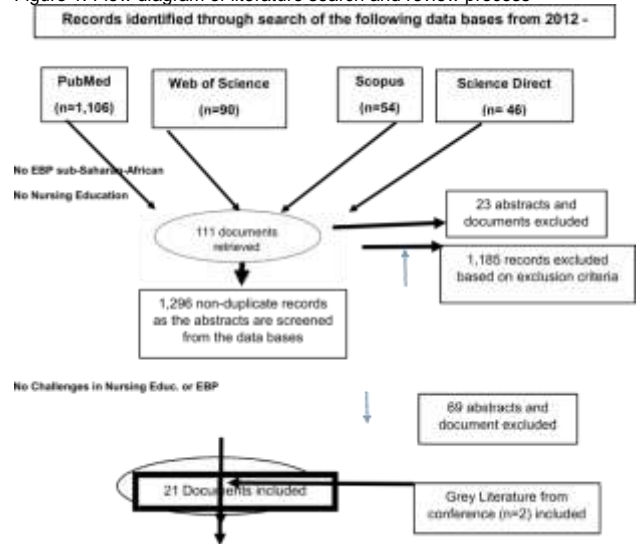
**Inclusion/exclusion criteria:** The inclusion criteria include all primary source and peer-reviewed reports on Evidence-based practice in nursing among Sub Saharan African countries to capture the challenges to the implementation of EBP. The review included all the literature from 2012 to 2019 to capture all the work that was written in the English language and reported during this period. And all the other work that did not conform with the above

requirement and those which are not written in the English language are excluded.

**Data evaluation:** The records so collected were evaluated for their methodological quality, informational value, and authenticity. Firstly, all records were selected based on the titles of the articles. The abstracts of the selected titles were then analyzed to examine their relevance and importance to the study question. After which only abstracts that addressed evidence-based practice, challenges and/or solutions in Sub-Saharan Africa, those that were recorded within the time frame of the study (i.e. 2012-2019) were subjected to a thorough review of the full text. The full-text records which did not meet the inclusion criteria were removed and excluded from the review.

**Data analysis:** The data was analyzed by making use of the content analysis method where the unit of analysis was the data gathered from all these records so gathered. ideas and concepts that arise from the analysis are now presented as results and recommendation which may influence the government, non-governmental organization (NGO) and policymakers of sub-Saharan Africa.

Figure 1: Flow diagram of literature search and review process



## RESULTS

The search conducted produced a total of one thousand, two hundred and ninety-six (1,296) records: one thousand, one hundred and six (1,106) from PubMed; Ninety (90) from Web of Science; fifty-four (54) from Scopus and forty-six (46) from Science direct. And two grey records of conferences that were unpublished were included. 1,185 records were excluded either due to the fact that they did not address EBP or because they address EBP and nursing education not involving Sub Saharan Africa, twenty-three (23) abstracts were excluded because it addressed the education of health professions in general not pinpointing nursing education, and Sixty-nine (69) abstracts were excluded because it did not address challenges in either nursing education or EBP (Evidenced-based practice) in sub-Saharan Africa. Finally, twenty-one (21) records including 2 grey literatures were included in the review as summarized in Figure1, Table 1 and Appendix 1. Seven (7) themes emerged: Resources and infrastructure; Inadequate facilities and capacity building; Funding problem; Collaboration and teamwork; Curriculum reform; professional regulation; and nursing culture.

Table 1: Summary of the Included Studies

No	Author and Year	Country	Study type	Contribution to EBP and/or nursing education
1	Bvumbwe & Mtshali (2018) [A1]	Sub Saharan	Integrative review	The paper show needs for sub-Saharan African countries to proffer more reforms to improve the capacity of educators and preceptors, the responsiveness of curricula, frameworks of strong regulation, and make available needed infrastructures and resources.
2	Scheffler & Tulenko (2016) [A2]	South Africa	Novel study	This paper estimate health professional education, their capacity and costs, and nursing shortage and estimate the number of healthcare workers in 2013 and forecast the future supply of healthcare till 2030 to see the extent of shortage that will be experienced if this trend continues.
3	Marchi-Alves et al (2013) [A3]	Angola	Qualitative study	The work highlight the need for Professional education institutions to regularizes, recognize and acknowledge Angola nurses as key elements and factors for the qualitative enhancement of health care services in Angola.
4	Salami et al (2016) [A4]	Nigeria	Review	This article focuses on the human resources which pose a great effect on the health challenges as well as the emigration of nurses from Nigeria and other sub-Saharan African countries to the economically high income and advanced countries where their services are well compensated and remunerated for.
5	Enuku & Igbinosun (2012) [A5]	Nigeria	Review	The paper assay the challenges seen in implementing evidence-based practice among Nigerian nurses and the contributory factors.
6	Anarado et al (2016) [A6]	Nigeria	Descriptive cross-sectional study	This study investigated factors that are related to the provision of the infrastructures /equipment, training, and supervisory activities as well as student factors that may hinder and jeopardize clinical training of nursing students in Nigeria and proffer solution which may help in solving the situation
7	Blaauw et al (2014) [A7]	South Africa	Policy analysis study	The study discovers significant weaknesses and loopholes in the policy appropriation and capacity of the institutions like trade unions and regulatory bodies who are responsible for the governance and the leadership of nursing profession in South Africa and also highlight the need and measure to take for these weaknesses to be addressed.
8	Middleton et al (2014) [A8]	Sub Saharan	Descriptive study	The paper describes the formation of the Nursing Education Partnership Initiative (NEPI) among the sub-Saharan African countries involving Ethiopia, Democratic Republic of Congo, Lesotho, Malawi, and Zambia to address the nursing shortage, faculty members, and to remedy the poor teaching and learning infrastructure so as to build on existing country leadership and plan to increase the quantity in terms of number and competencies of fresh nurses entering the profession as well as scaling up of educational methods that are proven and sure of is the key to ensuring sustainability and this will help to achieve better priority health goals for the sub-Saharan African countries.
9	Jooste & Jasper (2012) [A9]	South Africa	Exploratory	The paper x-ray health care challenges as it affects South African nurses generally and the nurse managers in particular and highlight political measures taken by the nurse managers as they involve into politics to be able to involve them in policy making in issues that affect the South African nurses.
10	Bell et al (2013) [A10]	Ghana	Descriptive cross-sectional study	The study provides an understanding of the Ghanaian Baccalaureate nursing education, it's status (strength and challenges) ranging from the program curriculum, admission, development, faculty arrangement, available infrastructures, graduate outcomes, and attributes as well as Implications for practice.
11	Taylor & Priefer (2016) [A11]	Sub Saharan		The paper offers a broad understanding of EBP from it being just process-driven concept to a way of practicing whereby nurses assume ownership of health care practice that integrates EBP which utilizes best available evidence using a point-of-care of patient interaction scenario as the patient is fully involved in their care.
12	Wellington (2012) [A12]	Malawi & Scotland	Comparative study	This paper is a reflective one which seeks to describe the historical link between two countries brought about a collaborative partnership of working for nursing between Scotland & Malawi so as to provide the reader with an overview of some of the issues such as collaborative and mutual working relationship geared towards nursing education and practice
13	Armstrong & Rispel (2015) [A13]		Qualitative study	Social accountability as an essential component of the transformative education, this paper shows how it is necessary to pay attention to the issues of governance, responsive curricula, educator preparedness, and appropriate student recruitment and selection as the major challenges posed to nursing education in South Africa.
14	Daniels et al (2014) [A14]	South Africa	Qualitative exploratory study	As the learning environment is changing, many challenges are faced by the professional nurses as the competition for learning opportunities (struggling to grab the limited available opportunities for them to get the chance to excel others) and limitations (limited available slot) are on the increase; these challenges include clinical teaching, mentoring, and affected service delivery. The study highlights all the challenges and proffers careful and proper planning to ensure that they are tackled.
15	Mtshali & Gwele (2015) [A15]	South Africa	Grounded theory	The study shows the input from the community as it enhances the relevance and importance of the curriculum to the priority needs of the surrounding community. The study further ensures that the curriculum becomes dynamic as it should be based on the current issues and subject to frequent and periodic review due to changing in the need of the community.
16	Adeniji AA (2017) [A16]	Nigeria	Conference paper	The paper highlight the status of Nigerian nurses, nursing image, the challenges facing nursing education, profession and service delivery. Then, proffer way forward as to how this problem can be put to its logical end.
17	Yusuf A (2017) [A17]	Nigeria	Conference paper	Nursing and Midwifery education reforms are brought about by the need for the development of the nursing profession. It is a definite way that will ensure growth, efficiency, effectiveness, and quality improvement. The paper also highlights the need for the enhanced public image of the Nurses. It is a task that the nursing regulating body of Nigeria (NMCN) is committed to. However, for success to be achieved, all hand must be on deck for the cooperation of all the stakeholders is highly needed.
18	Botma (2014) [A18]		Case study	The study shows how to change the content-driven curriculum to competency-based curriculum so as to improve training on nurses considering primary health care as a focus. This decision was informed due to the inability of the country to meet the MDG.
19	Muraranaza et al (2017) [A19]	Rwanda	Systematic review	The review hint hindrances experience by the competency-based curriculum (CBC) to be successfully implemented these hindrances are caused by many issues and challenges which can best be tackled inviting the scholars to analyze this phenomenon in depth so as to generate additional and useful information for the integration of evidence-based practice.
20	McCarthy et al (2013) [A20]	South Africa	Survey study	The study provides information on how to effectively engage the leaders in regulatory reform by the following: clarifying their roles, allocating responsibilities, and involve them in the overall activities regarding regulation as well as other specific perspectives including task shifting and the pre-service reform.
21	Abdullahi et al (2019) [A21]	Nigeria	Literature review	The paper reveals the history and evolution of nursing education in Nigeria, various educational reform and the challenges faced with nursing education in Nigeria.

NMCN= Nursing and Midwifery Council of Nigeria, MDG= Millennium development goals

## DISCUSSION

The discussion is based on the seven themes that emerged from the results section as follows:

1. **Resources and infrastructure:** Manpower and material resources have always been lacking and the burden is more now, especially with a steady increase in population without corresponding increase in material resources create an imbalance, in both the Nursing training and EBP. (Marchi-Alves et al., 2013; Salami, Dada, & Adelakun, 2016; Scheffler & Tulenko, 2016; Truth, 2013) Also, lack of basic infrastructure, absence or inadequately trained experts of human resources (skilled), poor or lack of material resources and shortage in the number of Nurses available

give a big a blow on the little infrastructure affecting the quality of training given to the Nursing. Furthermore, lack of access and the technicality to use information technology (IT) is a major challenge against the use of EBP in the sub-Saharan African countries.(Enuku & Igbinosun, 2012; Salami et al., 2016)

2. **Inadequate facilities and capacity building:** Most libraries in this region don't even have adequate and current journal/electronic library facilities, not to talk of internet access, up to having access to databases like Medline, CINAHL, Cochrane, Web of Science or Scopus nor even steady and reliable electricity to even power them. All these have a negative effect on the training of Nursing Students.(Enuku & Igbinosun, 2012) in order to

encourage innovations, the system has to operate in an efficient and effective manner and must be constantly, be placed under vigorous and periodic evaluation as well as proper maintenance to be able to reap the best out of the whole scenario. In the clinical areas, most of the countries in this region have inadequate equipment in the hospitals for the number of students on each shift to practice with while on clinical experience, this poses a great challenge on the competencies and the training of the product.. (Anarado et al., 2016) Challenges seen affecting nursing education in this region demands strong committed leadership to drive mutual goals and deliver strategic contribution as well as effective use of resources for the benefit of all, alas most nursing leaders around this region care more about dues and money to collect from their members. (Blaauw, Ditlopo, & Rispel, 2014) The complex environment surrounding nursing education demands that academicians, managers, leaders to continually monitor the ever-evolving, complex system of the profession. This includes nursing education, research, and practice in order to face the challenge of shortfalls to influence policy decisions concerning nursing services and design a measure to deliver high quality of health care. (Bell, Rominski, Bam, Donkor, & Lori, 2013; Jooste & Jasper, 2012; Middleton et al., 2014)

3. **Funding problem:** sponsoring research is another challenge to EBP in sub-Saharan Africa, training, and retraining of staff through continuing education are highly lacking except for political class who only think of their families and no one else, Government have the responsibility to train, support and assist that has served them for further education in order to improve their knowledge and be motivated to make the best use of the opportunities except for some few countries like Ethiopia, South Africans (Abugre, 2018; Enuke & Igbinosun, 2012; Spiva & Caramanica, 2017; Taylor et al., 2016).

4. **Collaboration and teamwork:** EBP involves multiple disciplines which entails full collaboration of all the team involved, however, this is not well developed in Sub-Saharan Africa due to Professional rivalry between doctors and nurses, and the rivalry between Doctors and all other health professionals as well as superiority complex they exhibited instead of mutual respect for all in the health sector, this does not encourage the growth of EBP and quality health care delivery. (Enuke & Igbinosun, 2012; Linton & Prasun, 2013; Macias, Loveless, Jackson, & Suresh, 2017; Spiva & Caramanica, 2017; Wellington, 2013) Considering the complexity of the health care demand, there is need for a coordinated and collaborative approach for training, decision and policy making of the health care professionals for a better quality of the health care delivery but in this region and other developing countries, it's almost impossible for nurses' engagement in policymaking as they are only regarded as implementation cadre unfortunately. As a matter of fact, partnerships and collaboration give rise to a strong foundation in the health care system which will give room for effective and well-organized planning and delivery of EBP in health care services. (Armstrong & Rispel, 2015; Daniels, Linda, Bimray, & Sharps, 2014; Spiva & Caramanica, 2017; Wellington, 2013)

5. **Curriculum reform:** There is high need for curriculum reform in Sub Saharan Africa (especially with the emergence of new health challenges and increasing burden of disease as well as increased need to improve primary health care which is part of Millennium development goal) to nursing education (Botma, 2014; Mtshali & Gwele, 2015) so that the graduates produced will be empowered enough to use the quality of their education which take care of the changing need and complex system for the benefit of the populace. Unfortunately, most of the countries of this region have not changed or reform their curriculum for a long time (Muraraneza, Mtshali, & Mukamana, 2017; Yusuf, 2017) it was found out that, that countries within the region are prioritizing the curriculum reforms from a content-driven curriculum to a competency-based curriculum that may be responsive to their primary health care. (Botma, 2014)

6. **Professional regulation:** The major challenges in sub-Saharan Africa regarding professional regulation in Nursing education are the issue of specialist and advanced nursing practice, accountability and autonomy, continuing education and delegation and even consultancy, most of the decision-makers are not involving Nurses to be part of their own issue, policy is being made by the physicians who are nominated by the government of these countries to decide on the matter that involves nurses and other health care professionals this pose a great challenge on the EBP. (McCarthy & Riley, 2012; McCarthy et al., 2013)

7. **Nursing Culture:** Nursing culture and practice are closely interrelated for you cannot separate one completely from their cultural belief and conviction, the concept of EBP is misplaced where the practice is highly routinized as seen this region, this same culture also affects communication, inter-sectoral collaboration, and adoption of new and best available evidence as the case of EBP. (Enuke & Igbinosun, 2012; Santmyire, 2013)

## CONCLUSION

The review highlights the challenges that are faced by the majority of the countries within Sub Saharan Africa in common which ranges from nursing shortage, poor facility, inadequate faculty member, inter-sectoral collaboration, professional regulation among others. To ensure improved quantity (the desired number) and quality of production, as well as the adoption of new and best available evidence as seen in the EBP in the routine nursing care for the benefit of all, developmental partners and government have to increase the allocation of fund for infrastructural development, teaching and learning materials as well as hospital facilities to create an enabling environment for the smooth running of the evidenced practice in Nursing.

## List of Abbreviation

CD= Communicable disease  
NCD= Non-communicable diseases  
EBP= Evidence-based practice  
NGO= Non-governmental organization  
NMCN= Nursing and Midwifery Council of Nigeria

**Declarations:** The authors declare no conflict of interest, as they are all in conformity with the outcome of the manuscript. And that the dataset will be available and provided by the corresponding author on request

**Ethics approval and consent to participate:** N/A

**Availability of data and material:** online via the internet and databases. The datasets during and/or analyzed during the current study available from the corresponding author on reasonable request

**Consent for publication:** not applicable

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**Authors' contributions:** The corresponding author prepared the first draft, and forwarded the rough manuscript to the other authors (S.G; M.H and N-D. N) who individually and independently reviewed the manuscript and gave their corrections, contributions and guide for the better outcome of the manuscript which was all attended to by the corresponding author. They also independently teach and guide the corresponding author about the various concept in the manuscript.

After the manuscript was completed, it was also forwarded to the first author (S.G) for proofreading and correction.

All the authors read and approved the manuscript for publication.

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