

Health-related determinants of maternal mortality in Nigeria: A scoping review.

Habibat Badamasi A

Degree Thesis in Health Care and Social Welfare

Education: Bachelor of Health Care, Nursing

Vaasa 2021

BACHELOR'S THESIS

Author: Habibat Badamasi A.

Degree Programme: Nurse, Vaasa

Supervisor(s): Terese Österberg

Title: Health-related determinants of maternal mortality in Nigeria: A scoping review

Date 05.05.2021

Number of pages: 36

Appendices: 3

Abstract/Summary

Maternal mortality is a global occurrence, notwithstanding that some countries are affected by it more than others. Nigeria, however, accounts for about twenty per cent of all maternal mortality cases in the world; that is, about 145 women die during childbirth every day in Nigeria. There have been several identified causes of maternal mortality in Nigeria, such as socio-economical (education, community resources, and autonomy), health complications (Unsafe delivery, haemorrhage, hypertension), and access to health care (transport, poor quality care).

The study investigated health-related factors affecting maternal mortality high percentage in Nigeria and explored some preventive measures health care practitioners can adapt to help ease the situation. The scoping review methodology was utilized for the research, whereby eleven articles and one journal were included in the final review.

Results showed haemorrhage, preeclampsia and eclampsia, and infection as a health-related factor responsible for maternal mortality in the country. Quality antenatal care, access to a skilled healthcare professional and practising good hygiene, and the use of medication such as Magnesium sulphate has proven effective to help in preventing maternal death.

There is room for more research on different ways to tackle maternal mortality in Nigeria, even more now that technology in the health sector is evolving. Research on how to relate success dynamics from advanced nation to change Nigeria should also be explored.

Language: English

Keywords: Maternal mortality, Maternal death, health factors
Nigeria, determinant

Table of content

1	Introduction	1
1.1	Quick History Of Nigeria.....	1
1.2	Nigeria’s Maternal Health System.....	3
2	Aim.....	5
3	Background.....	6
3.1	What Is Maternal Mortality?	6
3.2	Maternal Mortality Causes.....	6
3.2.1	Complications.....	7
3.2.2	Health Status.....	9
3.2.3	Socioeconomic and Cultural	10
3.3	Maternal mortality prevention.	12
4	Theoretical Framework.	13
5	Methodology.....	15
5.1	Identifying the research question.....	15
5.2	Identifying appropriate study.	16
5.3	Research selection.	16
5.4	Charting data.....	17
5.5	The compilation, summary, and report results.	17
6	Ethical Consideration.....	18
7	Research Findings.....	19
7.1	Health-related determinants of maternal mortality in Nigeria.....	19
7.1.1	Haemorrhage.....	19
7.1.2	Infection.	20
7.1.3	Preeclampsia and Eclampsia.....	20
7.2	Preventive measures that can be adopted by Nigerian health practitioners. 21	
7.2.1	Access to skilled healthcare practitioners.	21
7.2.2	Education on proper hygiene.....	22
7.2.3	Antenatal Care services.....	22
7.2.4	Medication.....	22
8	Discussions	24
8.1	Discussion of Method.....	24
8.1.1	Trustworthiness of method/study	25
8.2	Discussion of findings.....	26

9	Conclusion.....	30
	References.....	31
	Appendix I: Prisma flowchart	
	Appendix II: Summary of articles	
	Appendix III: Summary of the journal	

1 Introduction

Maternal mortality is simply the demise of an expectant mother as a result of a complication resulting from the pregnancy or labour and delivery. World Health Organization (WHO) definition of Maternal mortality, "*Maternal mortality is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from unintentional or incidental causes*" (WHO, 2019 p.8).

Maternal mortality is a global phenomenon, albeit far lower in some countries compared to others. Nigeria accounts for about 20% of global maternal mortality cases, up 6% from 2008. It is estimated that roughly 600,000 maternal mortality and 900,000 nearly maternal mortality cases happened in Nigeria between 2005 - 2015. To put this into perspective, 145 women die during labour and delivery every day (Lanre- Abass, 2008).

Nigeria's mortality ratio has been on the sharp increase, and by the year 2015, the rate plummeted to about 800 fatalities for each 100,000 delivery, with approximately 58000 death during that period (Lanre-Abass, 2008).

1.1 Quick History Of Nigeria.

In Africa, Nigeria is the most populated nation with approximately 214 million people, which makes it the 6th most inhabited nation globally, and a projected population growth by the year 2050 of about 392 million, which will bring it to the 4th most inhabited nation globally (CIA world factbook, 2020).

This excessive population increase will last into the immediate future due to population thrust and increased birth rate. The government has not effectively executed family planning initiatives to reduce and space births due to an absence of political resolve, government fundings, and the accessibility and affordability of services and products, along with a cultural fondness for sizeable families. Better educational accomplishment, particularly amongst women and developments in health care, are required to urge and better empower parents to choose smaller families (Mojekwe & Ibekwe, 2012).

Geographically, Nigeria is situated within the western part of Africa, with the gulf of Guinea, Benin and Cameroon as neighbouring countries. The country's coastline is 853 kilometres which lie on the Atlantic ocean, the total area (land and water) of the country is 9923,768

square kilometres. Southern Nigeria has an equatorial climate while tropical in the centre, and the Northern part is mainly parched climate. The country is warm and low, with occasional rain as temperatures range between 25 to 45-degree celsius (CIA world factbook, 2020).

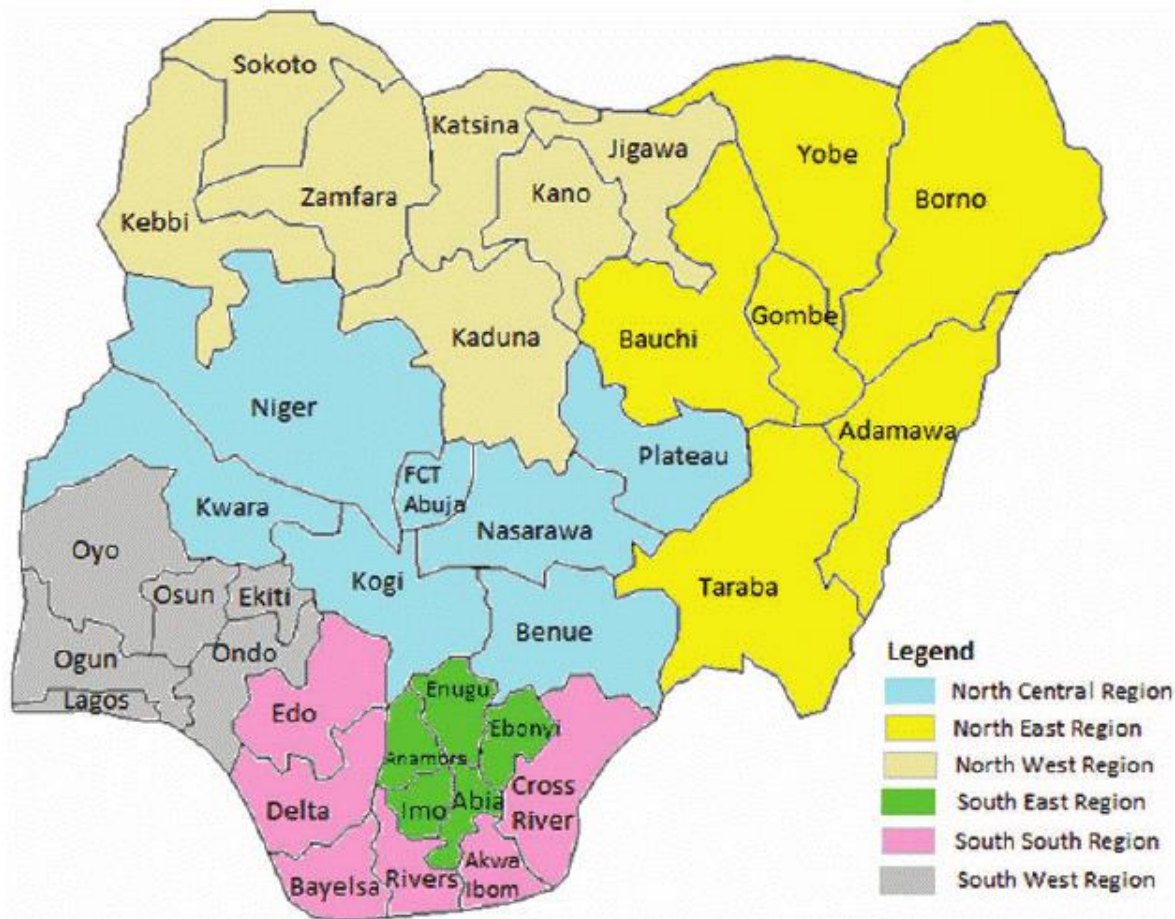


Figure 1 Map of Nigeria (Research gate, 2020).

Nigeria is diverse. It has over 250 ethnic groups, with Hausa, Yoruba and Igbo ethnic groups making the majority, over 500 languages and scores of religions including Islam, Christianity, Ifa, and other various traditional religions. The country's age structure is such that over 61% of the population are between the ages of 0 - 24 years, while 35% are between the ages of 25 – 64 years, and 3.3% of people aged 65 years and over make up the rest of the population. Nigeria has one of the youngest inhabitants globally, with 18.6 years being the average age. The country also has the most youthful mother population in the world, as the average age for women at first birth is 20.3 years, with an approximately 4.72 birth rate for each mother (Piane, 2019).

1.2 Nigeria's Maternal Health System.

The state of a country's maternal health care system goes a long way in understanding its level of maternal deaths and where this stems from. The importance of uplifting mothers and children's welfare cannot be overemphasized enough, reflected in countries and international health organizations' health goals. Improvement in expectant women's health is a component of Millennium development goals (MDGs). To accomplish the plan, an objective to decrease the cases of maternal mortality to 75 per cent not later than 2015 was developed. Although this goal was not met, significant efforts are still being made to provide worldwide reproductive health access (WHO, 2015).

Despite records of minor success in Nigeria's maternal health system during recent years, the nation's amount of maternal mortality, as presented earlier in this chapter, is still alarming. 2019 WHO report shows the increasing number of mother's demise in Nigeria indicates imbalances in health care benefits accessibility with emphasis on disparity among the wealthy and underprivileged. Among 100% of worldwide maternal deaths arises in evolving countries, with a substantial amount occurring in Nigeria (Olonade et al., 2019).

WHO adds that underprivileged women in inaccessible areas in Nigeria hardly obtain good medical attention, particularly for regions with small numbers of trained health personnel, such as the country's northern territory. This could also be one reason the northern part of the land records higher mortality than the southern region. Nationally, births in the wealthiest 20 per cent of families were more than twice as likely to be attended by trained health workers as those in the deprived 20 per cent of households (89 per cent against 43 per cent). This implies that doctors, midwives, or skilled attendant are not aiding millions of childbirths. In 2001, a Nigerian National Reproductive Health Policy was introduced, aiming to halve the national maternal deaths average from 800 fatalities for every 100,000 live births within five years. However, the nation is not closed to realizing this goal, even 14 years after the plan was supposed to have been met (Ijadunola et al., 2010).

New assessments of the state Ministry of Health's maternal mortality problem reveal the ratio at an unsatisfactorily high number of 814 fatalities for every 100,000 deliveries (2020 estimates), which is still quite alarming even by developing nation's yardstick. Whilst several ground-breaking plans are being rolled out in various regions of the country, with the aid of United Nations (U.N.), international/local donors, and the private sector, there is no simultaneous efforts on the part of the country's ruling class to train and retrain skilled

health workers. This shows the reason it has been challenging to implement internationally established and practical solution and technologies (Ijadunola et al., 2010).

2 Aim

There has been a sizable amount of study on maternal mortality in Nigeria (Harrison 1997, Hartfield 2016, Mojekwe & Ibekwe 2012, Piane 2019, Meh et al. 2017, Olonade 2019, Eto 2016, Adeniran 2014, Lawoyin 2007). Much research has been focused on analysing the reasons behind the high mortality rate in Nigeria (Lanre-abass 2008, Chukuezi, 2010), and very few have been focused on finding a lasting solution to this age-long issue (Ijadunola, 2010, Harrison, 1997, Adegoke et al., 2007). However, much research on how to relate success dynamics from advanced nation to change Nigeria has not been explored. Developed countries have recorded remarkable success Stories when it comes to maternal mortality rate. For example, Finland's maternal death rate is three deaths for every 100,000 deliveries in 2017, down from about six deaths at the turn of the Millennium in the year 2000 (Knoema, 2020). This phenomenal achievement can be attributed to the long-term strategy that started from establishing Finland's first maternity and child health clinics in the early 1920s and the government's moved to sign into law in 1944 the Act of municipal prenatal and childcare clinics (THL, 2017).

This study aims to investigate health-related factors affecting the high incidence of maternal deaths in Nigeria and also explore possible preventive measures that healthcare practitioners can adapt to combat this issue.

Research questions:

- What are the health-related determinants of maternal mortality in Nigeria?
- What preventive measures can be carried out by health practitioners in Nigeria?

3 Background.

To understand this research topic, it is crucial to explain the terms used and present fact-based information on the subject matter. This chapter contains an in-depth analysis of maternal mortality, causes, history, and current state of maternal deaths in Nigeria, and efforts to eradicate.

3.1 What Is Maternal Mortality?

Maternal mortality is described as the demise of an expectant mother during pregnancy or in the period of 42 days of abortion, regardless of the time span and where the pregnancy is located, from any factor related to the pregnancy or its handling, accidental or unintentional factors are not included (WHO, 2019). UNICEF says the global maternal mortality ratio declined by 38% from 2000 - 2017, numerically about 342-211 mortality for each 100,000 deliveries. United Nations (U.N.) estimates this transcribes to a reduction of 2.9% annually. Sub-Saharan African women have the most mortality rate for women during pregnancy and childbirth, including the lowest health interventions for maternal, newborn and child health (Wehrmeister et al. 2020).

Conversely, developed nations like the Nordic countries – Sweden, Norway, Finland, Denmark, and Iceland- between 2005 and 2013 recorded the lowest number of maternal deaths. The combined death over these nine years were 168. This means that these countries maternal death ratio is 7.2 per 100,000 live births, with slight discrepancies among the individual nations that are structurally, socially, and economically comparable and have similar healthcare arrangements (Vangen et al., 2017).

3.2 Maternal Mortality Causes.

Mother's death is a crucial topic that has aroused global interest, especially in developing countries since the late 1990s, reflecting its inclusion in the Millennium Development Goals. However, the problem continues in the evolving countries despite new endeavours by international health organisations. To eradicate this problem or reduce it, there is a need to understand its fundamental causes clearly; despite enormous medical science progress, maternal deaths permeate the developing world, indicating factors far beyond medical ones as the primary contributor to the problem (Naz, 2019).

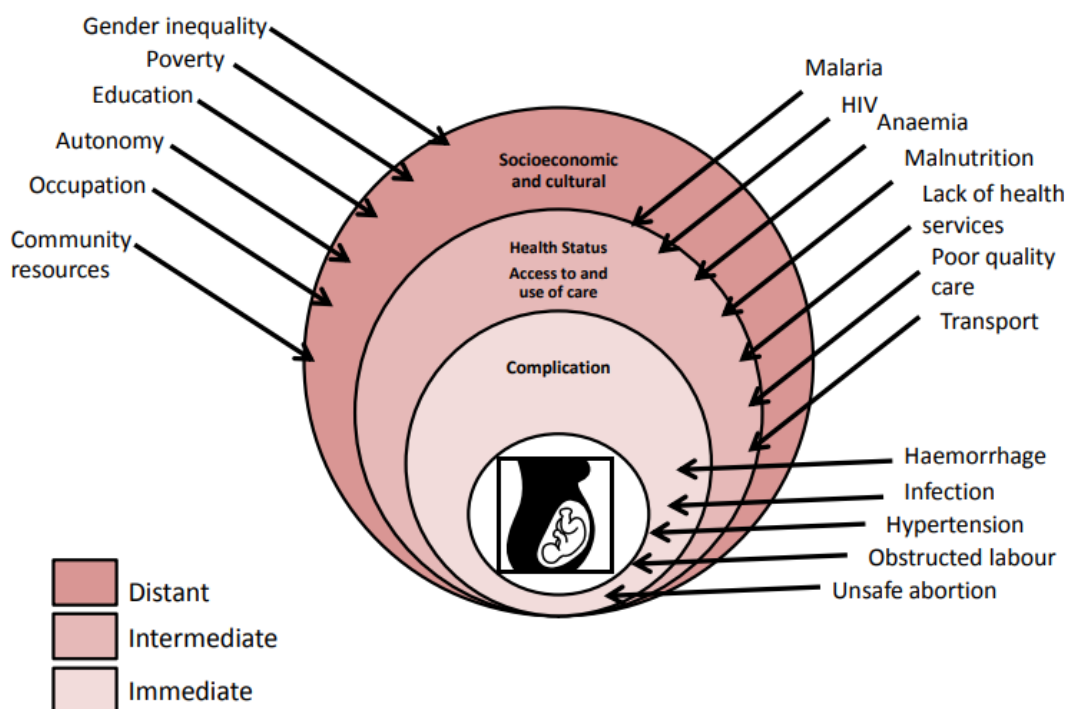


Figure 2. Factors Affecting Maternal Mortality (Wilson, 2013).

There have been numerous factors found to contribute to the loss of pregnant women during or after birth. Wilson (2013) excellently categorised these factors into three levels; intermediate, immediate, and distant (as illustrated in Figure 2 above). The immediate factor results from pregnancy-related complications such as haemorrhage, unsafe abortion, and hypertension. The intermediate elements are triggered by access to lack of healthcare; factors in this category include malnutrition, STIs, transport, etc. The distant level is initiated by social-economic circumstances such as autonomy, gender inequality, and poverty. In the following subsections, these factors were explained to give us a better understanding of them.

3.2.1 Complications

These are health-related difficulties that appear throughout pregnancy. They can include the mother's wellbeing, the foetus health, or both. Certain women have health issues that occur throughout and after pregnancy, and other women develop health crisis before becoming pregnant, resulting in complications. (Centre for Disease Control and Prevention; CDC 1999). Some of these complications are explained in the following sections.

3.2.1.1 Haemorrhage.

Complications from obstetric haemorrhage (bleeding) remain among the leading immediate cause of the death of mother's globally, with fatalities occurring inside 24-48 hours after delivery (Velde et al., 2013). In Africa and Asia, Haemorrhage is one of the top causes of Fatalities, representing approximately 30% of maternal death in both regions (Wilson 2013). Postpartum haemorrhage accounts for 35% of expectant mother's deaths globally. The possibility of a woman dying from a haemorrhage is approximately 1 out of every 1000 childbirth in impoverished nations. Roughly 14 million women around the world suffer from postpartum haemorrhage (WHO 2020).

3.2.1.2 Infection.

Obstetric and genital urinary tract infections introduced to mothers during childbirth are often called Maternal sepsis. There is an annual occurrence of about 5.2 million new maternal sepsis cases globally and a projected 62,000 maternal deaths. It is the next most common factors affecting the death of mothers in Asia with 11.6% fatalities and Africa with 9.7% fatalities (Hussein et al., 2011).

Puerperal sepsis is a form of maternal sepsis that is characterised by the introduction of infection during labour and delivery and manifests during the first 42 days postpartum period. Infection of the womb, abdominal cavity and bloodstream infection is the features of this sepsis, high fever and pain can also occur. Infection of the genitalia tract, wound infection from caesarean section, and infection of the urinary tracts are other maternal conditions. (Hussein et al., 2011).

Risk factors for postpartum infections include extended and complicated labour, frequent vagina examinations, membrane rupture premature deliveries, surgeries (caesarean section, episiotomy) and aided delivery (vacuum extraction, forceps deliveries). Anaemia and deficiency of micronutrients, sexually transmitted diseases, poor hygiene are risk factors for postpartum infection (Finnegan et al., 2004).

3.2.1.3 Obstructed Labour.

About 8% of maternal mortality is caused by obstructed Labour, which is a consequence of infections, fistula, and uterine rupture. Obstructed Labour can proceed to be recto-vaginal or vesicovaginal fistula, and this is as an implication of death of soft tissue between the woman's pelvic bone and the head of the foetus (Van Beckhuizen et al., 2006).

3.2.1.4 Hypertension.

Maternal hypertension is described as blood pressure greater than 140 / 90 mm Hg twice measured within six hours apart. New-onset hypertension diagnosed in pregnancy of gestation age greater than 20 weeks with protein in the urine (proteinuria) greater than 300mg in the period of 24 hours is called gestational hypertension (Anand, 2014). Prolonged inadequately monitored high blood level preceding to and during pregnancy places a pregnant woman and a foetus in danger of problems. It is linked with a bigger chance of maternal complications such as placental disruption (when the placenta split from the uterus lining) and gestational diabetes. Such mothers also confront a greater risk of horrible birth experience such as premature delivery, having a child small for his/her conception age, and infant mortality (CDC 1999).

3.2.2 Health Status.

A predominant pointer of a nation's degree of maternal mortality is the health status of its female populace. There exist a strong link between this factor and the level of poverty, resulting in a lack of access to essential medical services.

3.2.2.1 Malnutrition and Anaemia.

Severe lack of micronutrients and energy is referred to as maternal malnutrition, which is predominant in south-central Asia and several other regions in the world. A severe challenge of malnutrition is mostly in the sub-Saharan African countries, south-eastern and south-central Asian countries, and Yemen, where more than 20% of women have a BMI of greater than 18.5 kg/m² (WHO, 2020), the short physique of a mother and iron deficiency anaemia can increase the mother's risk of death at delivery, contributing to at least 20% of maternal deaths.

The most critical causative factor of maternal mortality is anaemia, which places expectant women at an increased chance of death during and after labour and delivery. Maternal mortality from heart failure is linked with a severe case of anaemia. In contrast, haemorrhage during or after labour and delivery, sepsis, high chances of circulatory shock, obstructed labour and death is associated with moderate anaemia (Manfredini, 2020).

Likewise, folic acid and Iron shortage typify anaemia's general cause, by causing haematological modification, which later progresses to an anaemic state. Vitamin A deficiency has also been linked with anaemia (Manfredini, 2020).

Another micronutrient induced maternal death is the shortage of zinc. Aside from how crucial it is to the immune system, zinc also performs an important task as a synthesiser of hormone and enzymes essential to childbirth. Prolonged labour and increased risk of women's death at childbirth has been associated with the shortage of Zinc (Manfredini, 2020).

3.2.2.2 Lack of Health Services & Poor-Quality Care.

There is considerable evidence advocating that provision of quality medical treatments, supervised delivery by trained practitioners, and accessible obstetric and emergency services to expectant mothers is a life-saving approach. Unfortunately, nations in sub-Saharan Africa cannot commonly and evenly provide these benefits because of limited resources. This is primarily a problem in the rural district because they are commonly distant and remote and away from the urban health care organisations (Oyeyemi, 2012).

Making a well-timed decision in seeking health care services still does not guarantee an expectant woman access to healthcare service because accessibility is a critical challenge in these parts of the world. Pregnant women in rural areas who are experiencing an obstetric crisis may find the nearest accessible health care centre to be understaffed and underequipped, and these women have no means to get to more equipped centres which are most times in the urban areas. Qualified personnel shortage, critical supplies and medications and other reasons like administrative hold-ups, medical maladministration are documentable risk factors that may hinder the prompt beginning of essential treatment even though a patient arrived at the facility in time (Thaddeus and Maine, 1994).

Patient factors also contribute to accessibility to healthcare services. Patient factors include delayed arrival or non-arrival at healthcare centres, unauthorised abortion, non-use of pre-birth care and issues of transportation (Sundari, 1992).

3.2.3 Socioeconomic and Cultural

Some of the variables that make up these socioeconomic and cultural factors are unemployment, urban residency, and literacy. Male-dominated societies particularly tend to record a high amount of maternal mortality compared to more gender-equal communities. Some of these issues are being discussed in the following sections.

3.2.3.1 Education

Emphasis on the role of women education as a means of attaining safety on the women's part has existed in various studies. An educated expectant mother is likely to recognise the

complications that may occur during gravidity and, in this way, more prone to seeking prompt, professional help, unlike their counterparts. Women with little education are found to be poor and tend to predominantly reside in the rural districts, and have a tendency to give birth in their home with an unskilled person in attendance. There has been the existence of substantial studies that speak on the function of educating women as a means of attaining safety in maternal health (Zolala et al., 2012).

3.2.3.2 Autonomy

The ability of a woman in making and implementing judgements about important personal issues based on her influence over others, information accessible to her, material sources influence, and liberation from domestic violence is a standard definition of women's autonomy. The ability of a woman to identify and decide happenings in their daily lives irrespective of if other members of their family oppose it is another concept of autonomy (Fotso et al., 2009).

Deciding against seeking out medical services entails communication among a woman and her relatives. Restraining a woman's right to making authoritative decisions might hold them back from obtaining appropriate maternal health service. Several types of research have shown a correlation between decision making freedom and sufficient antenatal services usage. A study shows how decision-making autonomy has positively affected how they utilise antenatal service in Nigeria and Bangladesh (Rizkianti et al., 2020).

Various studies have also shown that the influence of culture and traditions overruled some women decision-making power. Furthermore, a woman's autonomy during labour and delivery is not only in her power on the contrary but also influenced by her families and her husband. Women with sizeable education can also experience less perception of Labour and delivery services because of a low degree of autonomy (Rizkianti et al., 2020).

3.2.3.3 Poverty.

Poverty is a social determinant of maternal death by resonating in Social Security and malnutrition. The take-home pay level of a family often affects their decision to seek professional help during childbirth and illness. Under deprived population live in a relatively remote area with little or no healthcare facilities, and they have to pay for transportation in getting to a facility that is well equipped somewhere else, cost of treatment received, and other expenditures incurred during labour and delivery, and this might discourage them from using the healthcare service (Zolala, 2012).

3.3 Maternal mortality prevention.

It is crucial to understand that the majority of maternal death causes are entirely preventable. This cold fact contributes to the tragic feeling after a woman demise due to pregnancy-related complications. The earliest recorded efforts towards reducing or stopping maternal mortality were at the beginning of the 20th century, when there were about 1000 deaths for every 100,000 deliveries.

Innovative actions such as environmental-friendly measures, advances in nutrition, advances in medical science, developments in access to healthcare services, improvements in observation and examining disease, rise in access to knowledge, and progress in living norms to assist in tackling this global problem. The ensuing decades starting from the year 1917 saw a sharp decline in maternal deaths up to 99% globally. Despite this rapid decline in maternal deaths throughout the 20th century, the trial persisted. Conceivably, the biggest being continued differences in women's health between different countries, which has resulted in a spike in maternal mortality rate in underprivileged societies (CDC, 1999).

In response, Safe Motherhood Programme was introduced in 1987 as inter-agency, transnational cooperation geared at raising people's consciousness at the range and implications of inadequate maternal health in deprived societies and prompt action to tackle maternal mortality. By way of these interventions, access to safe motherhood is starting to be regarded not just as a communal health worry but as a human right issue. However, after over a decade of intensified maternal mortality awareness in the developing world, maternal death proportions remain unchanged. This outcome is in part due to maternal health not being seen yet as of international importance. It is assessed that maternal health care comprises five to eleven per cent of entire charities to the underprivileged countries' health division. At present, the task is to make available vital maternal support that entails interventions that will almost certainly shrink maternal death rates and foster maternal health. (National Academy of Sciences, 2003).

4 Theoretical Framework.

The theoretical framework is established on a previously existed model within a discipline which is correlated and therefore reflects the premise of the research subject. Researchers usually use it to represent the development of their ideas all this searching inquiry, its functions as the basis of which the constructed (Adom et al., 2018).

For this study, the “Health Promotion Model” by Andrew Tannahill will be used. Tannahill is specialised in community medicine; the model has been widely cited and used in undergraduate and postgraduate essay worldwide (Tannahill, 2009).

The model is chosen for this study because it is used to develop inclusive public healthcare agendas and health promotion among major groups and in fundamental settings. The health promotion model is often adopted as an outline for a call to action on a particular research subject. The model helps detailed practical exploration of health promotions multi-professional are intersectoral nature (Tannahill, 1988).

Tannahill believes that understudying health promotion clearly is advantageous because it explains a field of health-improving behaviours that vary in emphasis from the increase in technology, dominant healing, or emergency healthcare services. He created the model in 1985 that exhibited health promotion as the combination of intertwined circles of activities, namely health education, prevention, and health protection (Tannahill, 1985).

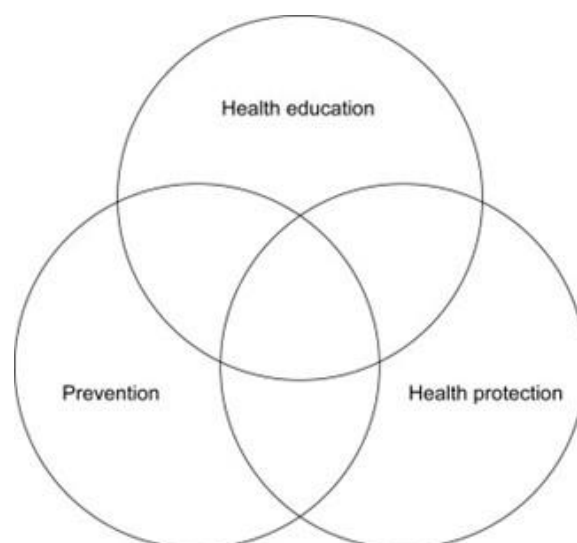


Figure 3. Health promotion model (Tannahill, 2009).

Health education is aimed at improving wellbeing and diminishing illness through communicative activities in individuals and group of people, using constructive knowledge influence, attitude and philosophies, and behaviours of policymakers and the general public. According to Tannahill (1985), health education should be seen and represented as a participative, educational process whereby healthcare professional and targeted group learn from each other. Health education aims to develop an individual's positive health attributes, such as decision-making skills and essential life skills development, which can, in turn, contribute to a personal sense of holistic wellbeing (Tannahill, 1985).

Prevention: This is aimed at avoidance and reduction of causative factors of illness and diseases and minimalizing their consequences. Tannahill explained in detail identifying the four-point action for prevention, which are:

- Prevention of preliminary phenomenal of an unwanted illness or disease.
- Prevention of disease and illness avertable consequences by use of early detection when this favourably affects the outcome.
- Prevention of consequences of confirmed disease or illness that are entirely preventable.
- Prevention of a non-desirable situation or illness or disease reoccurrence (Tannahill, 1985).

Preventive procedures could be in the form of screening and or vaccinations or preventive activity such as antenatal check-ups. The preventive measure could also be in the form of fiscal and legislative policies to reduce the impact of illness (Tannahill 1988).

Health protection: The aim is the use of financial, governmental, or social actions to safeguard their inhabitant's health status by stimulation of social surroundings and demanding for preventive health protection actions are complementary to the effort(Tannahill, 1988). It also aims at preventing illness or positive augmentation of wellbeing through laws or economic rule and other policy and regulations or intentional code of conduct (Tannahill, 1985).

5 Methodology

The broad scope of maternal mortality determinant, methods (qualitative and quantitative), and results found amongst research articles in this field and few articles focusing on preventive actions suggest adopting scoping review as depicted by Arksey and O'Malley (2005) for the thesis. Scoping study is becoming more popular over the last decade, especially within health research. Although a wide range of definitions exists (Anderson et al., 2008; Arksey and O'Malley, 2005; Grant et al., 2009; Davis et al., 2009), there is no commonly agreed upon. However, definitions usually mention 'mapping', a method of reviewing various data to carry the extensiveness and complexity of a field. Scoping review is unique, it does not consider the article quality and entails critical reinterpretation of the literature, a stark contrast from systematic, narrative, and literature reviews (Levac et al., 2010).

Academicians carry out scoping review as a means of size inspection, scope, and type of a study, establish the appeal of carrying out a complete methodical analysis, summarised and published study results or recognised variance in current research (Arksey and O'Malleys, 2005, as cited in Levac et al., 2010). Scoping review may be principally applicable to subjects with evolving evidence, like therapeutic science. The scarcity of randomised regulated test makes it challenging for academicians to carry out methodical reviews. In these conditions scoping studies is perfect because academics can integrate various research structure in published papers and unpublished ones also, tackle doubts outside research linked to efficient intervention, producing results which can balance clinical test results (Levac et al., 2010). A practical context used in conducting scoping review by Arksey and O'Malleys, 2005 is used in this thesis, which includes: Identifying research question and research study, research selection, data charting- collating, summarising and report.

5.1 Identifying the research question.

The research questions are extensive in scoping review as emphasis are laid upon reviewing the scope of the data. Arksey and O'Malleys (2005) accept the necessity of retaining a comprehensive range of the study question. To explain this phase, academics must match an all-encompassing research question with a lucidly expressed survey span. This comprises outlining the idea, target populace, and health results of the appeal to illuminate the scoping review's emphasis and create an efficient search approach. In this case, the first research question, "what are the health-related determinants of maternal mortality in Nigeria" the aim

is to comprehend the health-related factors affecting maternal death in Nigeria. These causes might be some of the ones that have already been discussed in previous chapters. The second question "How can effective preventive measures be carried out by practitioners in Nigeria?" This is intended to exploring solutions to the causes addressed in the first research question, which would typically include stakeholders in the health sector, government, healthcare professionals, individuals, communities and so on.

5.2 Identifying appropriate study.

An advantage of scoping review is the scope, complexity, or extensiveness of evidence in a specific subject. However, real-world concerns associated with time, finance, and access to materials frequently compel academics to contemplate the balance between viability, coverage, and fullness (Levac et al., 2010). This concern is raised by Brien et al. (2010) when they mentioned search strategy they used generated an enormous amount of articles, which makes it problematic in defining the comprehensiveness of transmitting the data. Levac et al. (2010) proffered that when restricting range is inevitable, academics should validate their judgements and recognise the possible restrictions of their research. Hence, keywords were derived from the research questions to conduct the search needed to identify relevant articles. Some of the search words used for the research questions were "Nigerian" or "Africa" or "motherhood" AND a combination of "maternal mortality" or "preventive measures" or "maternal health" or "causes" or "health causes" or "health factors" or "roles of health workers".

5.3 Research selection.

Arksey and O'Malley (2005) proffered recommendations on how time expanding procedures of deciding on which articles to include in a scoping review can be handled. Following these recommendations, searches were conducted using various databases such as Google Scholar, CINAHL EBSCOhost and NCBI. The selection of studies that are incorporated in this thesis was based on these criteria; journal articles and international health reports from WHO, journal of global health report published between the year 2005 – 2020 and 2010 – 2020, respectively. English language, full texts, abstract available, all information applicable to the research questions, peer-reviewed articles, and articles that fit into the geographical research setting. The search returned 576 papers, of these 12 studies was selected for analysis: see Appendix 1 for Prisma flow.

5.4 Charting data.

This involves the extraction of relevant information that answers research questions from the article selected. One problem usually encountered at this stage of the scoping review framework is tabulating the data in such a way that they could accommodate all types of articles selected. Levac et al. (2010) recommend that data tabulation could be thought of as a continuous activity in which academics frequently revised data charting table. Therefore, the research paper used was charted into the following characteristic: Author(s) name and year publication, title, aim, methodology, and results. See appendix 2 and 3.

5.5 The compilation, summary, and report results.

Being the broadest aspect of scoping study process, it involves three well-defined stages to improve the uniformity with which academics carry out and present results. These three distinct stages include dissecting the information extracted, narrating the result, and applying meaning to the results. Levac et al. (2010) provided a recommendation that when reporting results, academic should think about the best method to presenting the results of the research and how scoping review outcomes will be expressed to the reader, for example, a framework or a chart of merits and disparities in the evidence. In this thesis, a theoretical framework, the “health promotion model” by Andrew Tannahill, will be used to present how some preventive measures can be adopted in Nigeria maternal health care system so as to hopefully decrease the incidence of maternal mortalities in the country.

6 Ethical Consideration

The research was conducted in a responsible manner according to the Finnish Advisory Board on research integrity guidelines. Particular attention is given to the work and achievements of other research work used in this thesis, honouring their works, adequately mentioning their publications, and crediting their achievements (Finnish Advisory Board on Research Integrity, 2012).

Novia University of applied science writing instructions was followed for the thesis for recommendation on citation and correctly referencing all the different research papers, scientific articles, publications, and reports used in this research. Ethics in health research includes the aptness of the research design, the suitability of the research methodology, funding source where applicable, and behaviour or manners in reporting data (Orb et al., 2000).

Reviewers must attach great importance to quality guidelines that are ethically consistent with their reviews overall analytical orientation, such as standards, eliminating potential bias that may arise, respecting the original participants' representations of primary research study enriching their admiration, constructing, and critically reflecting the account of some discourses of the participant reviewer or of an educational event being more influential than others (Suri H. 2020).

7 Research Findings.

This section uncovers the result of the selected articles with regards to this research questions. For the sake of clarity, the results have been divided into two subsections, with each subsection having further subtopics to explain the findings further. The first subsection being “health-related determinants of maternal mortality in Nigeria”, and the second subsection being “preventive measures that can be adopted by health practitioners in Nigeria”.

7.1 Health-related determinants of maternal mortality in Nigeria.

Several types of research have been carried out to ascertain the reason behind the death of expectant mother in sub-Saharan Africa and, by extension, Nigeria over the past couple of years. These studies have primarily taken a holistic approach towards establishing various factors leading to death among pregnant Nigerian women. This holistic view has meant that the spotlight is equally given to social-economic and cultural factors as well. Some of these well-established factors have been covered in chapter three (3) of this thesis. But to answer the first research question and in keeping in line with the field of study, the researcher has chosen a rather atomic focus on the health factors that have been identified from selected academic articles/journals and reports.

7.1.1 Haemorrhage.

A February 2019 academic article published by Sageer, Kongnyuy, Adebimpe, Omosehin, Ogunsola & Sanni investigated facts from prenatal and maternal mortality in a Southwestern Nigeria city- Ogun State- in order to ascertain contributory factors. Utilising a total sampling method, electroactive analysis of 77 reports of expectant women’s death, which was in the healthcare facility between the year 2015 – 2016 in Ogun state where the study was carried out. The article discovered haemorrhage as the leading causative factor of maternal mortality in Ogun state. To iterate further, the research shows that homebirth is still a predominant practice within the city. This is a hazardous method due to the distance between residential areas and the hospital, poor transportation, and poor roads. This effectively means that should any medical complication (such as excessive bleeding) occurring during childbirth, and it might be too late by the time a labouring woman arrives at a healthcare facility (Sageer, Kongnyuy, Adebimpe, et al., 2019).

7.1.2 Infection.

Ujah, Aisien, Mutahir, Vanderjagt, Glew & Uguru (2005) pointed out another health-related factor in their study, which focused on maternal death in the North-central region of Nigeria. They had analysed University teaching hospital records in the area over 17 years and mentioned that sepsis, among other causes, is an immediate risk to pregnant women in the region (Ujah, Aisien, Mutahir, Vanderjagt, Glew & Uguru 2005). Another similar research conducted at the Nnamdi Azikiwe University Teaching Hospital in the south-eastern part of Nigeria included a sample size of 120 reports, agreed that another leading determinant of expectant women's death is sepsis. This research further elaborated that infections during pregnancy that eventually lead to sepsis is because of the use of insanitary lavatories/latrines, poor personal hygiene, unclean surroundings, numerous sexual partners, and the likes. Pregnancy is accompanied by inhibition of the woman physiological immune system, which usually intensifies the probability of contracting infections which can, in turn, have a harmful effect (Nwambo, Ilo et al., 2016).

7.1.3 Preeclampsia and Eclampsia.

In Nigeria, both Preeclampsia and eclampsia are a leading cause of maternal death. Involving 1,233 patients across three significant hospitals found that most hospitals lack adequate laboratory facilities to enable them to mark out the gravity of symptoms which leads to misdiagnosing cases of preeclampsia and eclampsia, resulting in 20% of death. The Nigeria healthcare structure is fragmented whereby tertiary institutions are controlled by the federal government, and secondary facilities are controlled by the States government and elementary healthcare centres are usually controlled by the local municipal without proper linkage amongst these stages of care. Consequently, the treatment of preeclampsia and eclampsia is not well organised across these stages of health care service provision, same as for other obstetrics complications. Also, the ministry of Health in Nigeria's recommendation for treating eclampsia exempt lower-level healthcare workers in the management of the condition (Tukur, Ahonsi, Mohammed et al., 2012).

Numerous studies have also identified post-caesarean hypertension as a significant issue faced by pregnant mothers in the country. As of 2015, one of the major reasons for hospital-based maternal mortality in Nigeria is hypertension, which is typified by high blood pressure albuminuria and countless haematological, neurological, and renal alteration that can end in unfavourable maternal results involving intrauterine enlargement restraint, low amniotic fluid, placenta abruption. Worldwide, a projected 81% of expectant mothers attend a

minimum of one pre-birth care visit, whereas just 56% are present in at least four sessions. In Nigeria, only half of the expectant mothers attend a minimum of four antenatal visits, varying from 30% in the northwest to 87% in the Southwestern region (Salomon, Ishaku, Kirk et al. 2019). Some other health factors affecting maternal death in Nigeria are diabetes, typhoid, heart disease, placenta previa and malaria (Azuh, Azuh, Iweala et al., 2017; Soter, Omokhoa, Kabiru et al. 2016).

7.2 Preventive measures that can be adopted by Nigerian health practitioners.

Despite attempts steered at tackling maternal mortality through national and local levels, the maternal mortality rates have stayed at an elevated level in Nigeria in the past 20 years. The failure of some of these interventions' initiatives can be attributed to a lot of reasons which has been thoroughly researched over the past two decades.

7.2.1 Access to skilled healthcare practitioners.

One such preventive measures are the provision of better access to skilled pregnancy nurse. Even though the proof towards lessening maternal death via access to qualified pregnancy nurse is essential, it is insufficient to guarantee a considerable drop in maternal mortality in Nigeria (Azuogu, Azuogu & Nwonwu, 2011). Enhancing the quality of health services extends past weighing only the supply side of care. Also, increasing the quality of maternity healthcare provided has been mentioned numerous times. Although, some researchers noted that even if the level of care services in Nigeria health institutions is upgraded, maternal death may still be nowhere near an acceptable threshold. This is because an improvement in the quality of service delivered at a health facility does not always lead to an upturn in the use of healthcare service by pregnant women. for instance, in southwestern Nigeria, numerous pregnant women have a more vital trust in noninstitutional childbirth than having faith in modern health institutions because they believe that local birth attendant display more empathy and kindness than skilled nurses and midwives (Ope, 2020; Ononokpono & Odimegwu, 2014). A 2018 study carried out by Okonofua, Ntoimo & Ogu found out that women attribute unsatisfactory performance to nonchalant attitudes of healthcare practitioners, unfriendly and vulgar staffs (Midwives, nurses, doctors, laboratory staff, pharmacists), and insufficient health facilities for the provision of medical intervention which sometimes leads to the death of expectant women or a case of a near miss.

7.2.2 Education on proper hygiene.

Research by Nwambo, Ilo et al. (2016) focused on preventive health habits amongst pregnant women in Nigeria showed that healthcare workers and expectant mothers need to work together towards spreading awareness and embracing infection prevention health habits. This collaboration is essential because genital zone infection, which can occur between the time of breakage of the membrane and just over a month postpartum, is said to be the second expectant mother leading cause of death in Nigeria. Nurses, midwives, and medical practitioners should educate expectant mothers on the cruciality of maintaining proper hygiene, avoiding toxic substances, and attending a regular antenatal session (Nwambo, Ilo et al., 2016).

7.2.3 Antenatal Care services.

The vast amount of research has attributed a significant proportion of maternal death to hypertension during pregnancy. A high standard of antenatal services has become crucial to the early detection and management of hypertension. Salomon, Ishaku, Kirk & Warren (2019) assessed the standard of antenatal care in both Nigerian hospitals and primary healthcare centres and their ability to detect and control pregnancy-related hypertension to unfold the level of health service provisions and spotting the most pressing gaps. This study showed that most pregnant women's first point of call is the Primary Health centres which lack do necessary equipment and expertise to deal effectively with hypertensive disorders. To plug this gap, they recommended a holistic enhancement to antenatal care, which will involve updating health workers literacy and practises. Also, public mobilisation to inform on the significance of antenatal care and increase maternal health knowledge. Innovative and easy to adopt solutions for Primary Health centres, such as mobile coaching and decision-making devices. Also, compulsory frequent training updates around antenatal care proficiencies could aid in plugging knowledge gaps (Salomon, Ishaku, Kirk & Warren, 2019).

7.2.4 Medication

World Health Organization recommends Magnesium sulphate $MgSO_4$ as a treatment for Pre-eclampsia and eclampsia in a clinical setting in 1995, after trials reveal that it lowers the risk of recurrent attacks by about 65%. Despite evidence of its effectiveness, $MgSO_4$ has been minimally used in Nigeria due to low accessibility, absence of usage procedures from the ministry of health, insufficient knowledge on the part of healthcare practitioner on the

use of $MgSO_4$, the incorrect view that the medication is only for use at the most advanced level of healthcare facilities and not included in a list of vital medication register in the country. In the context of the nationwide collective goal of reduction of Maternal mortality, a group of researchers tested whether the introduction of low-cost magnesium sulphate $MgSO_4$ in the northern Nigerian city of Kano will lead to improvement. Included in this experiment was also the training of doctors and midwives on the usage of magnesium sulphate $MgSO_4$. This knowledge is then intended to be passed down to other healthcare workers by these trained doctors and midwives in their health facilities. The results of this exercise revealed an 18.6% fall in the death rate from acute preeclampsia and eclampsia in the city, and this shows that updating healthcare workers knowledge and providing an enabling environment can go a long way in reducing maternal mortality if adopted nationwide (Tukur, Ahonsi, Mohammed et al., 2012).

8 Discussions

This chapter's focus is to explain the methods and findings in relation to Tannahill's theory of health promotion and literature to find the correlation and point at a new direction of health practitioners' practice in this area. This thesis is primarily aimed at identifying the health determinant of maternal mortality in Nigeria and how these deaths can be reduced from a health-related perspective.

8.1 Discussion of Method

During the search for articles to analyse for this thesis, it quickly became apparent that there was a shortage of literature to choose from, mainly on topics that have to do with the prevention of maternal mortality. To adjust to this challenge, the researcher decided to adopt a scoping review method. The scoping review method permits a different selection of diverse studies, both published and unpublished. It is also a perfect method for depicting broad topics (Arksey & O'Malley, 2005). One drawback faced when deploying this method is that there is an unclarity in interpreting scoping data due to a lack of quality assessment for selected articles, just like in this thesis. All papers were chosen, except for one, which failed to focus on how health care professionals can be aided in the need to help promote better childbearing practices.

When using scoping review, the findings showed a more general approach to tackling this monster in the room. At the same time, the researcher needs a more focused approach to finding a resolution. Scoping review helped expose the overwhelming lack of study about how maternal deaths can sometimes arise from the deficiencies (both human and resources) of a national healthcare organisation and how empowering practitioners such as nurses, doctors, midwives, and so on can help to hugely transform the country's maternal mortality fortunes. Instead, there was a broader focus on the general problem, which includes socioeconomic factors, thus, ignoring a more critical aspect which is the health-related issues. Another method disadvantage is that some relevant articles might have been lost when sourcing for articles. One limitation was leaving out potentially relevant studies due to limited access. This happened a lot because some papers were hidden behind a paywall on the internet. Searches were carried out using databases such as Google Scholar, CINAHL EBSCOhost and NCBI. Journal articles, international health reports from WHO, journal of global health report published between the year 2005 – 2020 and 2010 – 2020 respectively are criterial for selecting studies included in this research work are: English language

required, full texts, abstract available, all information applicable to the research questions, peer-reviewed articles, and articles that fit into the geographical research setting. The search returned a total of 576 articles, of which 12 papers were eventually selected.

8.1.1 Trustworthiness of method/study

The worth of a study is a direct and principal outcome of its trustworthiness. Trustworthiness makes it logical for society to acknowledge research results, shape future studies upon these findings, apply them to update government policies, and utilise them to influence individual decisions and societal action. (Jordan, Gust, & Scheman, 2005). This thesis trustworthiness was measured using four criteria- credibility, dependability, confirmability, and transferability (Guba & Lincoln 1989, 1994, cited by Connely, 2016).

Credibility, which is the most crucial criterion, points to techniques used to ascertain trustworthiness, such as lengthy engagement with study participants, continued examination if suitable to the research, peer questioning, and reflective journaling. Proof of iterative probing of the data should be presented, revisiting the data to scrutinise it several times. Negative instance inquiry or substitute justifications should be looked at as well. (Connely, 2016). The data in the articles examined for this thesis were scrutinised for overall coverage and thoroughness in order to establish its overwhelming credibility.

The dependability of a study is dependent on the stability of its utilised data over time and the environment of the study. The stability of the setting depends on the kind of research. (Connely, 2016). The dependability of this thesis is established because the study focuses on similar issues (maternal mortality) experienced by different patients (pregnant women) with very similar outcomes from time to time. However, the dependability of this thesis might be in doubt should health policies implemented in a hospital or training techniques of health professionals changes due to advancement in technology, creation of new and advanced practices, and change in policy due to a shift in government focus.

Confirmability is the impartiality, or the extent results are constant and could be reiterated (Connely, 2016). To ensure observations in the form of notetaking derived from study data are devoid of bias, it is paramount for these notes to be checked by a second person or a colleague. However, in this case, since this thesis is done by one person, there is a risk of the author adding her perspective, which might skew the outcome a bit.

Transferability refers to the magnitude to which results are beneficial to persons in other environments. It is dissimilar from different facets of a study in that readers essentially

control how relevant the results are to their circumstances (Connely, 2016). Transferability in this thesis is portrayed by the solutions proffered for the eradication of maternal deaths. This gives the reader the power to transfer this measure in whatever setting or environment they are in.

8.2 Discussion of findings.

Elements affecting maternal mortality are numerous. Studies carried out by Ujah, Aisien, Mutahir et al. 2005; Sageer, Kongnyuy, Adebimpe, et al. 2019; and Adeoye, Adedeji & Adesegun 2013 found severe blood loss or haemorrhage as forefront causative factors of expectant women's death in Nigeria. This is even more prevalent in the southwestern part of the country and is attributed to the atonic uterus, which is more common amongst women of the region, a trait shared with most women in sub-Saharan Africa. This is further intensified by the delay in seeking care when a situation goes out of control, inadequate equipment, and lack of ambulance or transportation generally.

Other major health-related factors affecting maternal mortality Preeclampsia and Eclampsia (Salomon, Ishaku, Kirk, Warren, 2019; Tukur, Ahonsi, Mohammed et al., 2013). Eclampsia can be most especially attributed to social factors such as early marriage in some parts of Nigeria. A considerable amount of the female population in the Northern region of Nigeria gets married and become pregnant under the age of 20, which increases the risk of this health condition during pregnancy. Diabetes also leads to eclampsia and is very common amongst women of sub-Saharan African origin. This is an area where health practitioners are needed to help create awareness about the dangers of teenagers conceiving.

Sepsis is another critical factor that has contributed to the high incidence of maternal mortality in Nigeria. Nwambo, Ilo, et al. 2016, pointed out often overlooked aspects that could lead to infection during pregnancy, such as using unclean lavatories and washrooms, unfavourable personal hygiene, staying in a polluted area, involving with several sexual partners, sexual intercourse without protection and using contaminated items.

Tannahill's health promotion model focuses on three intertwined activities: health education, prevention, and health protection. The model helps us understand how circumventing the chance of infections and bad health, interaction to improve wellbeing and avert illness through enriching know-how and attitudes and preserving people's healthiness via law-making and monetary or social channels could positively affect maternal death (Tannahill 1985). Thus, the model helps us better understand the arguments of Ononokpono & Clifford

2014 and Ameh, Adeleye, Kabiru et al., 2016 that causes maternal deaths are multilevel in nature. Therefore, community factors are to be considered because every health-related maternal death has an underlying societal/community cause. Tannahill's health promotion model is also a proven theory that has been used to develop public health programmes and health promotion comprehensively in a crucial environment such as Nigeria, or in its primary healthcare sectors and amongst pregnant mothers. The model is often adopted as an action-taking method on a specific study topic like maternal mortality.

Health education is one of the focus of Tannahill's model that encourages education on a community level, and it is like a bottom-up approach that has proven very effective. Health education includes general education and health education (Tannahill, 2009). Educating women in Nigeria about the importance of registering early and using antenatal services, targeting women who live in rural communities for early registration in antenatal care can help in detecting problems during pregnancy early, which in turn leads to early intervention in case of any complications during pregnancy (Ameh, Adeleye, Kabiru et al., 2016). Expectant mothers should also be educated on possible warning signs to look out for during pregnancy so that they can get help as soon as possible (Tukur, Ahonsi, Mohammed et al., 2012; Okonofua, Ntoimo & Ogu, 2018). Educating women on the importance of practising good personal hygiene before and during pregnancy can improve the women's overall health, which in turn improve the overall outcome of the pregnancy (Nwambo, Ilo, et al. 2016).

As much as it is considered the right thing to do by educating Nigerian women on several things concerning their pregnancy, it is equally as important to educate healthcare professionals. Also, continuous training on new evidence-based practices should be organised for them; the need for prompt referrals to better-equipped hospitals during cases like haemorrhage during/after birth needs to be overemphasised to healthcare practitioners in health centres, religious settings (churches, mosques, mission houses etc.) and traditional birth assistants, in order to prevent further cases of expectant women's deaths (Sageer, Kongnyuy, Adebimpe, et al. 2019). Staff education and retraining, staff monitoring and evaluation, and the use of maternal mortality reviews frequently to educate practitioners and surveillance on healthcare workers performance can be used to further bridge gaps in care and service organisation (Okonofua, Ntoimo & Ogu, 2018).

Promoting preventive measures in healthcare and social welfare at different facilities in a vast range of situations, encouraging and enabling, supporting positive health actions and sickness prevention (Tannahill, 2009). From the research carried out by Tukur, Ahonsi,

Mohammed et al. 2012, it is clear that the use of Magnesium sulphate ($MgSO_4$) as a means of intervention reduces the risk of maternal death significantly in a patient suffering from severe preeclampsia and eclampsia. Promoting the use of Magnesium sulphate ($MgSO_4$) in clinical setting and healthcare centre should be promoted around Nigeria.

This study will not be complete without stressing how vital good antenatal care is in preventing pregnancy-related complications. It has been discovered that the quality of antenatal care provided by various healthcare centres in Nigeria falls below the standard of WHO required standards for adequate antenatal care. Salomon, Ishaku, Kirk & Warren, 2019, realised that public healthcare centres have a lower quality of care in comparison to their counterparts in most region. However, regardless of the unfavourable performance, patient perception of service, treatment and satisfaction was positive.

Quality prenatal care should provide services such as promoting health and wellbeing, preventive actions (referrals), detecting warning signs early and management of existing conditions, and pregnancy-related complications, delivery readiness and complication preparedness (Adeoye, Adedeji & Adesegun 2013). Antenatal care can be a great avenue to detect preeclampsia by monitoring blood pressure and detecting protein in the urine (Tukur, Ahonsi, Mohammed et al., 2012).

Fundamental aspects of policymaking are incorporated in health protection, such as quality antenatal services in public healthcare centres, tackling poverty and safeguarding population (women's) overall health through legislative, financial, or social measures (Tannahill, 2009).

Governments should aim to enhance the accessibility, availability, affordability and overall service excellence in healthcare facilities, thereby reducing the elevated incidence of maternal mortality in Nigeria. The death of expectant mothers is expected to decrease if there is an improvement in the overall quality of services and intervention provided by healthcare facilities in Nigeria (Ope, 2020).

The 2017 research conducted by Azuh, Azuh, Iweala et al. has found that the cost of antenatal care has a significant impact on the use of services, this cost may reduce maternal healthcare use of pregnant women and prevent them from hospital-based deliveries or care if a complication arises. Disguises hidden cost such as purchasing complete delivery goods, medicine food etc. poses a barrier to the use of healthcare services available. Policymakers and stakeholders should aim at subsidising the cost of healthcare, and they should also strive to make health facilities accessible to the less-privileged population and people living in the

rural district of the country; cost barriers can be eased by the introduction of health insurance schemes and community-based innovation such as emergency transport, provision of ambulances and prearrange taxes can be used to combat lack of transportation problem (Okonofua, Ntoimo & Ogu, 2018).

9 Conclusion

The main aim of this thesis was to illustrate how health care workers can aid in eradicating or reducing maternal deaths. The findings reveal that maternal mortality is affected by several intertwined factors, and if success was to be achieved, these factors need to be understood in-depth. These factors are socio-economical (education, community resources, and autonomy), health complications (unsafe born, haemorrhage, hypertension), and access to health care (transport, poor quality care). Health workers such as mid-wives should be knowledgeable enough to understand the possible risk factors affecting pregnant women in the communities where they practice. As part of the recommended training for health workers, they should be able to provide emotional support, education, and practicalities that are personalised. As explained in the health promotion model, the health professional takes an active role in the protective and preventive measures that will ensure safe delivery for mothers. Also, the bulk of reducing maternal death in Nigeria does not lay only on the shoulders of the health workers as there is only so much they can achieve on their own without support from the top. Therefore, Government should provide a platform that will make every health workers' work more manageable, and this can be done by creating health promotion policies, providing necessary infrastructure (modern hospitals, equipment, good roads, regular training of health workers and so on), and encouraging local communities to do away with their old beliefs by creating awareness about the benefits of visiting a health centre during and after pregnancy. To sum up, everything that has been said so far, there is a necessity for further studies on this subject to explore more avenues on how maternal mortality can be better tackled as technology in the healthcare sector advances. Research on how to relate success dynamics from advanced nation to change Nigeria should also be explored.

References.

- Abawi K. Measuring Maternal Mortality. 2017. From Research to Practice: Training in Sexual and Reproductive Health Research.
- Adegoke A.A, Lawoyin T.O, Ogundeji M.O, Thomson A.M. 2007. A Community-based Investigation of Avoidable Factors of Maternal Mortality in Nigeria: the pilot experiences. *African Health Sciences*. Vol. 1, No. 3.
- Adom, Dickson & Hussein, Emad & Adu-Agyem, Joe. (2018). Theoretical and conceptual framework: mandatory ingredients of a quality research. *International Journal of Scientific Research*. 7. 438-441.
- Ameh, S., Adeleye, O., Kabiru, C., Agan, T., Duke, R., Mkpanam, N., & Nwoha, D. (2016). Predictors of Poor Pregnancy Outcomes Among Antenatal Care Attendees in Primary Health Care Facilities in Cross River State, Nigeria: A Multilevel Model. *Maternal & Child Health Journal*, 20(8), 1662–1672. <https://doi-org.ezproxy.novia.fi/10.1007/s10995-016-1965-5>
- Anand, S. (2014). Antihypertensive in pregnancy-pharmacotherapy options. *Biomedical & Pharmacology Journal*, 7(1), 289-294. doi:http://dx.doi.org/10.13005/bpj/490.
- Anderson S, Allen P, Peckham S, Goodwin N. 2008. Asking the right questions: scoping studies in the commissioning of research on the organisation and delivery of health services. *Health Res Policy Sys.*, 6: 7-10.
- Arksey H, O'Malley L. 2005. Scoping studies: Towards a Methodological Framework. *Int J Soc Res Methodol*, 8: 19-32.
- Azuh, D. E., Azuh, A. E., Iweala, E. J., Adeloje, D., Akanbi, M., & Mordi, R. C. (2017). Factors influencing maternal mortality among rural communities in southwestern Nigeria. *International journal of women's health*, 9, 179–188. <https://doi.org/10.2147/IJWH.S120184>.
- Center for Diseases Control and Prevention (CDC). 1999. Achievements in Public Health, 1900-1999: Healthier Mothers and Babies. Available online at: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4838a2.htm>
- Connely L, M. 2016. Trustworthiness in Qualitative Research. *Scholarly journals*. Vol. 25 Iss. 6.
- Davis K, Drey N, Gould D. 2009. What are scoping studies? A review of the nursing literature. *Int J Nurs Stud*, 46: 1386-1400.

Eto E.U. 2016. Government Policy and Initiatives on Maternal Mortality in Nigeria. Dissertation.

Finnegan, L. P., Sheffield, J., Sanghvi, H., & Anker, M. (2004). Infectious Diseases and Maternal Morbidity and Mortality. *Emerging Infectious Diseases*, 10(11), e17. https://doi.org/10.3201/eid1011.040624_05.

Finnish Advisory Board on Research Integrity. 2012. Responsible Conduct of Research and Procedures for Handling Allegations of Misconduct in Finland. Helsinki. Available online at: www.tenk.fi

Fotso, J.C., Ezeh, A.C. & Essendi, H. Maternal health in resource-poor urban settings: how does women's autonomy influence the utilisation of obstetric care services?. *Reprod Health* 6, 9 (2009). <https://doi.org/10.1186/1742-4755-6-9>

Grant M, Booth A. 2009. A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J*, 26: 91-108.

Harrison K.A. Maternal Mortality in Nigeria: The Real Issues. *African Journal of Reproductive Health*. Vol. 1, No. 1. 1997.

Hartfield V.J. 1980. Maternal Mortality in Nigeria Compared with Earlier International Experience. *International Journal of Gynecology and Obstetrics*. Vol. 18, Issue 1. Pages 70-75

Hussein, J., Mavalankar, D.V., Sharma, S. et al. A review of health system infection control measures in developing countries: what can be learned to reduce maternal mortality. *Global Health* 7, 14 (2011). <https://doi.org/10.1186/1744-8603-7-14>

Jordan, C., Gust, S., and Scheman N. 2005. The Trustworthiness of Research: the paradigm of community-based research. *Community based research journal*. Vol. 16 No. 1.

Knoema. Maternal Mortality Ratio 2020. Available online at: <https://knoema.com/atlas/Finland/Maternal-mortality-ratio>

Ijadunola KT, Ijadunola MY, Esimai OA, Abiona TC, Ijadunola, K. T., Ijadunola, M. Y., Esimai, O. A., & Abiona, T. C. (2010). New paradigm old thinking: The case for emergency obstetric care in the prevention of maternal mortality in Nigeria. *BMC Women's Health*, 10, 6. <https://doi-org.ezproxy.novia.fi/10.1186/1472-6874-10-6>.

Kassebaum, N. J., Bertozzi-Villa, A., Coggeshall, M. S., Shackelford, K. A., Steiner, C., Heuton, K. R., ... Lozano, R. (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. *Lancet*, 384(9947), 980–1004.

Lanre-Abass B.A. 2008. Poverty and Maternal Mortality in Nigeria: towards a more viable ethics of modern medical practice. *International Journal for Equity in Health*. Vol. 7, No. 11

Lawoyin T.O, Lawoyin O.C, & Adewole D.A. 2007. Men's Perception of Maternal Mortality in Nigeria. *Journal of Public Health Policy*. Vol. 28. Pages 299-318.

Levac, D., Colquhoun, H. & O'Brien, K.K. 2010. Scoping studies: advancing the methodology. *Implementation Sci* 5, 69.

Manfredini M, 2020. The effects of nutrition on maternal mortality: Evidence from 19th-20th century Italy, *SSM - Population Health*, Vol. 12,2020,100678, ISSN 2352-8273, <https://doi.org/10.1016/j.ssmph.2020.100678>.

Meh C., Thind A., Ryan B. & Terry A. 2017. Levels of Determinants of Maternal Mortality in Northern and Southern Nigeria. *BMC Pregnancy and Childbirth*. Vol. 19, No. 417.

National Academy of Sciences. 2003. Improving Birth Outcomes: Meeting the Challenge in the Developing World. National Academies press, Washington, DC.

Naz, Shaista. (2019). Maternal Mortality; A Literature Review. 10.13140/RG.2.2.13813.22240.

Nwambo, Joshua & Ilo, Clementine. (2016). Preventive health behaviours for infection among pregnant mothers attending antenatal clinics in Nnamdi Azikiwe university teaching hospital, Nnewi, Anambra State, Nigeria. *Journal of Research in Nursing and Midwifery*. 5. 045-054. 10.14303/JRNM.2016.012.

Okonofua, F. E., Ntoimo, L. F. C., & Ogu, R. N. (2018). Women's perceptions of reasons for maternal deaths: Implications for policies and programs for preventing maternal deaths in low-income countries. *Health Care for Women International*, 39(1), 95–109. <https://doi.org.ezproxy.novia.fi/10.1080/07399332.2017.1365868>

Olonade O, Olawande T.I, Alabi O.J, Imhonopi D. 2019. Maternal Mortality and Maternal Health Care in Nigeria: Implications for Socio-Economic Development. *Journal of Medical Sciences*. Vol. 7, No. 5. Pages 849-855.

Ononokpono, D. N., & Odimegwu, C. O. (2014). Determinants of Maternal Health Care Utilization in Nigeria: a multilevel approach. *The Pan African medical journal*, 17 Suppl 1(Suppl 1), 2. <https://doi.org/10.11694/pamj.suppl.2014.17.1.3596>.

Ope B.W. Reducing maternal mortality in Nigeria: addressing maternal health services' perception and experience. *Journal of Global Health Reports*. 2020;4:e2020028. doi:10.29392/001c.12733

Orb, A., Eisenhauer, L., Wynaden, D. (2000). Ethics in Qualitative Research. *Journal of nursing Scholarship*, 2000; 33:1, 93-96.

Oyeyemi S.O. 2012. The Use of Cell Phone for Maternal Health: The Abiye Project. *Masters Thesis in Telemedicine and E-health*. Faculty of Health Sciences, department of Medicine. University of Tromso.

Piane G.M. 2019. Maternal Mortality in Nigeria: A literature Review. *World Medical and Health Policy*. Vol 11, No. 1. Pages 83 -94.

Research Gate. 2020. The Map of Nigeria. Available online at: https://www.researchgate.net/figure/Map-of-Nigeria-showing-the-36-states-and-Federal-Capital-Territory-FCT-Abuja_fig1_260023562

Rizkianti A, Afifah T, Saptarini I, Rakhmadi M.F, Women's decision-making autonomy in the household and the use of maternal health services: An Indonesian case study, *Midwifery*, Volume 90, 2020, 102816, ISSN 0266-6138, <https://doi.org/10.1016/j.midw.2020.102816>. (<http://www.sciencedirect.com/science/article/pii/S0266613820301881>).

Rogo, K. O., Oucho, J., & Mwalali, P. (2006). Maternal Mortality. Disease and Mortality in Sub-Saharan Africa. The International Bank for Reconstruction and Development / The World Bank.

Salomon, A., Ishaku, S., Kirk, K. R., & Warren, C. E. (2019). Detecting and managing hypertensive disorders in pregnancy: a cross-sectional analysis of the quality of antenatal care in Nigeria. *BMC health services research*, 19(1), 411. <https://doi.org/10.1186/s12913-019-4217-8>.

Sageer, R., Kongnyuy, E., Adebimpe, W.O. et al. Causes and contributory factors of maternal mortality: evidence from maternal and perinatal death surveillance and response in Ogun state, Southwest Nigeria. *BMC Pregnancy Childbirth* 19, 63 (2019). <https://doi.org/10.1186/s12884-019-2202-1>.

Sundari T.K. The untold story: how the health care systems in developing countries contribute to maternal mortality. *Int J Health Serv.* 1992;22(3):513-28. doi: 10.2190/91yh-a52t-afbb-1lea. Pmid: 1644513.

Suri H. (2020) Ethical Considerations of Conducting Systematic Reviews in Educational Research. In: Zawacki-Richter O., Kerres M., Bedenlier S., Bond M., Buntins K. (eds) *Systematic Reviews in Educational Research*. Springer VS, Wiesbaden. Available online at: https://link.springer.com/chapter/10.1007/978-3-658-27602-7_3#Sec4.

Tannahill, A. (1985). What is health promotion? *Health Education Journal*, 44(4), 167-168.

Tannahill, A. (2009) Health promotion: the Tannahill model revisited, *Public Health Journal*, Volume 123, Issue 5, 2009, Pages 396-399, ISSN 0033-3506.

Tannahill, A. (1988). Health promotion and public health: a model in action. *Journal of Public Health*, 10(1),

Thaddeus S, Maine D. Too far to walk: maternal mortality in context. *Soc Sci Med.* 1994 Apr;38(8):1091-110. doi: 10.1016/0277-9536(94)90226-7. PMID: 8042057.

Tukur, J., Ahonsi, B., Mohammed Ishaku, S., Araoyinbo, I., Okereke, E., & Babatunde, A. (2013). Maternal and Fetal Outcomes After Introduction of Magnesium Sulphate for Treatment of Preeclampsia and Eclampsia in Selected Secondary Facilities: A Low-Cost Intervention. *Maternal & Child Health Journal*, 17(7), 1191–1198. <https://doi.org.ezproxy.novia.fi/10.1007/s10995-012-1105-9>.

Ujah A, Aisien A.O, Mutahir J.T, Vanderjagt D.J, Glew R.H, Uguru V.E. 2005. Factors Contributing to Maternal Mortality in North-Central Nigeria: A Seventeen-Year Review. *African Journal of Reproductive Health*. Vol. 9, No. 3, page 27-40.

Van Beckhuizen HJ, Unkels R, Mmuni NS, Kaiser M Sokoine Regional hospital, Lindi, Tanzania. *Lancet* 2006 sep 30; 368(9542):1210. Complications of Obstructed Labour: Pressure Necrosis of Neonatal Scalp and Vesicovaginal Fistula, *Obstetric Anesthesia Digest*: March 2007 - Volume 27 - Issue 1 - p 51

Vangen S, Bodker B, Ellingsen L, Saltvedt S, Gissler M, Geirsson R, & Nyflot L. Maternal Deaths in the Nordic Countries. 2017. *Nordic Federation of Societies of Obstetrics and Gynecology*.

Velde, M. V. D., Scholefield, H., & Plante, L. A. (Eds.). (2013). Maternal critical care : A multidisciplinary approach. ProQuest Ebook Central <https://ebookcentral-proquest-com.ezproxy.novia.fi>

Wehrmeister, F. C., Fayé, C. M., Silva, I. C. M. da, Amouzou, A., Ferreira, L. Z., Jiwani, S. S., Melesse, D. Y., Mutua, M., Maïga, A., Ca, T., Sidze, E., Taylor, C., Strong, K., Carvajal-Aguirre, L., Porth, T., Hosseinpoor, A. R., Barros, A. J. D., & Boerma, T. (2020). Wealth-related inequalities in the coverage of reproductive, maternal, newborn and child health interventions in 36 countries in the African Region. *Bulletin of the World Health Organization*, 98(6), 394–405.

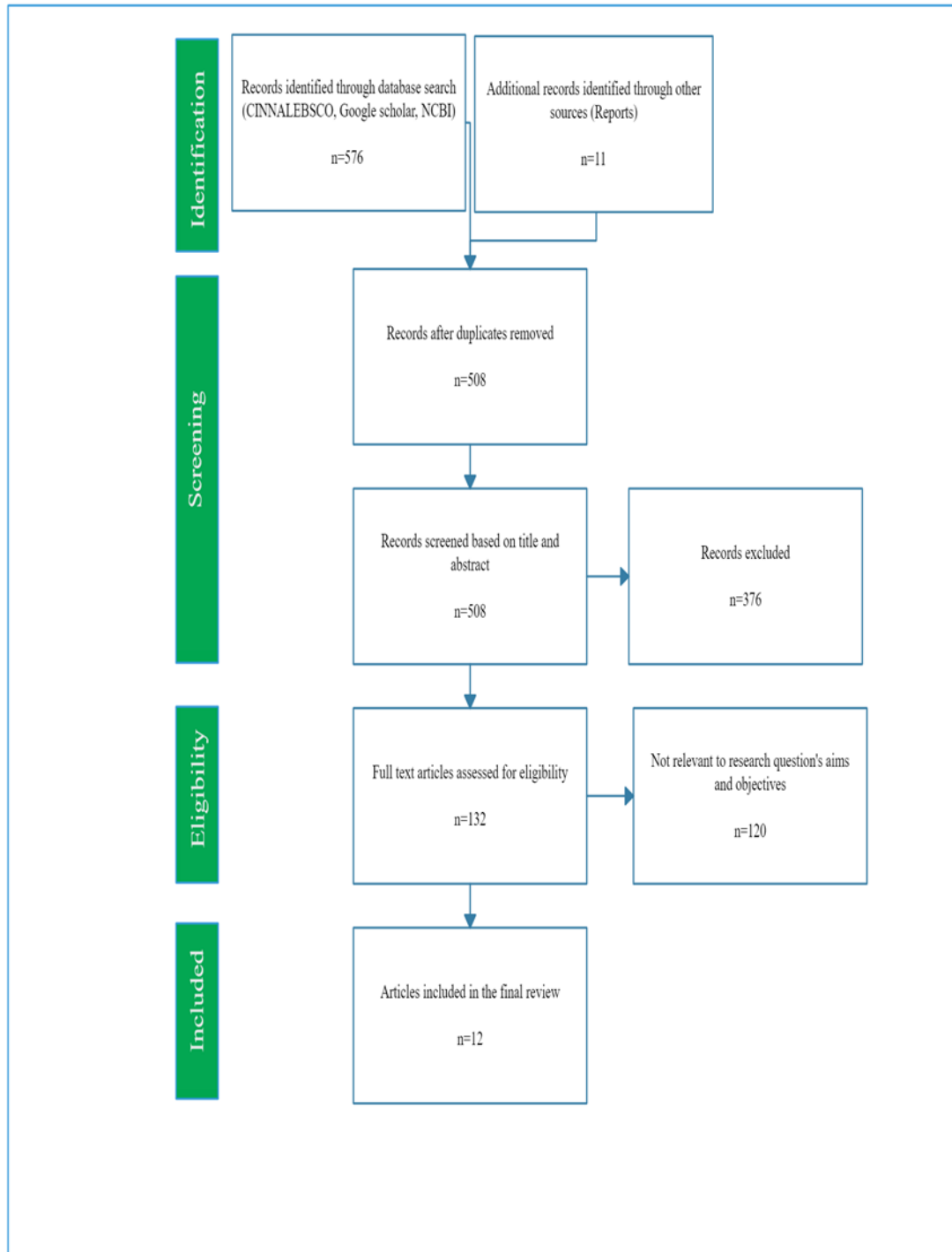
World Health Organization. 2020. Maternal Health in Nigeria: generating information for action. Available online at: <https://www.who.int/reproductivehealth/maternal-health-nigeria/en/>.

World Health Organization. 2019. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO.

Zolala F, Heidari F, Afshar N, Haghdoost, AA. Exploring maternal mortality in relation to socioeconomic factors in Iran. *Singapore Med J* 2012; 53(10): 684–689. PMID: 22347608; <http://www.smj.org.sg/sites/default/files/5310/5310a9.pdf>.

I. Prisma Flow Chart.

Figure 4. Prisma Flow Chart



II. Summary of articles.

Table 1. Summary of articles reviewed.

No	Author (s)	Topic	Aim	Methods	Results
1	Ujah, OA Aisien, JT Mutihir, DJ Vanderjagt, RH Glew and VE Uguru. <i>African Journal of Reproductive Health Vol. 9 No.3 December 2005</i>	Factors Contributing to Maternal Mortality in North-Central Nigeria: A Seventeen-year Review.	To find out the scale, styles, causes and symptoms of maternal mortality before and after the launch of the safe motherhood programme in Nigeria	Delivery records and case files of all women who died during pregnancy and childbirth at the UTH Jos maternity unit were reviewed between January 1, 1985, and December 31 st , 2001. Data were analysed using NCSS2001 and PAS S2002 software.	The average Maternal mortality rate was 26.4 years. The most significant risk group was between adolescent (>15years) and older women (<40 years). Uneducated women were linked to higher maternal mortality rates. Hausa - Fulani people were contributed the most significant number (44%) to the national maternal mortality rate in this study. The leading cause of death was bleeding (34.6%), sepsis (28.3%), eclampsia (23.6%) and unsafe abortion (9.6%).
2	Ame, Soter; Adeleye, Omokhoa; Kabiru, Caroline; Agan, Thomas; Duke, Roseline; Mkpanam, Nkese; Nwoha, Doris. 2016 <i>Matern Child Health J. 2016; 20: 1662–1672. Published online 2016 Mar 23</i>	Predictors of Poor Pregnancy Outcomes Among Antenatal Care Attendees in Primary Health Care Facilities in Cross River State, Nigeria: A Multilevel Model.	(1) Weigh the dangers of deficient pregnancy results amongst prenatal care attendants by metropolitan-rural location (2) Recognise determinants of deficient pregnancy results amongst prenatal care attendants in metropolitan-countryside major health care facilities	A cross-divisional study was carried out in 2011 amongst 400 prenatal care attendants. Data on threat aspects of poor pregnancy results were gathered using questionnaires and clinical archives in Port Harcourt, Nigeria. Data analysis: multilevel ordinal logistic regression was used.	Women who visited antenatal care at an urban public healthcare facility had a lower risk of experiencing adverse pregnancy outcome than those at a local community health centre. Pregnant women in Metropolitan areas have a reduced risk of advanced pregnancy outcomes compared with the cooperative process and reduced risk of detrimental pregnancy consequences compared to women living in rural areas.

3	<p>Azuogu, V. C.; Azuogu, B. N.; Nwonwu, E. U. 2011</p> <p><i>West African Journal of Nursing. May 2011, Vol. 22 Issue 1, p75-84.</i></p>	<p>Factors Affecting Utilisation of Skilled-Provider Antenatal Care in the Rural Communities of Ebonyi State, Nigeria.</p>	<p>Establish the issues prompting the choice of service for prenatal care and explain the connection between socio-demographic features and application of skilled-worker prenatal care amongst the rural women of procreative age in Abakaliki.</p>	<p>Cross-divisional community-centred research was performed. By systematic random sampling technique, 430 suitable women were chosen, and their answers provoked using a semi-formal survey.</p> <p>Data analysis: SPSS and MathCad Professional was used</p>	<p>Results revealed that 85% of the survey participants who used prenatal care in their previous pregnancy, 26.6% were from conventional birth attendants (TBAs), 21.0% from midwives, and 10.2% from doctors. While education level had the most remarkable effect on utilisation, the closeness of services and conventional beliefs also affected the women's decision in selecting a provider.</p>
4	<p>Salomon, Angela; Ishaku, Salisu; Kirk, Karen R.; Warren, Charlotte E.2019</p> <p><i>BMC Health Serv Res. 2019; 19: 411.Published online 2019 Jun 24</i></p>	<p>Detecting and managing hypertensive disorders in pregnancy: a cross-sectional analysis of the quality of antenatal care in Nigeria.</p>	<p>Assess the standard of antenatal care and its capability to discover and manage hypertensive disorder in pregnancies in the two-tier Nigerian facilities with the aim of describing the state of service delivery and distinctive foremost pressing gaps</p>	<p>The study used a structured design using a site-based checklist, less structured interview with healthcare workers and clients, as well as consultation test and antenatal care to reduce the quality of care. The level of antenatal care was assessed and compared between primary healthcare facilities (n=56) and hospitals, including Secondary and tertiary institutions (n=39) in seven Nigerian provinces. Data were analysed using multivariate line regression.</p>	<p>The lowest scoring was identified in healthcare providers knowledge (49.9%) and their technical know-how (47%). Public healthcare centres have done worse than their counterparts (the hospital) in all quality specifications, and they did considerably well in interpersonal skill. healthcare provider's knowledge was highly correlated with their level of appointment</p>

5	<p>Tukur, J; Ahonsi, B; Mohammed I.S; Araoyinbo, I; Okereke, E; Babatunde, A. 2013</p> <p><i>Matern Child Health J (2013) 17:1191–119</i></p>	<p>Maternal and Fetal outcomes after Introduction of Magnesium Sulphate for Treatment of Preeclampsia and Eclampsia in Selected Secondary Facilities: A Low-Cost Intervention.</p>	<p>The analysis aims to gauge whether or not a cheap replacement approach to introducing magnesium sulphate ($MgSO_4$) for the treatment of preeclampsia and eclampsia in a low resource zone can lead to better quality maternal or prenatal results.</p>	<p>Medical professionals from ten clinics in the state of Kano, Nigeria, are being educated on the use of $MgSO_4$. educated healthcare professionals later made a drop-in in their clinics. $MgSO_4$ care procedures Patella hammer and calcium gluconate are then given to clinicians. data were gathered in a structured manner using a data form, and data were analysed using SPSS software</p>	<p>In the cause of the project, 22,502 births were recorded, 49 case of preeclampsia and 996 cases of eclampsia patients were treated with Magnesium Sulphate $MgSO_4$. 51.25% of the treated patients were teenager between the ages of 15 to 19 years and older who were refer to the clinic for less than an hour of an episode of eclampsia. at least 81.2% of women treated had a seizure episode, and 55.9% of patients had antenatal care</p>
6	<p>Okonofua F.E, Ntoimo L. F. C and Ogu R. N.</p> <p><i>Health care for women international</i></p> <p>2018, vol. 39, no. 1, 95–109</p>	<p>Women’s perceptions of reasons for maternal deaths: Implications for policies and programs for preventing maternal deaths in low-income countries.</p>	<p>The study investigates what women know or lack thereof about maternal mortality, and the targeted group are women who go to antenatal and postnatal care at health care centres in Nigeria and exploring women’s view on medical reasons and other causes of maternal mortality.</p>	<p>The researcher conducted group discussions focusing on various categories of women attending maternity, obstetric clinics at the six General hospitals and two teaching hospital in four of the geopolitical area in Nigeria chosen for the study. Data were analysed using atlas ti 6.2</p>	<p>The women discussed what they thought was the cause of mother's death in the hospital. Themes that emerged from their responses: Personal reasons such as delay in seeking care, early delays in maternity care, ignorance, noncompliance with medical instruction. Physical/medical conditions such as haemorrhage, prolonged childbirth, preeclampsia etc. physical reasons and hospital-related reasons were also mentioned.</p>
7	<p>Ononokpono Dorothy Ngozi & Clifford Obby Odimegwu</p>	<p>Determinants of Maternal Health Care Utilization in Nigeria: a multilevel approach</p>	<p>The aim of this study was to look into the role of community factors in explaining differences in the</p>	<p>The study used survey sampling to look at 17,542 women from the 2008 Nigerian demographic and health survey who had their last</p>	<p>Women in northern Nigeria were less likely than those in southern Nigeria to give birth in a healthcare facility. The likelihood of facility delivery was substantially increased in society with the high proportion</p>

	<i>The Pan African medical journal, 17 Suppl 1(Suppl 1), 2. 2014</i>		use of health facility for childbirth in Nigeria	child in the five years prior to the research. Data were analysed using Multilevel analysis.	of women with secondary or higher education. Ethnic diversity, on the other hand, was found to negatively correlated with healthcare delivery.
8	Azuh Dominic E, Azuh Akunna E, Emeka J. Iweala, Davies Adeloye, Moses Akanbi, and Raphael C Mordi. 2017 <i>Int J Women's Health. 2017; 9: 179–188.</i>	Factors influencing maternal mortality among rural communities in southwestern Nigeria	To find non-medical causes of maternal mortality in Southwestern Nigeria's rural and semi-urban population.	A multistage random sampling protocol and an informant survey methodology were used in this study. A total of 360 selected participants were chosen randomly from the sample area's 11 political wards and interviewed using survey questions. Descriptive statistics and regression analysis were used to analyse the results.	Malaria and fever were the most common ailments in the study region, according to 80.3% of the total population. Typhoid 13.9%, fever 1.9% cold and cough 3.3% diarrhoea 0.3% and diabetes accounts for the remainder 0.3% . In this study, respondent said it was the husband's duty to cover the cost of treatment
9	Adeoye Ikeola, Adedeji A O. & Adesegun O F. 2013 <i>BMC Pregnancy and Childbirth 13(1):93</i> 2013	Incidence, determinants, and perinatal outcomes of near-miss maternal morbidity in Ile-Ife Nigeria: a prospective case-control study.	In a tertiary hospital in Southwestern Nigeria, the occurrence, features, causes, and prenatal and postnatal implication of near misses were investigated	This article was based on a case-control analysis. Between July 2016 July 2007, the research was carried out at the Obafemi Awolowo University teaching hospital complex in Ile-Ife, Nigeria.	Near misses occurred in 12% of cases. Near misses were caused by extreme bleeding 41.3% hypertensive disorder in pregnancy 37.3% prolonged obstructed Labour 23% septicaemia 18.6%, and severe anaemia for 2.6%
10	Sageer R, Kongnyuy E, Adebimpe W.O, Omosehin O, Ogunsola E.A & Sanni B. 2019 <i>BMC Pregnancy and Childbirth Volume 19, Article number: 63 (2019)</i>	Causes and contributory factors of maternal mortality: evidence from maternal and perinatal death surveillance and response in	Its goal was to figure out what causes Maternal mortality in Ogun and what factor contributes to it	A retrospective study of maternal death cases in a health facility in Ogun State, Nigeria, was conducted using the complete sampling method from 2015 to 2016. The national MPDS is organised and validated data collection	43.4% of cases are due to haemorrhage, while that 36.9% are due to preeclampsia or eclampsia. Inadequate human resource for health, a delay in obtaining treatment, inadequate facilities, a shortage of emergency transportation and a delay in referral

		Ogun state, Southwest Nigeria		method. A questionnaire was used to collect data SPSS 20.0 was used for data analysis	services are among the leading cause of maternal deaths.
11	Nwambo, J.C, Nwankwo, C.U, Ilo, C. I, Ezenduka, P.O, Makachi, M.C. 2016 <i>Journal of Research in Nursing and Midwifery (JRNM)</i> (ISSN: 2315-568) Vol. 5(2) pp. 045-054.	Preventive health behaviours for infection among pregnant mothers attending antenatal clinics in Nnamdi Azikiwe University teaching hospital, Nnewi, Anambra State, Nigeria	The aim of this study was to find out how pregnant mothers dealt with infection prevention during their pregnancy	A self-structured ten-item questionnaire with a 0.99 reliability coefficient was used to collect data from a sample size of 120 people chosen at random using a convenient sampling process. The chi-square analysis method was used to evaluate the percentage distribution table and the hypothesis.	Usage of filthy toilets and baths, poor personal hygiene, a dirty environment, having multiple sexual partners, unprotected sexual intercourse, and the handling of contaminated objects are all factors to consider as predisposing factors to infection during pregnancy among women of childbearing age

III. Summary of the journal.

Table 2. Report and publication used.

S. No	Title	Type/Author	Aim	Conclusion
1	Reducing maternal mortality in Nigeria: addressing maternal health services perception and experience	Journal of Global Health Reports 2020. Author: Ope Beatrice W.	Emphasise the need for understanding and addressing women's experience and perception of quality care, particularly in Nigeria and other similar settings.	A shortage of published research on patient-centred models of assessing health quality in Nigeria is observed, which could have been a significant source of evidence-based recommendations across the country. Further study is strongly recommended to gain a better understanding of Nigerian women perspective of quality maternal healthcare. This is relevant for the health sector and indeed the policymakers who are in a position to make necessary decisions to reduce avoidable maternal deaths in the country.