THE UNIVERSITY OF YAOUNDE I

UNIVERSITÉ DE YAOUNDÉ I

FACULTY OF ARTS, LETTERS AND SOCIALS SCIENCES

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UNITE DE RECHERCHE ET DE FORMATION DOCTORALE EN SCIENCES HUMAINES ET SOCIALES

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DEPARTEMENT D'ANTHROPOLOGIE

PERCEPTION AND MANAGEMENT OF ECLAMPSIA AMONG PREGNANT WOMEN IN YAOUNDE II, CENTER REGION OF CAMEROON

A CONTRIBUTION TO MEDICAL ANTHROPOLOGY

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Specialty : Medical Anthropology

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To my parents:

ABEGELE Livinus and BEUBOU Grace

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ABSTRACT

Our work entiltled ***"Perception and management of eclampsia among pregnant women in Yaounde II, Center Region of Cameroon"*** *a contribution to medical Anthropology*. Our research was triggered by the fact that Eclampsia accounts for over 50,000 maternal deaths worldwide annually. Despite the creation of antenatal care, the help of conventional medecines and alternative medicine, we still notice the high rate of Eclampsia among pregnant woman causing more death than before. To better understand this problem, a main research question was asked: How is Eclampsia perceived and managed among pregnant women in yaounde II municipality? The objective of this research is to evaluate the perceptions, knowledge attitudes and management of Eclampsia among pregnant women in Yaoundé II area as well as how culture affects their perceptions on Eclampsia. the general research hypothesis was stated as:Women perceive cultural beliefs, rituals, curses amongst others influence the perception of Eclampsia among pregnant women in Yaounde II.

In methodology, we involved the collection of qualitative data where some of this data was quatified and analyse via content analysis. Data collection was carriedout in two phases: primary and secondary data. The secondary data was gotten from published and unpublished scientific works such as: articles, journals, thesis and dissertations. Primary data was collected in the field during field surveys using a wide range of research techniques. These techniques included: direct observations, semi-structured interviews and the used of focus group discussions. Observed phenomenon were captured with the used of camera, pen, blocknotes, telephones, recorder, interview guides and observation guides. Three focus groups discussions were held alongside some key informants who were involved in in-depth interviews. In our research, we interviewed 68 informants (health personnel, tradi practitionals, pastors in churches, herbalist, commoner and pregnant woman) in the Yaoundé II . The recorded voices during interviews were transcribed and translated word verbatim to generate themes and subthemes for content analysis.

The findings of this research revealed that, culture had a significant impact on the way people perceive and manage Eclampsia . In this setting the findings underscored three themes: Causes & Predispositions, Remedies and Effects. Few of the research participants had good knowledge meanwhile half of the participants had poor knowledge in managing Eclampsia. The research also revealed that Eclampsia is associated with significant myths and misconceptions in this community. Accessibility and availability barriers were the main themes highlighted as challenges in managing Eclampsia. It was suggested that the Hospital administration should formulate operational team of assessment and should ensure the adherence to the use of checklist and guidelines, ensure there is regular availability of essential drugs and other supplies used in managing Eclampsia. Adding to the voices of our informants, interventions to increase awareness and increase access to antenatal pre-eclampsia surveillance, and facilitate timely referral for basic maternity care as means for early detection and management of Pre-Eclampsia.

Key words: Yaoundé II, Eclampsia, Knowledge, perception, women's death, pregnancy health workers, culture.

RÉSUMÉ

Notre travail intitulé **« Perception et gestion de l'éclampsie chez la femme enceinte à Yaoundé II, Région du Centre, Cameroun »** *une contribution à l'Anthropologie médicale.* Notre recherche a été déclenchée par le fait que l'éclampsie est responsable de plus de 50 000 décès maternels dans le monde chaque année. Malgré la création des soins prénatals, l'aide des médecines conventionnelles et des médecines alternatives, on remarque toujours le taux élevé d'éclampsie chez la femme enceinte causant plus de décès qu'auparavant. Pour mieux appréhender cette problématique, une question principale de recherche a été posée : Comment l'éclampsie est-elle perçue et prise en charge chez les femmes enceintes de la commune de Yaoundé II ? L'objectif de cette recherche est d'évaluer les perceptions, les attitudes de connaissance et la prise en charge de l'éclampsie chez les femmes enceintes de la région de Yaoundé II ainsi que la façon dont la culture affecte leurs perceptions sur l'éclampsie. L'hypothèse générale de recherche a été énoncée comme suit : les femmes perçoivent les croyances culturelles, les rituels, les malédictions, entre autres, influencent la perception de l'éclampsie chez les femmes enceintes à Yaoundé II.

En méthodologie, nous avons impliqué la collecte de données qualitatives où certaines de ces données ont été quantifiées et analysées via une analyse de contenu. La collecte des données s'est déroulée en deux phases : les données primaires et secondaires. Les données secondaires ont été obtenues à partir de travaux scientifiques publiés et non publiés tels que : articles, revues, thèses et mémoires. Les données primaires ont été recueillies sur le terrain lors d'enquêtes sur le terrain à l'aide d'un large éventail de techniques de recherche. Ces techniques comprenaient : des observations directes, des entretiens semi-structurés et l'utilisation de discussions de groupe. Les phénomènes observés ont été capturés à l'aide d'un appareil photo, d'un stylo, de bloc-notes, de téléphones, d'un enregistreur, de guides d'entretien et de guides d'observation. Trois groupes de discussion ont été organisés avec des informateurs clés qui ont participé à des entretiens approfondis. Dans notre recherche, nous avons interrogé 68 informateurs (personnel de santé, commerçants, pasteurs d'églises, herboriste, roturier et femme enceinte) dans le Yaoundé II. Les voix enregistrées lors des entretiens ont été transcrites et traduites textuellement pour générer des thèmes et des sous-thèmes pour l'analyse de contenu.

Les résultats de cette recherche ont révélé que la culture avait un impact significatif sur la façon dont les gens perçoivent et gèrent l'éclampsie. Dans ce contexte, les résultats ont mis en évidence trois thèmes : les causes et les prédispositions, les remèdes et les effets. Peu de participants à la recherche avaient de bonnes connaissances tandis que la moitié des participants avaient de mauvaises connaissances dans la gestion de l'éclampsie. La recherche a également révélé que l'éclampsie est associée à d'importants mythes et idées fausses dans cette communauté. Les obstacles à l'accessibilité et à la disponibilité ont été les principaux thèmes mis en évidence comme des défis dans la gestion de l'éclampsie. Il a été suggéré que l'administration de l'hôpital devrait former une équipe opérationnelle d'évaluation et devrait assurer le respect de l'utilisation de la liste de contrôle et des directives, s'assurer qu'il y a une disponibilité régulière des médicaments essentiels et d'autres fournitures utilisées dans la prise en charge de l'éclampsie. En plus des voix de nos informateurs, des interventions visant à accroître la sensibilisation et à accroître l'accès à la surveillance prénatale de la pré-éclampsie, et à faciliter l'orientation rapide vers les soins de maternité de base comme moyen de détection précoce et de gestion de la pré-éclampsie.

Mots clés : Yaoundé II, Eclampsie, Savoir, perception, mort des femmes, grossesse agents de santé, culture.

LIST OF ABREVIATIONS ACRONYMS AND INITIALS

ACRONYMS

ACOG : American College of Obstetricians and Gynecologists

AIDS : Acquired Immune Deficiency Syndrome

AFOP : Association of Farmworker Opportunity Programs

CENAME : Medical Supply Center for Essential Medicines and Medical Consumables

CIOMS : Commission Internationale de l'Organisation Mondiale pour la Santé

FALSS : Faculty of Arts Letters and Social Sciences

HELLP : Hemolysis, Elevated Liver enzymes and Low platelet count

IRAD : Institute of Agronomic Research for Development

MINSANTE : Ministry of Public Health

NSOG : Nepal Society of Obstetricians and Gynaecologists

OCEAC : Organization for Coordination in the fight against Endemic Disease in Central Africa

SOP : Standard Operating Procedure

UNICEF : United Nations International Children's Emergency Fund

USAID : United States Agency for International Development

INITIALS

ANC : Ante-Natal Care

BP : Blood Pressure

BP : Blood pressure

CPDM : Cameroon People's Democratic Movement

CE : Current Era

CN : Certified Nurses

CPPSA : Cercle Philo – Psycho – Socio – Athropo

CRN : Certified Nurse Midwives

DHS : Demographic and Health Survey

FGD : Focus Group Discussions

NHLBI : Hypertensive Disorders of Pregnancy

: National Heart Lung and Blood Institute

HIV **:** Human Immune Virus

ICU **:** Intensive Care Unit

LMIC **:** Low Middle –Income Countries

MDGs **:** Millennium Development Goals

$MgSO_4$ **:** Magnesium sulphate

MMR **:** Maternal Mortality Rate

PE **:** Pre-Eclampsia

PHC **:** Primary Health Care

PMI **:** Protection Maternelle Infantile

PNC **:** Peripheral Nerve Catheter

PNC **:** Post Natal Care

PPH **:** Postpartum Hemorrhage

RNA **:** Ribonucleic Acid

SBA **:** Skills Birth Attendant

SDGs **:** Sustainable Development Goals

SRN **:** States Register Nurses

SSCA **:** Selected Self – Care Activities

SVR **:** Systemic Vascular Resistance

UNO **:** United Nations Organization

WHO **:** World Health Organization

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SUMMARY

GENERAL INTRODUCTION

Our work entiltled *"Perception and management of eclampsia among pregnant women in Yaounde II, Center Region of Cameroon" is a contribution to medical Anthropology*. The development of this plan will give us a profound knowledge about the work. This section of the work will handle the following points: the contextual background of the research work, theoretical background then we shall justify the choice of this study both personally and scientifically, followed by the research problem. After identification of the research problem, the problem statement as well as the research hypothesis shall be developed on the basis of the research questions. Here, we have stated the objectives and the methodology used to realize this research work. Data analysis, data interpretation, interest of the research, ethics and difficulties encountered are elaborated. Besides, we have the study outline and the rest of our write-up after this part of our work.

0.1. Background of the study

Historically, The word eclampsia is from the Greek term for lightning. The first known description of the condition was by Hippocrates in the 5th century BC. Born in 1637, Frenchman Francois Mauriceau was one such man whose writings helped to establish obstetrics as a specialty (Speert, 1958). According to McMillen (2003), he was the first to systematically describe eclampsia and to note that primigravidas were at greater risk for convulsions compared to multigravidas. An outdated medical term for preeclampsia is toxemia of pregnancy, a term that originated in the mistaken belief that the condition was caused by toxins.

Statistics have revealed that pre-eclampsia is a main constituent of feto-maternal morbidity and mortality around the world (World Health Organization (WHO), 2005). Pre-eclampsia can best be described as a hypertensive disorder of pregnancy. It is usually characterized with oedema, proteinuria, and convulsion. Possible symptoms which may occur in such women may include headache, oedema, visual disturbance, nausea and epigastric pain. The diagnosis of pre-eclampsia is not based on precise symptoms but on the presence of hypertension in pregnancy (systolic/diastolic value of >140 mm Hg/ >90 mm Hg) usually from the second trimester of pregnancy (WombEcology, 2006). Pre-eclampsia, a condition that leads to eclampsia is a placental disorder which causes maternal and foetal syndromes (maternal-causing circulatory disturbances, and foetal-causing respiratory and nutritional deprivation); the disease is known to progress from a preclinical stage, through a sysmptomless clinical phase to a more severe crisis that leads to eclampsia amongst others

(Redman et al, 2004). In most cases in Nigeria, the cure for pre-eclampsia is achieved by delivery whereby the diseased tissue (the placenta) is also removed.

In addition to the use of blood pressure readings to detect for pre-eclampsia, the onset of pregnancy-induced proteinuria (urinary excretion >0.3g/d) is also employed as a diagnostic measure (Womb Ecology, 2006). Other possible signs that can be noted include abnormal fluid retention, excessive weight gain (>lkg/wk), ascites, drowsiness, confusion, decreased urinary output, hyperuricaemia, hypocalciuria, and increased blood concentrations of liver enzymes; they may reveal impending eclampsia in a pregnant patient. According to WHO (2021), pre-eclampsia affects an estimated 4.6% of pregnancies globally. The Etiology of pre-eclampsia is complex, and a characterization for maternal, fetal and paternal genetic determinants has been suggested by early family-based studies. Pre-eclampsia is a leading cause of maternal and perinatal morbidity and mortality worldwide (WHO, 2021). Hypertensive Disorders of Pregnancy (HDP) represent a group of conditions associated with high blood pressure during pregnancy, proteinuria and in some cases convulsions. Eclampsia is usually a consequence of pre-eclampsia consisting of central nervous system seizures which often leave the patient unconscious; if untreated it may lead to death.

Hypertensive diseases of pregnancy are considered to be common causes of maternal deaths worldwide. It affects about 10% of all pregnant women around the world (World Heath Report (WHR), 2011). This disease condition includes chronic hypertension, gestational hypertension pre-Eclampsia, superimposed preeclampsia and Eclampsia. Chronic Hypertension prior to conception or diagnosed before 20^{th} week of gestation. Eclampsia refers to the occurrence of one or more seizures and/or altered consciousness before, during and after birth irrespective of known pre-eclampsia. These seizures cannot be attributed to any preexisting neurological deficits (Collange et al., 2010), It is a major complication of hypertensive disease in pregnancy and its pathos-physiology is not fully understood.

Preeclampsia is a pregnancy-specific disease process that impacts approximately 3-5% of all births. It is one of the primary causes of maternal, fetal, and neo-natal mortality, particularly in low socioeconomic settings and third-world countries (Mol et al., 2016). Pre-eclampsia (PE) is one of the leading causes of maternal morbidity and mortality globally. Severe pre-eclampsia is more dominant in low and middle-income countries. In sub-Saharan Africa, severe preeclampsia remains a major public health problem contributing to high rates of maternal mortality. Preeclampsia and Eclampsia is develop after 20 weeks of gestation. Up to 25% of cases develop postpartum, usually within the first 4 days, but sometimes up to 6

weeks postpartum (WHO, 2015). The exact pathogenesis of these conditions is uncertain. Preeclampsia is believed to result from an abnormal placenta, the removal of which usually ends the disease. Abnormal development of the placenta leads to poor placental perfusion. A woman with preeclampsia has an abnormal placenta that is characterized by poor trophoblastic invasion. Oxidative stress may play an important role in the pathogenesis of preeclampsia, as do abnormalities of the maternal immune system and insufficiency of gestational immune tolerance. Abnormal expression of chromosome 19 micro RNA cluster in placental cell lines reduces extra villous trophoblastic migration, resulting in high resistance and low blood flow as well as nutriment supply to the fetus.

Pre-eclampsia stands out among the hypertensive disorders for its impact on maternal and neonatal health. It is one of the leading causes of maternal and perinatal mortality and morbidity worldwide. However, the pathogenesis of pre-eclampsia is only partially understood and it is related to disturbances in placentation at the beginning of pregnancy, followed by generalized inflammation and progressive endothelial damage. There are other uncertainties too: the diagnosis, screening and management of pre-eclampsia remain controversial, as does the classification of its severity. However, it is generally accepted that the onset of a new episode of hypertension during pregnancy (with persistent diastolic blood pressure >90 mmHg) with the occurrence of substantial proteinuria (>0.3g/24 mmHg) can be used as criteria for identifying pre-eclampsia. Although pathophysiological changes (for example, inadequate placentation) exist from very early stages of the pregnancy, hypertension and proteinuria usually become apparent in the second half of pregnancy and are present in 2%–8% of all pregnancies overall. Obesity, chronic hypertension and diabetes are among the risk factors for pre-eclampsia, which also include null parity, adolescent pregnancy and conditions leading to hyper placentation and large placentas (for example, twin pregnancy).

At the level of the Africa, a cross sectional research on pregnant women conducted between April-July 2018 in Mezam Division by *Fortune Journal* shown the prevalence of 48.3% Preeclampsia, 5.7% Preeclampsia superimpose on severe preeclampsia. Preeclampsia is a hypertensive, multi-system disorder of pregnancy whose etiology remains unknown. Although management is evidence-based, preventative measures/screening tools are lacking, treatment remains symptomatic, and delivery remains the only cure. Past hypotheses/scientific contributions have influenced current understanding of preeclampsia pathophysiology and guided management strategies and classification criteria.

Despite the nability to identify preeclampsia's etiology, hypotheses and scientific contributions throughout history have influenced our current understanding of preeclampsia pathophysiology. Such contributions are further reflected in current management strategies and classification criteria. To provide insight into how current practice trends have been shaped by past hypotheses and scientific contributions, this research will provide a historical overview of preeclampsia-eclampsia from ancient times through present day. Although it is not the intent of this research to provide an all-inclusive historical analysis of primary sources, attention will be directed toward an overview of theories on disease causation, treatments, and disease classifications extracted from available primary and reliable secondary sources.

Due to monumental improvements in antenatal care and decreased mortality rates of newborns over the last 50 years, generational trends can now be observed: eclamptic or preeclamptic mothers, aunts, and grandmothers have had female descendants who show an increased risk of preeclampsia over the general population especially in Cameroon. Preeclampsia tends to cluster in families; a heritability researchs using a *Utah genealogy database* determined the coefficient of kinship for preeclampsia cases to be more than 30 standard deviations higher than for controls (and unpublished data). The recurrence risk for preeclampsia in the daughters of either eclamptic or preeclamptic mothers is in the 20–40 % range. Much lower rates are seen in relatives by marriage, such as daughter's in-law and mother's in-laws. And finally, twin studies estimate that approximately 22% to 47% of preeclampsia risk is heritable. In the Yaounde II, many women die because of eclampsia or preeclampsia annually which needs urgent attention. We therefore endorse this research based on many aspects which are as follows.

0.2. Justification of the study

Our sources of motivation are both personal and scientific. They are present subsequently as follows beginning with the personal motivations and then scientific motivations.

0.2.1 Personal justification of the study

Pregnancy care is a universal phenomenon in every society where human beings are found. I picked this topic because of some experiences I lived in my neighborhood. This is the case of a sister who was pregnant, and during pregnancy everything was well, she was giving birth without any problem, but suddenly she started developing eclampsia that took away her life and the life of the baby.

A different case, was that of my neighbor who had pre-eclampsia during pregnancy and it complicated to eclampsia which affected her sight and she became blind after putting to birth. Likewise, I remember some situations where I have been to the maternity and some french speaking nurses panic and begin to say in french language “il faut prevenir l’eclampsie” as well as sometimes some nurses in facilities visited in the past tend to pray whenever they are faced with preeclampsia situations makes me research on eclampsia so as to bring solutions to this problem. More so, I chosed this topic because, during a trip to my village, I noticed a joyous phenomenon. One of my cousins was pregnant and my aunty took her to an ethnos medical Practitioner and some rites were performed to protect her pregnancy. I was perplexed with regards to the benefits of this act as far as caring for pregnancy is concerned.

The choice of this topic lies equally on the fact that women are said to be the mother of humanity and this is so because of their ability to procreate. Thus, knowing how women care for their unborn during pregnancies to achieve positive results is our concern most especially as I am a woman. One of the reasons why we choose Yaounde II as our research site is because, we notice that there is one big hospital called *“Hôpital Central”*(Yaounde central hospital) which is the center where by, many Eclampsia patients around Yaounde, clinics, health centers and hospitals are being transfer to when the cases are unmanageable. We noticed this through some of the patients from Biyem-Assi hospital, some from “hospital des soeurs” from Mvog-Betsi; “Bon secours” clinic, that we know the case was transferred there.Also we realized that,most of the ethnic groups are occupying this area with both their cultural differences,which some of them were herbalist and practitioners.further more,we noticed some of the eclampsia patience around our areas also like visiting practitioners and some of the churches for solution to the diseases(eclampsia).

0.2.2 Scientific justification of the study

The explorations of the role of culture in traditional and conventional medicine have long been at the core of medical anthropology. Knowledge of cultural beliefs and economic context is essential to social scientists and clinicians alike to ensure both valid ethnographic research and effective ethical health care education and service delivery (Farmer, 2008; Singer and Erickson, 2013). The perception of Eclampsia among among pregnant women is an aspect in medical Anthropology that has not yet receive adequate attension. However, a number of authors and organisations have written on the disease. These existing works lays more emphasis on management, the role of conventional and tradditional medicine and the

manifestation of the desease among different age groups of women. (WHO, 2010; Collange et al., 2010; Womb Ecology, 2006; UNICEF global data base, 2019; Mebenga, 1985; Socpa, 2002). Practically, an exclusive work have not been carried out on Ecclampsia in Yaounde especially among the women of Yaounde II. This research handles the perception of Eclampsia among pregnant women in Yaounde II municipality which is an aspect of Ecclampsia that medics or research scholars are yet to give an adequate attention. This explains the scientific backing of this research which intends to bring to exposure the knowledge about Eclampsia in Yaounde II and of course the whole of the Centre Region.

It is noteworthy to admit that few works have also been carried out about the level of awreness of Eclampsia in other places like some parts of Nigeria, Kenya, Tanzania etc. Most of these works looks at Eclampsa as a disease in other fields of research (Neill, 2006; Nehsuh, 2016; Halle, 2018; Alkema et al., 2016 and Jerome et al, 2017). This research holds an anthropological perception about the work relating to cultural and traditional norms making the work a bit scientifically different from those of the other scholars.

Scientifically, this research presents petinent literature about Eclampsia that can be exploited by upcoming researchers interested to pursure research on Eclampsia. The exploitation of cultural perceptions of the people of Yaounde vis-à-vis Eclampsia is also an outstanding aspect in medical Anthropology that can be used for the understanding of peoples cultures and beliefs. Policy framework and implementation can also stem from the findings of this research which presents relevant data for scientific use.

This research, will create awareness on context specific factors in the management of Eclampsia as well as hypertensive conditions during pregnancy: The research would identify various obstacles faced by nurses in the management of women with Eclampsia. The research would come up with practicable recommendations for nurses, other health personnel's and the government for appropriate strategies to improve the quality health of care for women suffering from Eclampsia. Furthermore, the research will have an improvement of health workers knowledge and practice in the management of Eclampsia so as to reduce the majority of maternal and fetal deaths due to Eclampsia that can be avoidable through the provision of timely and effective care to the women having this complication.

0.3 The Research Problem

Originally, in most developing countries like Cameroon and other sub-Saharan African countries, Eclampsia was seen as the fundamental cause of child and mother's death at

pregnancy. To impede the situation, the World health organization, made atenatal care available for pregnant women. By so doing, pregnant women who could not attern this atenetal care completely, followed alternative medicines to cover the loops of their inaccapabilities to completely follow the antenatal care provided by conventional medicines. During this period, there was a drastical improvement in the management of eclampsia as observed upon the lives of pregnant women.

However, it is new in Cameroon, particularly in Yaounde II Sub-division, where the situation observed is completely different. From the literature review, despite the number of specialists to take care of pregnant women from the antenantal level till the birth of the child in most health structures put in place to handle such issues like the Cite Vert Hospital, the Central Hospital among others and to add the local herbal homes, the rate of child or mother's mortality via eclampsia is still persistently increasing. This situation stands out clear as the central problem of this research.Is it that management policies are not effective or the personel are not sufficient? This is actually a growing concern that needs to be observed and investigated. This is the knowledge gap that this research intends to fill as far as eclampsia is concerned in Yaounde II sub-division.

0.4. Statement of the research problem

Cultural perceptions of Eclampsia among the population and pregnant women in particular implicates the management of the disease which makes it very difficult recon with the issue of women's dead at pregnancy. The universal health coverage lays emphasis for all pregnant women to attend at least one hospital antenatal care to ensure the protection of the pregnant woman and the unborn baby. Despite the efforts put in place by conventional medicines and alternative medicines to carter for the pregnant women, pregnant women's lives are still very vulnerable to the effects of eclampsia as their rate of dying increases every day.

The various health structures found in Yaounde II that incorporation conventional and alternative health treatement of eclampsia, have different perceptions in the disease management. This has culminated to implicate the management and treatment of the disease and so making it very difficult to combat the dead rate of pregnant women caused by eclampsia. The management (treatment) of eclampsia in this municipality, handled by this various stakeholders in different their ways and with their different setbacks which requires an exposure. It is therefore, imperative for the above stated problems to be diagnosed and addressed so that elampsia can be adequately controlled or eradicated if possible from

attacking pregnant women especially in Cameroon as awhole and in Yaounde II municipality in particular.

0.5 Research Questions

This research carries one general research question and three specific ones.

0.5.1 The main research question

How is Eclampsia percieved among pregnant women in the Yaounde II municipality?

0.5.2 Specifics questions

0.5.2.1 What is the ethnographic presentation of eclampsia in Yaounde II municipality?

0.5.2.2 How is Eclampsia culturally interpreted in the Yaoundé II municipality?

0.5.2.3 How do pregnant women practice and manage eclampsia in the Yaoundé II municipality?

0.6 Research Hypotheses

Our hypotheses has a main hypothesis and three responses to our research questions which are stated as follows;

0.6.1 Main hypothesis:

Pregnant women perceived Eclampsia in Yaounde II to be as a result of cultural beliefs, rituals and curses

0.6.2 Specific hypotheses

0.6.2.1 The ethonographic presentation of eclampsia in the Yaounde II directly influences Eclampsia in women's death at pregnancy.

0.6.2.2 cultural interpretation of Eclampsia in Yaounde II are diversified in aspects such as beliefs, rituals, misconceptions and among others.

0.6.2.3 The practices and management of Eclampsia dwells in the attendance of antenetal care and prayers.

0.7. Research objectives

In our objectives, we have a main research objective and three specific objectives.

0.7.1 General objective

Are to investigate the various perceptions of Eclampsia among pregnant women in Yaounde II.

0.7.2 Specific objectives

0.7.2.1 To uncover the ethonograpic representation of eclampsia in the Yaounde II municipality.

0.7.2.2 To examine different the cultural interpretations of Eclampsia in Yaoundé II.

0.7.2.3 To find out the different management practices related to Eclampsia in Yaounde.

0.8. Research Methodology

The objective of science is based on transforming things believed to be true into things known to be true. For a research work to be credible, methodological choices have to be pertinent since the choice have the potentiality to influence the assumptions, arguments and interpretations of research results and implementation (Bryman & Bell, 2013). This implies that the vigour of analysis which can withstand the test of time is deep rooted in the choice of appropriate methodology used for a research. This therefore, means that if these criteria are applied, errors will be drastically or completely eliminated. The research method used here involved mostly qualitative methods and techniques habitually used in social sciences, since anthropologist believes no single method can capture all the information needed to address a problem under investigation. A methodology was developed following the above insights.

0.8.1 Research design

It constitutes the plan for the collection, measurement of conditions for data collection and analysis in a manner which aims to combine relevance of the research purpose (Monton, 1996). Our research design was descriptive and interpretative in nature. People of all cultures in Yaounde II void of gender or religion who were knowledgeable on Eclampsia, but most especially we spoke with active Health personels among the three refered hospitals. It was a descriptive cross-sectional research of health personnel directly taking care of pregnant women (medical and paramedical) working in gynecology-obstetrics department.

In this research,qualitative data was used and some quantitative data was used to quantify data. The use of Positivist and Interpretive methodological approach were employed; while the former adopts precise quantitative data, the latter utilises qualitative data (Neuman, 2006).

Contextual interest by the researcher was aimed at understanding events of the pregnant women who were simultaneously facing the problem of Eclampsia during pregnancy in this community. This was a descriptive cross-sectional research. Research design of the research was mixed, descriptive and cross-sectional survey design.

A qualitative approach is otherwise known as interpretivism allows the researcher to have an in-depth into a particular issue being studied (Myers, 2002). This approach provides the researcher with a wide array of information as it studies the values, beliefs, ideologies, attitudes and attributes of varying factors and their interaction with the behavioural patterns of individuals functioning alone or as part of the society. Qualitative approach utilizes three main data collection methods which include written description by participants, collaborative interviewing, and field observation (Neill, 2006) and its strength lies in the validity of data obtained. Semi-structured interviews

guides with relevant stakeholders, as well as field observation were used in the research.

0.8.2 Research setting

Yaounde II is a Sub-division of the urban community of Yaounde, Mfoundi Division in the Centre Region of Cameroon. It is main quarter in Tsinga. The Sub-division of Yaoundé II was created in 1974. The Sub-division was created in 1987. It was dismembered from the south western part in 2007 to form Yaoundé II. Its extend to the center-western of the northern part of the city, to the west of Yaoundé 1 and to the north-east of Yaounde VII. The town is drained in its southern ,part by the Abiergue river. In the center, the town extern part of mount Messa and further north it includes mount Mbankolo and mount Fébé. Yaounde II was choosen for the research. The Sub-division Yaoundé II has a population of 238,927 habitants against an area of surface of 2,300 hectares density/habitants were calculated at 10.388 habitants/km^2 (Yaounde II Council Development Plan, 2015).

0.8.3. Target population

The target population is the group of individuals that the researcher intends to conduct research in and draw information from. In cost-effectiveness analysis, characteristics of the target population and any subgroups is be described clearly. The choice of characteristics depends on the developmental literature and practices, the objectives of the research,and contextual information. Eclampsia has key characteristics linked to ages of women and other related risk factors. The targeted population of Yaounde II were: nurses, midwives, doctors

health workers, community leaders,pregnant women,herbalist,commoners, pastors and tradipractitioners.

Data admisibility criteria

Health workers like doctors,midwifes,and nurses who volunteered to participate and have been working in the Yaoundé II health units at least for six months were considered as far as data inclusion criteria was concerned. Those who were had sufficient knowledge on the subject matter even if they were not health workers and had given their consent for the research were considered in terms of data collection. Also, some herbalists and traditional doctors were included who have atleast been in the field for some given period and had knowleged about Eclampsia. Senior women, community leaders, and other resourceful stakeholders were considered to fulfill the data admissibility criteria especially at the level of interviews and obervations. Midwives, doctors, nurses and who have not been working up to about five months were not considered for the study though they gave some insights based on their observations in the hospital. Student nurses on stage did not fullfiled data admissibility criteria.

0.8.3.1. Types of samplings used in the research

In this research, the researcher conducted a research about a group of people. It is usually very difficult to collect data from every person in a given population. Instead, the reseacher selects a sample. To draw a valid conclusions from the results, it is important to carefully decide how you will select a sample that is representative of the group as a whole. There are two types of sampling methods that were used in this research:

- Purposive sampling which gives way for the researcher to randomly select, participants from a given population.
- Non-purposive sampling involves non-random selection based on conveniency of the participants.

0.8.3.1.1 Sampling procedure used

Health care providers with varying years of practice experience were enrolled in the research using purposive sampling technique. In this research respondents were selected randomly using the random sampling technique, without replacement, the population was selected based on their high level of literacy and knowledge in certain reproductive health conditions. Health care providers in the hospital were invited to participate in the research.

The purposive sampling technique is a technique in which each department elements of the population are given independent chances of being included in the sample. The researcher uses the technique because is unbiased, easy and simple to aply. The research population consisted of health care providers in the department of obstetrics and gynecology. The number of health care providers within the health institutions in the Yaoundé II health area chosen were sixty eight.

Data collection methods and techniques

Documentary reviews, focus group disscusions, observations, in-depth interviews were all the various types of techniques that were used to obtain reliable and concrete data to attain the objectives of this research. first of all it commenced with documentary reviews/secondary data and then field surveys which was largely primary data.

0.8. 4 Documentary Research

The first step we took in this research was to have maximum information on what others have written on issues concerning Eclampsia at pregnancy. This step re-oriented our research topic, research questions, research problem and hypothesis to avoid repetition, a situation that guaranteed the originality of our research. Subsequently, we were able to know the limits and strengths of the previous works or existing work that made us narrow our research topic. According to Obioma (1988), in every study that one is carrying out, it is important for the individual to establish a base line so as to have a successful take off and get equipped in terms of previous knowledge.It was through documentary research that we developed documentary reviews schedules that we had a baseline knowledge and a successful take off on this topic.

The data that was gotten here was largely qualitative data and was gotten mostly through literature review. This involved the consultation and systematic exploration of textbooks, theses, dissertations, research reports, periodical journals, conference papers, published and unpublished documents on pre-eclampsia and eclampsia and related websites that could provide relevant data in the subject. Internet materials were downloaded in a flash disk and later exploitmatter of our research. These documents were exploited by analysing ideas of existing authors and research works on the topic and making some adjustments and amendments. These consultations were realised from libraries, research institutions and internet exploration. The libraries of the University of Yaounde 1 were used especially those

of the Faculty of Arts, Letters and Social Sciences (FALSS) were exploited especially works that concerned medical anthropology.

The intension was to find out what has already been done in the domain of the of eclampsia in relation to the perception of health care workers and the influence of culture to the management of eclampsia. The BUCREP office was visited to obtain demographic data of the population of the research area that was used to design the sample size of the population. All these were done to get basic information concerning Eclampsia in Yaounde II Sub-division vis-à-vis the existing problems faced in the management of the disease. Also, the libraries in the faculty of biomedical sciences of the University of Yaounde 1 were visited which was very rich and gratified.

0.8. 5 Primary Data Collections and Tools

Primary data collection involved a series of methods that were used to collect data which was largely qualitative data. Some of these methods were; observations, interviews, FGDs, questionaires etc.

0.8.5.1. Semi-structured interviews

The the semi-structured interviews was typically a mix of close-ended questions and open-ended questions. The use of semi-structured interviews was very important because it was very easy to administer to them, practical, more comfortable and also have a quick and brief response which facilitates the work of the researcher.

ln this research, the semi-structured interviews were pilite-tested to evaluate its feasibility from the reseach and also the validity and note if the answers obtained are relative to research objectives (Fink, 2005). Few changes were made to the questions after the initial pilot-run so as to obtain data relevant to the research set aim and objectives, prior to carrying out the main research process. This enhances the validity of the semi-structured interviews used (British Dental Journal, 2003). Double-barrelled, double-negative and unclear questions were rephrased; also questions which were vague, out of context, leading (for example you attend antenatal services, do you?), and beyond the respondent's capabilities were eliminated (Neuman, 2006).

The process of content validity was performed on the semi-structured interviews, where a focus group comprising two doctors, two pharmacists, a midwife and nurse, and two patients with previous history of pre-eclampsia reviewed questions on the semi-structured interviews ensuring its validity. During the pilot phase of the semi-structured interviews, the

test-retest process was also performed noting the consistency of respondents answers given after a time gap, ensuring reliability of this data collection tool.

The researcher uses an interview guide to oriented the answering of the questions. According to Tylor and Boghan (1984), it is best to conduct an interview in settings where the informants feels most comfortable and secured. But it is important to have some information or experiences with the informant for not all homes or job sites are safe places for interviews to be conducted especially if many people are living in the same home. The interviewer will help us here to ask questions directly to the respondents and get the answer at the spot, especially for the respondent who donnot have enough time or cannot read and write. Interviews used in this study were both structured and unstructured interviews. The resource persons for the interviews were basically those who can provide relevant information to meet the objectives of the research. Some of these persons included, medical doctors, mid-wives, nurses, traditional healers, community leaders, senior women and some pregnant women. Our guide had emerging themes on pregnancy care (eclampsia) which helped us to conduct our interview in a dialogue form. (*Appendix 1*). During the interviews, recording tapes, and block notes were used to gather the data based on the respondents convenience.

0.8.5.2 Observations

Observations usually helps to provide the most accurate information about people, their behaviors, tasks and needs. The observations took different parts basically direct observation and participant observation

0.8.5.3 Direct Observation/Participant observation

It is a technique of collecting evaluative information in which the researcher watches the subject in his or her usual environment without altering the environment. This type of observation involed key informants who explained to the research basically what was happening which helped in data collection. Participant observation involved the researcher in the activities of the some nurses in catering for pregnant women in the Central Hospital and in the Cite Vert hospital.

0.8.5.4 Focus Group Discussions

It is a method used in collecting data through which the researcher carries out discussions with qualified participants of that community under research. It usually comprises 6 to 8 members of same class, social statues, same age group and sometimes the same gender depending on the subject under research. It is within this same track that we proceeded with

the FGDs data collection techniques. We are using the FGDs because it gathers qualitative data and in-depth insights, they enable researchers to collect information on anything from products and services to beliefs and perceptions in order to reveal true participants attitudes and opinions. During FGDs, recording tapes, and block nodes were used to gather the data based on the respondents convenience.

By using this method, we got involved in gathering people from similar backgrounds or experiences together to discuss a specific topic of interest. The group of participants is guided by a moderator or a group facilitator who introduces topics for discussion and helped the group to participate in a lively and natural discussion amongst themselves. Questions are asked about their perception's attitudes, beliefs, opinion or ideas. It will enable the researcher to assess the knowledge level of the health workers and comprehend their level of skills. In total, 4 focus group discussions were held in the study. Two of them were held in the Cite Vert Hospital. The first one had 6 female nurses and two pregnant women while the second one had 3 senior women, 3 medical doctors and 3 mid-wives. The rest of the two FGDs held in the Central Hospital had similar characteristics as that of the cite Vert.

NB: Extensive field notes

The researcher during the visits to the research location and hospital sites, took notes on the level of care given to pregnant women by the health workers during antenatal visits, the state of medical facilities and medications on ground. Also the level of comprehension of healthcare staff in dealing with pre-eclampsia and eclamptic emergencies in their units were gathered. Also the attitudes, beliefs, socio-economic and religious attributes of the research population were also noted.

0.9 Data Analysis

Data analysis is a key element in any scientific work. Our analysis was purely based on the etic approach. Data analyses for the qualitative data obtained were validated through an effective feedback method, as well as appropriate interpretation. Data obtained from the filed through interviews was analysed using content analysis method. These data were extracted and type-set based on named themes of study for easier review using MS Access/ Word applications (Neill, 2006). A list of coded categories was drawn up and each segment of transcribed data was subsequently sieved into one of these categories accordingly (Gall et al, 2003).

As concerns obtaining quantitative data, surveys using self administered semi-structured interviews were used to determine demographic, educational and socio-economic status, as well as identifying the level of knowledge and awareness of both the women and health workers about pre-eclampsia, and the use of antenatal care services. Data obtained from these semi-structured interviews were then analysed using Statistical Package for Social Sciences (SPSS) and MS Excel/Word 2010 as earlier mentioned. In summary, the raw data obtained from the pre-coded semi-structured interviews were obtained and decoded using Microsoft Excel 2010/SPSS. Field notes obtained by the researcher were subsequently analysed.

All recorded interviews were transcribed word verbatim directly into the computer, we read through the field's notes, transcripts, site documents and other information obtained in the field. Becoming used to the data, marking or coding that were based on connections, similarities, contrastive points and points that stood out uniquely. We proceeded by searching for emerging themes and looking for local categories techniques of collection and applied to see if a point or explanation holds across.

0. 10 Data Interpretation

This section concerns statement regarding the generalities of the research findings. Our interpretations were based on anthropological concepts critically developed in our paradigm. Mbonji (2005) called it *'l'endosemie culturelle',* interpretation of the work in another way out of the data. He distinguished interpretation from analysis in that the latter is dependent on the internal meaning (as conceived by the informant) and the former makes sense out of the theoretical framework constructed by the researcher. To him analysis precedes interpretation to the analyzed data, our theoretical framework was used with concepts like contextual.

0.11 Ethical considerations

Ethics refers to well based standards of right and wrong that prescribe what humans ought to do, usually in terms of rights, obligations, benefits to society, fairness or specific virtues. In ever day life such as standards include those, which impose the sensible responsibilities to human of refraining from rape, stealing, slander, murder, assault, cheating and fraud. Ethical standards support the virtues of honesty, compassion and loyalty and include standards relating to rights, such as the right to life, the right to freedom from injury, and the right to privacy.

Ethical and administrative authorisation were sought and obtained from the faculty of Arts and Modern Letters. The Department of Anthropology, University of Yaounde I ethical review committee was consulted. Administrative authorisations were obtained from the different chiefs and quarter heads in the Yaoundé II health area and informed consent were gotten from participants. Both oral and written individual informed consents were obtained from the participants after a thorough explanation of the study aims, procedure, expected benefits, risks and expected responsibility of the participants which was done in local language. The consent forms which were written both in local and English language were given to them to read on top of the oral explanation (*Appendix VI*). Participants were informed of their freedom to quit at any time during the interviews if they felt so.

Anonymity and confidentiality of participants were ensured through depersonalization of data during data collection, limiting who had access to the data and stored in a password secured computer. During the interviews participants were asked not to mention their names. All consent forms with their signatures were kept separately from their transcripts so that no connection could be made in anyway. Participants were informed and assured that digital audio recorded information was not for broadcast and no quotes would bear their names. During the FGDs, participants were informed that whatever was discussed in the group needed to remain confidential among themselves.

The use of tape recorders in interviews and the FGD was approved by all participants after a thorough explanation of the purpose for its use was given. The participants were informed that the tape recording was required to minimize time for the interview and to accurately capture all their views. Participants were informed that they were free to request the researcher to turn off the recorder at any time if they felt uncomfortable with its use. Even though participant approved the use of their descriptions to explain findings, no names or addresses were used in the presentation of the findings to ensure complete anonymity. Also important is the fact that our informants were not prejudiced or coerced in anyway and the pictures that will be taken came after prior consent seeking and notification on the form that we will be going to collect. Above all, a copy of the research authorization letter each was deposited at every administrative unit (Conventional and local) in the Yaoundé II health area before field work officially commenced.

As concerns data analysis and interpretation, data was carefully presented in a manner that implicated our research participants and, in a way we used to unveil some of the secrets that local institutions in place incarnate. Here, names of persons and places were

replaced with pseudonyms when citing them in delicate cases. However, some of them simply wave as advised by the local administrative authorities in the Yaoundé II community during field work for obvious reasons.

At the level of our dissertation writing, practically the same precautions were taken during data analysis and interpretation. Here, attention was focused only on the salient issues in our research topic. Hence, dissociating ourselves from unnecessary and cheap polemics. All of these was a way to be in harmony with the society under research and the scientific community. However, our young and hard-won scientific spirit will jealously preserved, to talk like Bachelard (1980). No party be it research participants, conventional or local administrative authorities in the University of Yaoundé I administration is therefore put to risk by this research project in any way.

0.12 Interest of the research

Whether applied or fundamental, every research exercise has its benefits, which could be direct or indirect. It is usually, on either of the disciplines or the scientific field under which it is conducted (theoretical interest) and the area or population concerned (practical interest). Such is the case in this point. The interest of this research is seen from two angles:

Theoretical interest

The scientific world is like an ocean that collects from the surrounding rivers and for the former to be intact; there must be a continuous supply from the latter. So, we are convinced that this piece of work will immensely contributes towards the frontiers of scientific knowledge in general and Medical Anthropology in particular. The concept will contribute to the existing sociocultural framework of pregnancy and the health seeking behavior and deepens scientific knowledge. It will help the population most especially girls, women and even men to be aware of the various pregnancy health care. This work will be put at the disposal of upcoming researches.

Practical interest

Change is an unavoidable in every human society. It comes either from within or from without via what is known as internal and external forces, to talk like Balandier (1981). With this in mind therefore, it is certain that the results of this work will help local administrative authorities, the Cameroon government and international community to refocus and adopt new ways to pregnancy care beaing in mind that Eclampsia is a very common disease dealing with pregnant women and also responsible for the death of most them during delivery. It may also

help to create awareness among the population on how to care for pregnancy and pregnant women. Through this, it may reduce the infant mortality and mother death during birth rate in Yaoundé II and Cameroon at large. It will go a long way to create a base in this domain in the department of anthropology, since little has been written on Eclampsia at pregnancy and will serve as information for research students and the lecturers in social science and other domains

0.13 The Scope of the research or delimitation

In our reseach, we shall limit to the Yaounde II Municipality but also consider information from other areas if deemed relevant.

0.13.1. Geographic scope or delimitation

The area of research is the Center Region, Mfoundi Division, precisely in the Yaoundé II Sub-division.

0.13.2. Thematic scope

This research is carried on the theme: perception of Eclampsia among pregnant woman inYaounde II. Eclampsia is a severe complication of pregnancy that is characterized by seizures. This research concentrates more on perception of Eclampsia among pregnant women and management. It is a progression of preeclampsia, a pregnancy condition characterized by high blood pressure and abnormal amounts of protein in the urine (WHO, 2015). It is a major problem of public health because many pregnant women in the world are dying of Eclampsia during delivering. Our objective is to understand how this condition can be managed in a hospital setting by health practitioners as well was identify the difficulty to the effective management of this condition.

0.13.3 Temporal scope

This research was carried out from March to July 2021, in Yaoundé II Sub-division.

Difficulties encountered and solutions

We had difficulties to collect authorisations documents from the mayor to research on our topic due to his numerious constriants. This was quite discouraging. However, after several attempts, we finally had the required documents that permited use to collect data in Yaounde II community.

Dissertation chapter layout

This research is divided into the following chapters which are treated in a bloc form and containing subsections that handle different, but related issues. We have a general Introduction containing chapter one, concerns itself with background of the research. In chapter two emphasis is laid on literature review, theoretical and conceptual framework. Chapter three on its part has to do with ethnographic representations of Eclampsia in the Yaounde II community while chapter four comprises of perception of Eclampsia at pregnancy and protective measures. Lastly, chapter five focuses on the practices of eclampsia in Yaounde II . The last section of the research ends up with a conclusion and summary of findings and perspectives. Note should however be taken on the fact that, preliminary pages, the general introduction, general conclusiosn, bibliographical sources, the table of contents and annexes here constitute part and parcel of the entire work.

To summarize the above, with more than 50,000 deaths worldwide Eclampsia remains a major cause of maternal mortality (UN, 2015). If it has become rare in developed countries, it is still present in sub-Saharan Africa where quality prenatal care is still lacking. The objective of our research was to determine the causes of Eclampsia during pregnancy, so as to bring solution to complications of pregnancy associate to Eclampsia. We realized that Eclampsia is still common in our regions. Maternal and especially perinatal morbidity and mortality from Eclampsia still remain high. It occurs preferentially in young primipara presenting hypertension and/or proteinuria in a poorly followed pregnancy. Prevention necessarily requires quality prenatal care.

CHAPTER ONE

ETHNOGRAPHIC PRESENTATION OF THE STUDY AREA

This chapter is all about the description of the research site. This is according to the characteristics found in the research area. It addresses the historical background, the physical and the human aspects around the research topic. It will vividly elaborate links between the research topic and the environment in which this is done. But before a study of the research site is carried out, one needs to recall that, Eclampsia is a condition in which one or more convulsions occur in a pregnant woman suffering from high blood pressure, often followed by coma and posing a threat to the health of mother and baby. In this light, we would be talking Yaounde as a whole, and specifically in Yaoundé II in particular, where I carried out this research on the topic '' Perception of health care workers on Eclampsia in women's death at pregnancy''. Yaoundé II, also spelled Yaounde, city and capital of Cameroon. It is situated on a hilly forested plateau between the nyong and sanaga rivers in the south central part of the country.

1.1. Background information of Yaounde

Founded in 1888 during the period of the German protectorate, Yaoundé was occupied by Belgian troops in 1915 and was declared the capital of French Cameroon in 1922 from 1940 to 1946 it was replaced as the capital by Douala, but after independence it became the seat of the government in 1961, and of the united republic in 1972. The city has grown as an administrative service, and commercial centre and a communications hub for road , rail and air transport. Yaoundé contains several small manufacturing and processing industries (a cigarette factory, a brewery, sawmills, and printing presses) and is also the market for one of the richest agricultural areas in the country. Yaounde has 7 districts which are:

- *Arrondissement Commune of Yaoundé I*, whose head office is fixed at Nlongkak.
- *Arrondissement Commune of Yaoundé II*, whose head office is at Tsinga 1
- *Arrondissement Commune of Yaoundé III*, whose seat is fixed at Efoulan
- *Arrondissement Commune of Yaoundé IV*, whose head office is fixed at Kondengui.
- *Arrondissement Commune of Yaoundé V*.
- *Arrondissement de Yaoundé VI* whose head office is fixed at acacia.
- *Arrondissement Commune of Yaoundé VII* is limited to the North, whose head office is Nkolbisong.

Among which I will be carrying our research in Yaounde II, Yaoundé II (or Yaoundé 2nd) is a district municipality of the urban community of Yaoundé, of the Mfoundi Division in the Center region of Cameroon. Its capital is the Tsinga district where I will base my

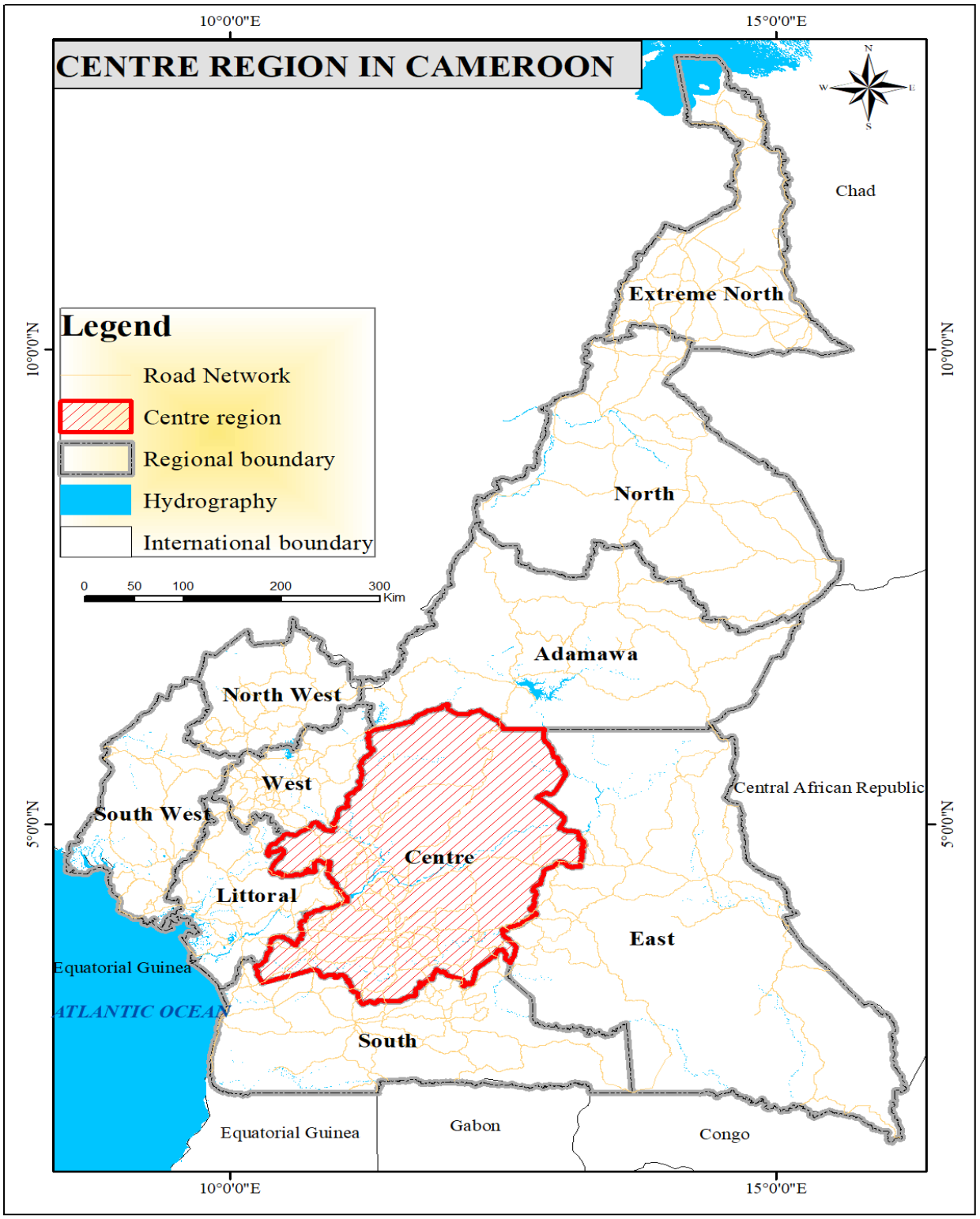
studies on the "perception of health care workers on Eclampsia in women's death at pregnancy".

1.2. Location of the study area

Yaounde is found the Cameroon southern low plateau. It is the administrative capital of Cameroon where the president of the republic resides. The Yaounde II council (Sub-division) is located in the Mfoundi Division. Geographically speaking, it is found between longitude 03° 07' 11" and 03° 29' 0" east of Greenwich Meridian and latitude 11°15'17" and 11° 25' 22" north of the Equator (Yaounde II Council development plan, 2015). This council has 12 main quarters and small quartiers. It is bounded to the north and east by Yaounde I and to the west by Okola and to the south by Yaounde VII, VI II.

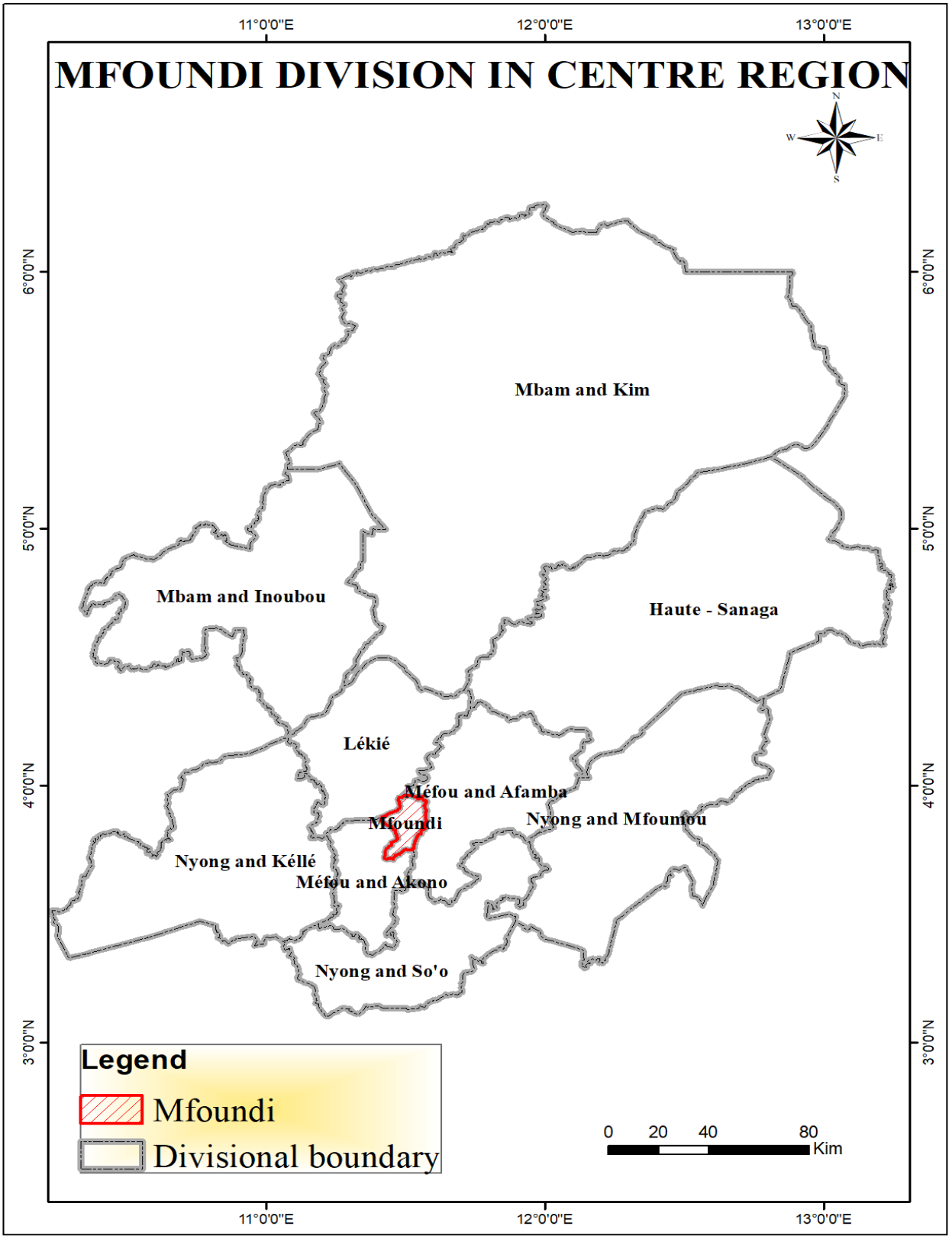
The city of Yaoundé is located south of the center region and is 250 km away from the "Côtes du Gulf du Biafra''.This mountain site breaks down into three topographical units inscribed in a rocky base of gneiss precambrien: the inselbergs barrier in the northwest dominated by the Mbam Minkom mountains (1,295m) and Mont Nkolodom (1,22m) and southwest with Mont Eloundem (1,159m); A set of hills from 600 to 700 multitude and trays; The valleys also called Élobis. The different districts are arranged according to the rugged relief of the city site. The roads and buildings develop mainly on the heights of the different hills, while the swampy shallows often give way to food agriculture, to vegetation and many small rivers. Some among them are the Mfoundi, Ékozoa, Biyeme and Mefou rivers. Near the Yaoundé administrative center is a lake called municipal lake , created in 1951-1952. Middle busts are also a land reserve for the development of precarious housing: geographer Martin Luther Djatcheu showed how this type of self-built housing has developed in the floods of the city (Yaounde Council Development Plan, 2015). The locational maps shows the details of the location of the Yaounde II Municipality in Cameroon.

Map 1: Location of Yaounde in Cameroon



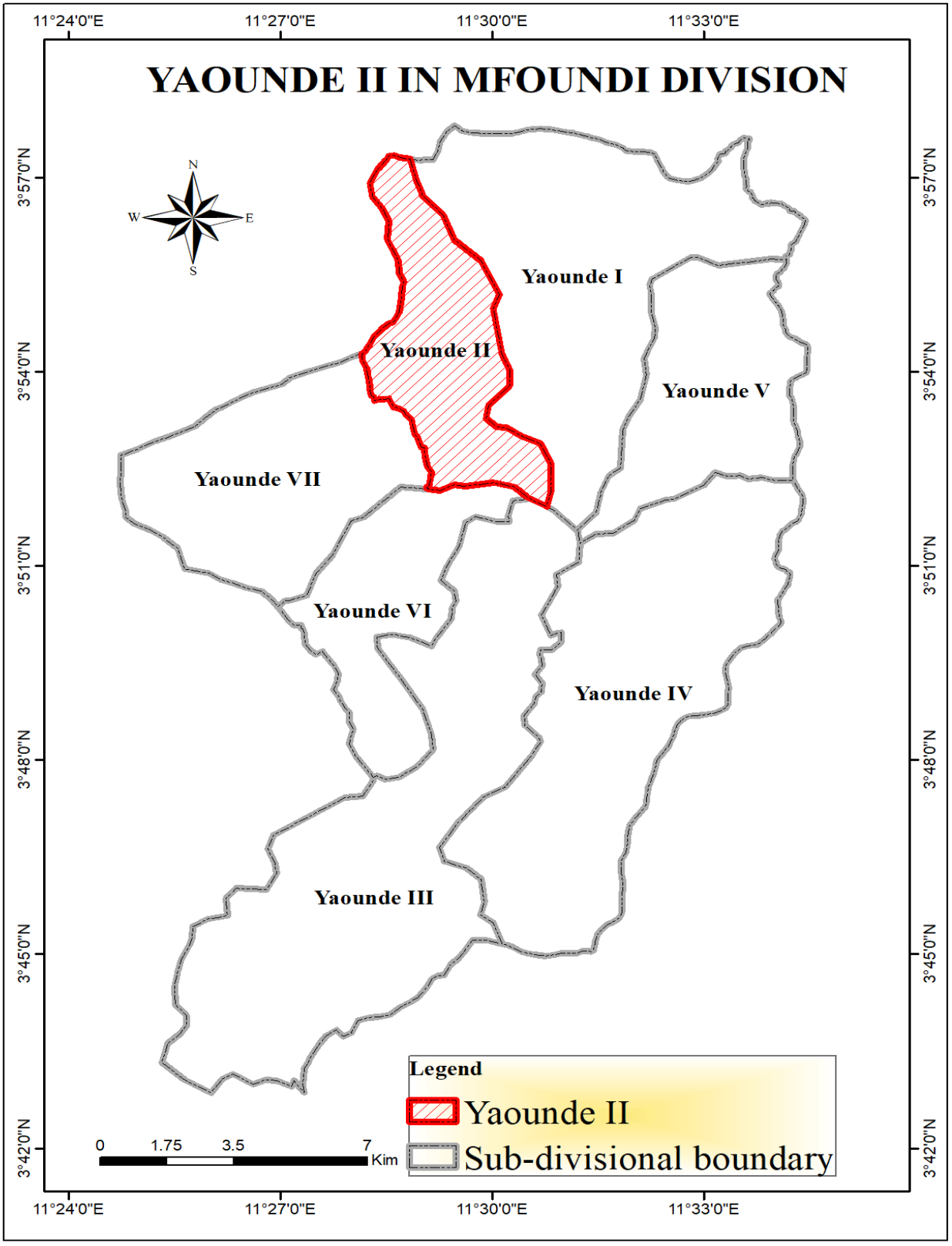
Source: National Institute of Cartography-Yaounde, 2022

Map 2: Location of Yaounde II in the Center Region



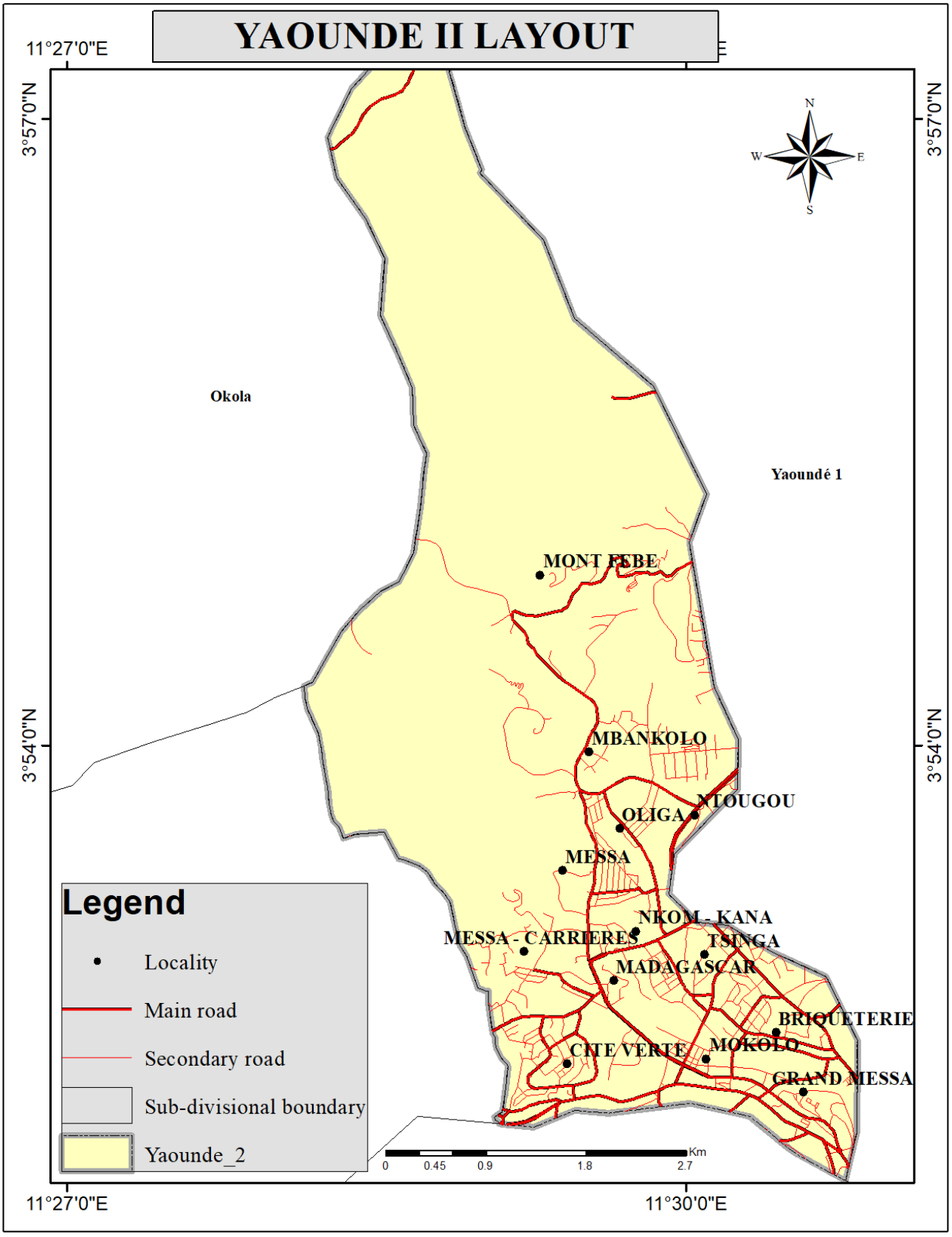
Source: National Institute of Cartography-Yaounde, 2022

Map 3: Location of Yaounde II Sub-division in Mfoundi Division



Source: National Institute of Cartography-Yaounde, 2022

Map 4: Layout of Yaounde II



Source: National Institute of Cartography-Yaounde, 2022

The Sub-division is composed of 18 quarters: Tsinga; Briqueterie; Madagascar; Nkomkana I and III; Nkomkana II; Ntougou I; Ntougou II ((Mokolo Quartier, ((Mokolo marché; Ekoudou: Febe; Oliga; ((Messa-carriere; Azegue Messa Mezala; Messa plateau; Angono; Doumassi; Ekouazon; Cité-verte; Etetack Abobo; ((Grand Messa; Messa Administratif.

1.2 The physical enviroment

The Centre Region of Cameroon occupies 69,000 km² of the central plains of the Republic of Cameroon. It is bordered to the north by the Adamawa Region, to the south by the South Region, to the east by the East Region, and to the West by the Littoral and West Regions. It is the second largest (after East Region) of Cameroon's regions in land area. Major ethnic groups include the Bassa, Ewondo, and Vute.Yaoundé, capital of Cameroon, is at the heart of the Centre, drawing people from the rest of the country to live and work there. The Centre's towns are also important industrial centres, especially for timber. Agriculture is another important economic factor, especially with regard to the province's most important cash crop, cocoa. Outside of the capital and the plantation zones, most inhabitants are sustenance farmers.

The Centre region is entirely situated on the South Cameroon Plateau. The land varies from 500 to 1000 metres above sea level except for the valleys of the Sanaga and its tributaries, which dip as low as 200 metres. The land rises gently in escarpments from the southwestern coastal plain before joining the Adamawa Plateau via depressions and granite massifs. The terrain is characterised by rolling, forested hills, the tallest of which have bare, rocky tops. Deep valleys separate these. The province's highest point is Mbam Minkom, northwest of Yaoundé, at 1,295 metres. The Centre falls completely within a Type A or Guinea-type climate. This gives the region high humidity and precipitation, with rainfall averaging 1,000–2,000 mm each year. Precipitation is highest in the southernmost portions and diminishes toward the north. Temperatures are fairly steady, averaging 24˚ for the entire region except for the northwestern portions of Mbam division, where they fall to 23˚. The Centre also experiences equatorial seasons, alternating between rainy and dry periods. The long dry season begins the year, running from December to May. After this comes the short rainy season, which lasts from May to June. The short dry season comes next, from July to October. The year ends in the long rainy season from October to November. North of 5˚, the dry periods last up to four months.

The physical features of this community is made up of geographical setting, Relief, Climate, Vegetation, Urban fabric, Hydrography and the population of Yaounde.

1.2.1 Relief of Yaounde II

Yaounde city is developed an a hilly site. It is according to Franqueville, (1984), located on the southern Cameroon law plateau of about 750m altitude between the watershed of sanaga and Nyong. This physical constitution is worth the name "city of seven hills". We note that this name is born from the fact that the city is surrounded to the west and north west by seven hills, which are amongst others: Nkol-Nyada, near the Yaounde convention center, Nkol-Eloumden, located in the Mbankolo district, Nkol Akoa-Ndoe, to the institute of Agronomic Research for Development (IRAD), Nkol-Nkoumou, to the old road to Douala and Nkol-Kak, in the Mvog-Beti district (Collection, the Champions in History and Geography, CM2, Paris EDICEF, 2004: 17). Of all these hills, mount Elumdem (1200m), mount Mbankolo (1096m), mount Febe (1070m), mount Messa(1000m) and mount Akoa-Ndoe (967m) are the highest. On the morphological level, the city is largely located in the Mfoundi watercourse watershed (i.e. 1373.47 ha). There are four types of land that are: Flood valley funds generally located between 650 to 700 m; The areas of low slopes whose land is easily urbanizable, located between 700 and 750 m; The convertible areas whose heights vary from 750 and 800m; The hillsides very difficult to fit out, the height of which is more than 800 m.

From these types of land, two large areas flow. The non -constructible areas which include on the one hand, the low -sloping sectors (less than 5%) whose generally flooded valley funds and on the other hand, the areas of strong slope, permanent erosion and landslide seats . Constructible or urbanizable areas are sloping slopes and sites between 5 and 15%.

1.2.2 Climate and vegetation

The climate that reigns in the city of Yaoundé is of the tropical. Most months of the year are marked by significant rainfall. The short dry season has little impact. The temperature here averages 23.0°C. In a year, the rainfall is 1727 mm. The driest month is January, with 49 mm of rain. The greatest amount of precipitation occurs on October, with an average of 253 mm. February is the warmest month of the year. The temperatures in February averages 24.5°C. The lowest average temperatures in the year occur in August, when it is around 22.0°C.

1.2.3. Hydrography

The city's hydrographic network is a set of watercourses arranged in a fan from two convergences to the Mfoundi and the Mefou which are the main outlets of rainwater. These ensure the natural drainage of runoff and superficial waters which are rejected in the Mefou river, which in turn pours its waters into the Nyong river. It is downstream from this last point of rejection that this finds the current catchment area of raw water intended for the production of drinking water for the inhabitants of the city of Yaoundé and its surroundings. Besides these watercourse, the city has some natural or artificial lakes and ponds whose waters are made dangerous for public health; Due to the spill of the waters of the purification stations (case of the municipal lake), household waste and the waters of the latrines located in marshy areas.

Urban fabric

Yaoundé is distinguished by three types of urban fabrics whose equipment levels are variable: The modern fabric which is characterized by constructions in final materials and a good level of infrastructure. It occupies 20 % of the city area and is home to almost 25 % of the population. The dense popular fabric that brings together spontaneous housing areas and occupies 60% of the city's area, housing almost 70% of the population. These areas have an improper road, summary sanitation and a low connection rate to drinking water and electricity networks. The rural fabric which is located on the periphery is characterized by a low population density. The urbanized fabric of the city of Yaoundé covers an area of approximately 183.2 km², or 59.10% of the total area of the city (Siege de la CUY).

Table 1: Yaounde pluviometric data

MONTHS	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Year
Min.Temp (°c)	20.7	21.2	21.3	21	20.7	20.3	19.9	19.8	20	20.1	20.3	20.7	2018
Average.Temp (°c)	24	24.5	24.1	23.6	23.2	22.5	22	22	22.1	22.2	22.7	23.4	2019
Max.Temp (°c)	29.1	30	29.2	28.1	27.4	26.6	26.1	26.1	26.2	26.2	26.7	27.8	2020
Precipit(mm)	49	63	133	179	183	161	133	136	192	253	182	63	2021

Source: Compiled from the Yaounde II Council Development Plan, (2015)

Data: 1991-2021 Min.Temperature°c (°F), Max. Temperature °C (°F), precipitation/rainfall mm. There is a difference of 204 mm of precipitation between the driest and wettest months. The variation in temperatures throughout the year is 2.6°C.

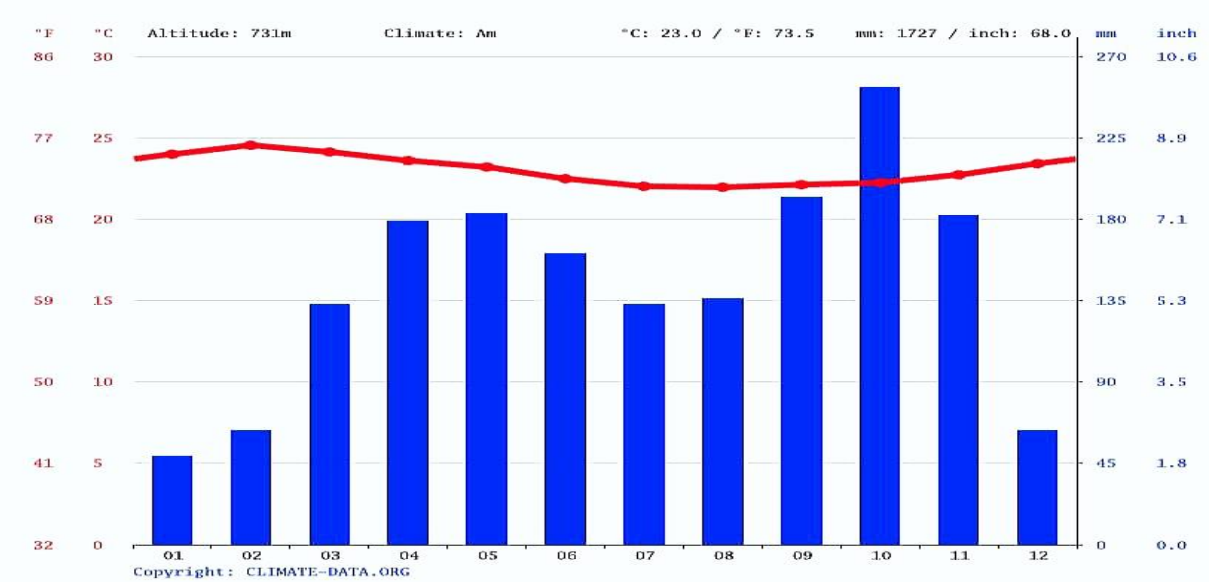


Figure 1: Ombriothemic diagram of rainfall and temperature of Yaounde II

Source: Computed from table 1

However climate change is not homogenous over the planet and some geographical areas are more sensitive to global warming than others (IPCC, 2007). Extreme climate and weather events are becoming increasingly important for Cameroon because of the inherent vulnerability of its agricultural system and moreover the associated risk of the impending spread of plant, animal, and human diseases that are highly linked to climate variability and change. Meteorological climate is the "average weather" described in terms of the mean and variability of related quantities over a period of time ranging from months to thousands of years. The standard climate period is 30 years, as defined by the World Meteorological Organization (WMO). The Earth's climates has always changed to a greater or lesser extent; here we take climate change to be a statistically significant variation in either the mean state of the climate, or in its variability, persisting for an extended period, typically decades or longer (Wilby et al., 2001).

If we accept the premise that climate change is happening, then the implication must be that in some cases today's climate extremes will be tomorrow's 'normal' weather. Much work is currently being undertaken to assess climate change with general circulation models (GCMs) based on scenarios of the future, in particular on the greenhouse gas emission rates and distributions, thereby driving the greenhouse gas concentrations in the atmosphere

of the future, which in turn lead to projected climates when these future atmospheric states are averaged over periods of time. It is essential to understand that scenarios are reliable and logical alternative narratives of the future, but they are neither predictions nor forecasts (Nakicenovic et al., 2000).

From the perspective of Cameroon and Yaounde in particular, as is the case with other nations where activity is heavily climate-dependent, *there* is an urgent need to model climate variability and change, thereby enabling government and policy makers to plan ahead for changes that might minimize any detrimental effects of climate change on the population. As with many countries on the African continent, in situ meteorological data are scarce – particularly so in terms of time series of observations at long-lived observing sites and this hampers local research. However, without research into the development of the local climate it is strongly believed that an increasing poor and unaware population and their assets will be adversely impacted by future climate extremes and disaster (Climate and Development Knowledge Network, 2012).

1.3. Historical setting of Yaounde

History holds it that Yaounde was founded in 1887 by German Lieutenant Kund Tappenbeck who reaches the town at the end of the year 1887. This equatorial rainfall village situated at 750m of altitude, became In 1889, a military station used by German colonial rules to fight against slavery trade. In 1894, the German Major Hans Dominik transform this single village of 300 original Ewondo (name of local people that give it name to the town by German transcription: ìJaundeî) into a great military centre that could allowed him to cover the whole country eastwards and northwards. This military fortress that possesses an insignificant area, lodging facilities and population at the origin, became in 1909 the Capital of the whole Cameroon. According to Mveng (1985), Kengne (2001), and Bopda (2003), the former village that burn the city, carry only 50 straw huts around German fortified concession.

The official transfer of the administrative function of the Capital city was done in March 23, 1921 after the First World War (1914-1918), by Tappenbeck. Many reasons explained the definitive choice of YaoundÈ under German or French rules. For it central position at the heart of the country (3°47 - 3°56 N and 11°10 - 11°45E); it sweet climate; it geostrategical position (200km from the coast and surrounded by hills), the great forest development and the great role of cross road for slavery trade and porterage originating from Central Africa to the Coast and from Oubangui stretching to the north. Administrative and

political institutions have since the foundation provoked a great unbounded spatial extension of urban fabric. The town become inordinate and carries today more than 269,000 accommodations with more than 1,500,000 inhabitants on 14,500ha with a variety standard of life and housing qualities. With such a huge population and its economic weight, Yaounde is the second important town of Cameroon after Douala.

It is during the period of 1887, that the German team which was let by captain kurl and Tapenbeck. Tarveling to south Nachtigal from Grand Batangas and seeing people growing peanuts there, asked who they were, planters said they were "mia ewondo" which means "the peanuts sowers". This expression was translated into German as "Yaunde" and from there, came the then "Yaounde" in French. The name of this city come from "owondo" meaning peanuts commonly known as groundnuts in native language (ewondo). Eventually this name was interpreted by the Germans as "Yewondo" and then over time in Yaounde another name, still in the Ewondo language is ongola which means "enclosure" or "enceinte", this to refers to the military enclosure where the German settlers were installed at the end of the 19th century. Infact, one of the first residents called ombga Bissono Ela, who had welcome the first "white people" in the year 1889, had restricted the population from ceding the land and closing the city's borders with a fence.

The capital was founded on the 30th November 1889 by the team Kurl Von Morgen, George Zenker and. a man called Mebenga Mebono who became Martin Paul Samba, their guide. The first name of Yaounde was Epsum that is to say "At Essomba" or N'tsomum at Esoono Ela. Yaounde, from its foundation a German military port on a hill of ewondo. German traders in Ivory greatly encouraged its development. German troops occupied the city during the first world war, Later, it was placed under the French colony. Though it had a slow growth initially, it accelerated in 1957 due to the cocoa crisis and domestic political troubles in the approach of independence in 1960. (Mebenga Tamba, 1985, Socpa, 2002). Also, there is this group of people known as Baka or popularly called the pygmies who are said to be the first residents or settlers in the town of Yaounde. Today, they are the inhabitants of the Forests of the South and East Regions.

Political Setup of Younde II

Population and spatial growth explained the administrative growth of Yaounde because of the increase of political functions and institutions. Administrative evolution in this main

chief town has many stakes: fight against rebellion, to break down of homogeneous ethnical groups and electoral matter.

Due these factors, Yaounde town passed from 4 subdivisions to 6 subdivisions since 1992 (urban councils,) namely YaoundÈ I to YaoundÈ VI. This splitting is closely linked to the demographic growth of the town. Urban councils were created by the 1987 law N° 87/015 (15 July 1987). The phenomenal increase of the number of ministries as well as administrative facilities and building favoured the situation. So only the core town remains unchanged with numerous ministries (blank spaces of figure 5), the town spread in all sides.

Here the governor is the highest administrative authority governing the center region of Cameroon. His role is to take control over the inhabitants of Yaounde 2 and Yaounde as a whole. He is appointed through a Presidential Decree. Also, this town has administrative authorities made up of the Divisional Officer and Sub-divisional Officer who take office only through an appointment of a presidential Decree and are expected to assist the governor in governing the whole of the locality. Following this rank, is that of the Mayor who is voted by the people themselves. He ensure peace and security, ensure the implementation of the laws governing the country in their locality. Moreover, politically, the people of Yaounde 2 are rule by by chief Des blocs translated as chiefs of blocks or traditional rulers. He control the activities, give specific instructions which have to be respected by the members of this community. The villagers must first recognize a person as a clan chief, before he is made chief des bloc. They are recognized by the state as traditional legitimate institutions. The system of administration is that of decentralization of power shared by the traditional councils. This chiefs work together with the council of wise men to decide important issues affecting the community. Chieftaincy is move from one generation to another depending on the royalty.

1.4. The population of Yaoundé

In 1950, the population of Yaounde was estimated to be 31,644, but over the years, this population has grown. The 2021 population was estimated to be 4,164,167. The current metro population of Yaounde in 2022 is 4,337,000, a 4,15% increase from 2021.

1.4.1. Population of Yaoundé II

The subdivision Yaounde II has a population of 238927 hab against an area surface of 2300 ha. It density per habitat was calculated at 10.388hab/km square. The subdivision is composed of 18 quarters: Tsinga, Briqueterie, Madagascar, Nkomkana I & III, Nkomkana II,

Ntougou I, Ntougou II, Mokolo quartier, Mokolo marché, Ekoudou, Febe, Oliga, Messa-Carrière, Azegue Messa Mezala, Messa Plateau, Angono, Doumassi, Ekoazon, Cite Verte, Etetack Abobo, Grand Messa, Messa Administratif. Admimnistratively, the Younde II council has been headed by a mayor since 1987.

Table 2: Administration of Yaounde II councils

MAYORSs OF YAOUNDE II			
Period	Identity	Parti	Fonction
2019-2025	Yannick Ayisssi	CPDM	Civil servant
2007-2018	Luc ASSAMBA	CPDM	Sport manager
1987-1991	David Djomo	CPDM	1st and only Bamiléké Mayor, président, founder of transport syndicat

1.4.1 Traditional Chiefdoms

The subdivision of Yaounde II has two traditional 2nd degree chiefdoms recognized by the Ministry of Territorial Administration and Decentralization: Mvog Tsoung-Mballa; Ekoudou Chiefdom

1.4.2 Public services and infrastructures in Yaounde II

Yaounde II has some Edifices, Parcs and gardins namely: Ministry of Public Health, Grand Messa district, Yaoundé Multipurpose Sports Center, Saint Anastasia wood. Concerning the Education facilities, we have: National Police School; High school of Cite-Verte (secondary education); Bilingual private school complex “les Armandins” (secondary education: Nkomkana; primary education: Cite-Verte place called "yoyobar"); Sources Public School (Madagascar); Public school of the Cite Verte; Tsinga High School (secondary education); Blaina Bilingual Institute (secondary education); Public school of Tsinga (primary education).

The subdivision has several diplomatic representations on its territory: United States Embassy, Rosa Parks Avenue; Italian Embassy; Apostolic Nunciature, Mont Fébé; Embassy of Greece, Mont Fébé; Embassy of Libya; Embassy of Tunisia; Saudi Arabia Embassy. We also have some sport club: Yaounde Golf Club, Yaounde Riding Club.

1.4.2. Religion

Religion helps in creating an ethic framework and also a regulator for value in day to day life. This particular approach helps in character building of a person. In other words

religion acts as an agency of socialization. Thus, religion helps in building values like love, empathy, respect and harmony research from Google. Man's concepts of deity and his services, is determined by its moral codes. The indigene's and non- indigene's religion believe both in ancestors and they perform ancestral rights to communicate with them. The coming of Christianity has created a syncretism amongst the people of Yaounde II. Yaounde II has religious namely: the Catholic Church (paroisse Christ Roi of Tsinga, ministère notre dame du Mont Febe, created in 1964), Evangelical churches of Cameroon (in Briqueterie Il, Mokolo), Baptist Church (Covenant Baptist Church Tsinga), Presbyterian Church of Cameroon (Bethel paroisse), Pentecostal churches (True church of God in Cameroon, Nkomkana), mosques (Big mosque of Yaounde in Tsinga founded in 1952, mosque of the middle in Briqueterie, founded in 1936. The presence of these churches has not wiped away the traditional beliefs of the natives which hold a preponderant position in the lives of the indigenes of this community.

1.4.3. Health, Sanitation and infrastructure in Yaounde II

In Yaoundé, health and sanitation is primarily autonomous. The use of latrines (11.52%) and of the modern systems with the use of water system (11.24%) is rare. These results are close to those of Mpakam et al. (2006) obtained in Bafoussam. This mode of sanitation would be typical to developing countries (Coulibaly et al., 2004) because the establishment of the drainage systems is very expensive for these countries and especially to the communities with low incomes (Coulibaly et al., 2004). The defecation in nature (in the surrounding of the houses) is even rare, it accounts for only 0.15%. This practice which relates only to the quaters Etoa-Meki and Etoudi facilitates the fast biological pollution of surface water (Djuikon et al., 2006).

Majority of latrines are aged from 20 to 40 years (this is in relation to the installation of the populations in the quarters) and is used by the households not connected to the network of drinking water. Domestic waste water is primarily discharged in to gutters (77.24% of households), in the yards (6.80% of households), around the houses (2.36% of households), in the rivers (12.74% of households) uphill of springs (0.21% of households) and in abandoned wells (0.43% of households). In the majority of households, refuse is emptied in the vans of HYSACAM (48.15%). However, the rivers are the major disposal sites in Nkoleton (60.50%) and at Etoa-meki (50%). The disposal of the refuse is rare in open air (8.42%), in septic tanks (7.98%), in fields (6.65%)), in wells (0.07%) and in the neighbourhood of houses (1.32%).

These results are contrary with those of Bafoussam where drains (30 - 50%) and fields (30 - 60%) are the main sites of refuse

A study showed that drinking water is not yet accessible to all in the quarters with spontaneous habitats of the town of Yaounde especially in the case of Yaounde II, (Honga-Makanda, 2003). In fact, 17% of the surveyed households had a private connection to the national company of drinking water distribution (CAMWATER). The households which are unable to pay for pipe-borne water, had access to water either (1) by using water coming from CAMWATER public paying fountains (56% of households); (2) either by supplying itself from alternative water sources. With regard to these alternative sources, wells (17% of households) are the most used. We noticed a very weak use of the springs (4% of households), bore-holes (0.07% of household) and rivers (0.001% of household) which represent represent unhealthy water points that more than 50% of households users chlorinate before consumption.

These results showed that the underground water resources are again highly exploited by the Yaoundé populations, and this could have consequences on the water table if nothing is done by the government to avoid overexploittation. Chlorination is the most advised method in the strategies of water sanitation in the African area, but, a small proportion of households also practised, boiling, filtering and the use of cooking salt. All the water points (CAMWATER, spring, wells, bore-holes and rivers) have multiple uses: body, linen, crockery, kitchen or drinking (90-100%F of households). In the quarters deprived of drinking water points (CAMWATER) the supply is hard (Honga-Makanda, 2003). In this context, the water drudgeries are especially ensured by the children (43.03% of households). 28.55% of households use indifferently children, women or the men to assure. 9.82% use only the women and 10.40% use only the men (Table 5). Our results corroborate those of Honga-Makanda (2003), however for this author; it is especially the women and the children who ensured the water drudgery.

According to the World Health Organization a health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities. A health system is, therefore, more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, a mother caring for a sick child at home; private providers; behaviour change programmes; vector-control campaigns; health insurance organizations; occupational health and safety legislation. It

includes inter-sectoral action by health staff, for example, encouraging the ministry of education to promote female education, a well-known determinant of better health.

There are many health facilities(public and private) located in Yaounde II: The Central Hospital of Yaounde; District Hospital of Cite-Verte; Polyclinic Tsinga; Bethesda hospital; PMI Tsinga.

General Health related problems in Yaounde II

According to a research conducted by Kuitcha et al., (2015) in Yaounde II indicated that (100%) of all participants in the investigation already suffered from malaria which was the most frequent disease. In 95% of households, one could contract the disease 1 -20 times during a period of one year. The African continent would be the historical cradle of malaria (Molez, 1999) and its strong frequency in the studied quarters would be related to its endemic character (Molez, 1999). Less than 25% of the households complained about cases of amoebic dysentery (24% of the households), diarrhoea (24% of the households), skin diseases (0.07% of the households) and typhoid (0.07% of the households). However, these percentages could reach 66% for diarrhoea in Tongolo and 44% for amoebic dysentery in Etoa Méki.

These water- borne diseases are common to the majority of developing countries. In Niamey, in Niger, analysis made by 322 people showed the presence of the Amoeba parasites at 53.6% of this population (Julvez et al. 1998). The prevalence of these diseases is the result of biological pollution of water which poses serious problems of public health (Kebiche et al., 1999). The disposal of untreated waste water and the indiscriminate disposal of solid wastes lead to the proliferation of favourable environments for vectors (mos-quitoes, flies, cockroach and rodents) as well as odours nuisance (Mwaguni, 2002). In the opinion of household, the diseases stated above are likely to lead to significant disabilities, great expenditure and even death. Indeed, an analysis of the data resulting from the service of epidemiology and endomo-epidemics from the Ministry of health (Direction of Community health) showed that, the risks of water-borne diseases are high in the town of Yaounde, without distinction to urban fabric, particularly in the households bordering rivers and the zones with stagnant waste water (Bemmo et al., 1998b; Wethe et al., 2003). Moreover, eclampsia has baptized the life of many pregnant women.

1.4.4. Market and Economy

We are going to talk about a few markets which are very significant in Yaounde II health areazs. These markets are the most important that supply food stuffs, clothing, and

many others things that are needed in Yaounde in general. We can list: *Huitieme market; Madagascar market; and Mokolo market.*

Mokolo market (Marché Mokolo)s

Mokolo Market Is one of the biggest marketplace in Cameroon located in Yaounde 2 and close to commissariat 2ieme. One of the most popular markets in Yaounde and Cameroon with the most extensive nearby shopping centers, large bazaars and small shops selling all food equipment, household appliances, clothing and others. we found almost everything there and at all prices depending on the hours of unpacking. People also buy from this market to sell in other localities in Yaounde. The place is largely crowded favoring traffic and pickpockets. We can see the building that carries the name of the market. Below we observe a parking , the entrance to get inside. We are seeing also shops and poissonerie which are facing directly the road. In fact , it's a very big market

Madagascar market (Marché Madagascar)

Marché Madagascar is situated in the locality of Madagascar, next to Mokolo in the subdivision Yaounde II of center region Cameroon. It's located around Bicec and hotel Carrington. It has a length of 0.23 kilometer. It is a small market in the locality which supplies the population with foodstuffs and other necessary for the needs of the community.

Huitieme market (Marché Huitieme)

Marché Huitieme is a market that is found after the Madagascar market. It is also a very big market that serves as a place of distribution of goods. That is , many people leave their localities to come and buy and also sell in their own localities. People around the western region are the suppliers of Irish potatoes, Cabbages, tomatoes, Carrots, green spices etc which exist in wholesale. Also, other people come and supply dresses in wholesale's prices.

If we can see below, we notice the sample of what has been mention above. This is the section where tomatoes, green spices and lice are selled. From what we see , some of the women who bought it in bulks and retailing it to the people in this locality who does their day to day market. We did our research in some hospitals namely : the Central Hospital of Yaounde, the district hospital Cite-Verte, and the PMI Tsinga hospital. In the following line we will present each of it.

1.5. Presentation of the Central Hospital of Yaounde

The Central Hospital of Yaounde was initially the day hospital in 1930 by the colonial masters (French administration). In his creation, it was devided in 2 parts. The first section, the one reserve to white people, constituted of : pavillon pasteur, pavillon Leriche and pavillon baudelocque. The second section, was for black people: pavillon la garde, pavillon Laquintinie, pavillon Fontaine, pavillon Larrey, pediatry. The maternity was added in 1960 and in 1973, the emergency of Messa was also created (Annah, 2018). In the bigining the central hospital Yaounde called central hospital and Annex Jamot of Yaounde, was managed by the white military medicine. It's Only in 1982 that the Africans doctors started leading the Yaounde central hospital. Today, The central hospital of Yaounde is led by Pr. Pierre Joseph Fouda (Roland, 2022).

1.5.1. The geographical situation of the Yaounde central hospital

It is situated in the quarter Messa, street 2008 behind the National Central of essential drugs and not far from camp Messa. It covers a surface of more than 6 hectares. It belongs to the health district of Ndjoungolo and its place on a small area dominate by the water tank. Going towards the Center-town, it is limited: In South by the nursing school and OCEAC (Organization for Coordination in the Fight Against Endemic Diseases in Central Africa); In North by the Chantal Biya Fondation; In East by Hygiene mobile and the CENAME (It's the Medical supply Center for Essential Medicines and Medical consumables); In West by the pasteur Center of Yaounde.

1.5.2. Structural Organization

The administration structure of the central hospital Yaounde comes from the decret No 68/DF/419 of the 15 October 1968 saying that the central hospital of Yaounde is directed by a director who is the authority responsible of the institution. He is assisted: A medical adviser; Discipline master; Economist; Heads of department; Supervisor; Majors. Concerning his structure, despite the fact that buildings are not similar, we have counted 21 buildings. The Yaounde Central hospital is structured in various units: Medical and specialities unit; Surgical unit; Reception unit; Anesthesia and Reanimation unit; Emergency unit; Obstetrics and Gynaecology unit; Technical unit; Mortuary.

1.5.3. Philosophy and objectives

The philosophy of the *Yaounde central hospital* is to provide the best possible care in the shortest time, at the lowest cost and to the satisfaction of the patient. to achieve this, the

hospital has set goals Objectives. The general objective is not far from the philosophy of the hospital. it is a matter of ensuring quality care for the sick and at the lowest cost. more specifically: have a variety of specialties; ensure the training of medical personnel, nurses and medico-sanitary technicians, promote the health and health education of the populations, have rapid and adequate care the achievement of these objectives requires a projection into the future. This project of the structure 2006-2010 respond to two preoccupations: To permit to the entire professional of the hospital to use the define projects for the next five years, he medical project defines the great medical Orientations, Surgical, radiology. It's the base and the Conner stone of the project of the structure, the nursing care project defines the actions to ameliorate the nursing care of patient and reinforce the competence of the health personal, the social project defines the needs of the abandoned patient, to answer to the covering of the fundamental care of man for more cares and the human dignity.

1.5.4. Presentation of the maternity in the hospitals in Yaounde II

Human resources

The maternity is divided into 2 sections, A and B. The Section A contains the emergency room; Labor Room; Operation room; Reanimation room and Postnatal room. In The Section B, we have: The doctor's office; Admission offices; Postnatal and Observation rooms. The main maternity has: 01 professor in obstetrics and gynecology; 10 gynecologists; 01 pediatrician doctor; 01 generalist medical doctor ; 01 anesthesiologist resuscitator ;04 Nursing specialists in reproductive health; 03 SRN (state Registered nurses); 01 (State-Registered nurse midwife); 03 CN (certified nurses); 37 CRN(Certified Nurse midwifes); 02 secretaries; 10 surface silvers and 04 security guards. From the picture, we obseve the main entrance to enter the maternity. Infront of the small entreance, we will see communication board with ethical informations addressed to patients and health cares workers on how to operate inside according to the ethic of the sector. We observed the presentation plack of Yaoundé central hospital which carry the name of the hospital, the logo, the map of Cameroon, the emergency numbers, the website and email address. The first entrance in the left is going toward maternity, murtuary and other department along the road like: the diabetics department, social ellfare of the hospital. Meanwhile the second entrance in the right is going towards the emergency department of the hospital, the hospital bank, the post office and many departments of other illness

If we can see on the plack above, it's been pasted on the wall infront of the maternity entrance. This plaque carries the date and the year in which the maternity section in this central hospital has been created (02/04/1998). On the same plaque, it's been written that it's the main maternity in this hospital, and also that it was been inaugurated by Madame Chantal Biya**.** Still on the same plack, they listed some names of great personality in this nation and some the important persons who played an important role as: Mr Charles Josselin (delegate minister to the cooperation and the French republic Francophonie); Mr. Gottlieb Lobe Monekosso (Public health minister of Cameroon republic at that time)

This a picture taken in the surgical resuscitation unit of the central hospital maternity. Wearing a mask, it happens to be the ethical measures of the hospital. This mask prevents us from infections and odors (corona virus, and other diseases) which can come through air born disease. Also, my dresses are the way to help me to carry out my research freely since I am in their dressing code so that nobody shall disturb me. Thanks to this dresses, we did so many discovery like the workers in the field.

1.6. Presentation of the district hospital of Cite-verte

Cite-verte is a residential quarter of the city of Yaounde, capital of Cameroon, located in the subdivision of Yaounde

1.6.1. History of creation

This quater successively bore the following Ewondo names: Elig Otou Lebomo, Mvog Lebomo Kounou and Elig Essono Ntsama before being called Elig Minzezam which literally means, in Ewondo, the area of lepers. The popular name Cite Verte was given in 1975 when the area was to be developed for the construction of a low-rent housing type housing camp. Dr. Paul Eloundou**,** Director of this health facility in the subdivision of Yaoundé II, has just made available to the public an ophthalmology service, medical imaging, a neonatology unit and a medical-surgical resuscitation unit (Kevine, 2022).

The Cité-Verte District Hospital is one of the busiest centers in the city of Yaoundé. This hospital sees an average of about 2,000 patients per month. This center is gaining notoriety, hence a bed occupancy rate of 85%. An image that motivated the hospital administration to provide its patients with these new services mentioned above to improve their care.

1.6.2. Geographical situation of the hospital, Cite Verte

The Cite Verte Hospital is located southwest of the city of Yaounde, built on the hill of Messa, and covers an area of 100m2. It is bordered by the Abiedegue River which separates it from the Madagascar and Azegue districts. To the west, it borders Etetag and in its southern part crossed by Nkolbisson road separating it from Nkol Bikok quarter.

It is a composite of identical buildings reminiscent of Israeli construction, The buildings of four to five levels house apartments and residential villas. 1505 buildings were created between 1972 and 1982 as economic housing and social infrastructure for an estimated population of 7800 inhabitants. Here we will be presenting the above two pictures which on our right we have to and while on the field. Therefore, we decided to propose solutions in line with the different well-known hitches. Also, some tradipractional homes were spoted in Nkomkanna, Briketere and Tsingsa. Churches too were spoted in Cite Vert and Tsinga.

CHAPTER TWO

LITERATURE REVIEW, THEORETICAL AND CONCEPTUAL FRAMEWORKS

This chapter sets us to review the works of authors who have worked on all or some some aspects of our topic. Through this, we shall mention their various views and perceptions, agree in their opinions or reject in relation to our sharing with information or other works about Yaounde II area. Here, we have the local literature on our research topic and general books as well, specific and methodological documents.

2.1. Literature review

The highest illiteracy in the 21st century is to proceed with a research work without reading to uncover knowledge that has been written and stored by various authors in the related domain of research. It is in this light that, a wide range of texts, journals, conference papers, published and unpublished documents, reports, dissertations and PhD theses were consulted to build a rich and befitting literature to proceed with this research. This permitted the researcher to have some additional ideas on Eclampsia and its challenges related to the health of pregnant women and the perception of health workers as far as the disease is concern. Equally, it was to avoid the duplication of work that has already been carried out elsewhere related to the topic. These documented works have divergent points of views concerning the topic which focuses on the perception of health care workers on eclampsia in women's death at pregnancy .

Prior to commencing any research study, it is essential that in-depth analyses of extensive research databases are carried out by the researcher and his team (Fink, 2006). This provides a framework for the study, and guides the researcher on gaps in previous research work carried out on the subject of interest i.e. supporting previous works or providing a fresh insight on the subject matter. The evidence utilized for this research (based on the study objectives) as regards reviewing standard literature was obtained from articles/journal online databases (MEDLINE, EMBASE, PubMedCentral, Lancet, CINAHL, JSTOR, BioMedCentral etc), government reports (the Nigerian demographic health survey 2003), National bureau of statistics (census reports), online data from the World health Organization, COMPASS, POLICY PROJECT, DFID, UN and UNDP amongst others. These provided a justification for this study to be carried out, as the world more than ever, needs practicable strategies and policies to reduce the alarming rate of maternal mortality in developing nations in Cameroon more specifically.

The criteria for inclusion would be based on ideas including "pre-eclampsia and antenatal care services". Various factors like sepsis, unsafe abortion, haemorrhage and obstructed labour in addition to eclampsia can increase the rate of maternal mortality,

hypertension in pregnancy. Hence all these other causative factors would be excluded from the literature review and more emphasis would be laid on the issue of pre-eclampsia qnd eclampsia. Keywords used for the search included 'seizures in pregnancy, culture and eclampsia management, toxicaemia in pregnancy, pre-eclampsia, hypertension in pregnancy, antenatal care services, maternal health services in Cameroon, health education, management and advocacy for pre-eclampsia in Cameroon amongst others. Studies which exceeded 15 years were excluded from the literature search as they may be considered outdated; Primary literature searched which were beyond the inclusion criteria of 15 years were unique ones with no recent replication, and are of historical significance to the subject matter studied (citing from Ozumbia, Ekwempu, Saftlas, Moller, Douglas, Newman, Eddly, Lopez-Llera).The themes used in the literature review of this research includes Hypertension, aetiology and burden of pre-eclampsia predisposing factors, Causes of Eclampsia, culture and eclampsia management, barriers to eclampsia management and theories supporting the management of eclampsia mobilization

These themes offer a concise perception of the subject matter, providing a pathway which this research would be conducted so as to achieve the set objectives. Pregnancy is being most precious period in every woman's life. It needs continuous care for safe confinement, early detection of difficulties and prompt treatment in an appropriate period. Women in general and also during pregnancy stage are vulnerable segment of the population. Eclampsia refers to the onset of convulsions in a woman with preeclampsia that cannot be attributed to other causes. The seizures are generalized and may appear before, during, or after labour.It is a serious manifestation that is associated with increased risk of mortality and morbidity in the pregnant women and poor perinatal outcomes.

Eclampsia is a medical condition in which hypertension arises in pregnancy (pregnancy induced hypertension), in association with significant amount of protein in urine (Sibaiet al., 2005). Eclampsia is the most dangerous pregnancy complication, it may affect both mother and the unborn child (Drife, 1975) develops after 20 weeks gestation or six week post-partum, it's a condition in which there is less oxygen travelling through the placenta, thus putting the fetus and mother's health in danger(Lind, 2009). Eclampsia, in which the pregnant woman enters into fits and complicates pregnancy.

An experimental research by KUMARI (1992) revealed that the self-instruction model on selected self-care activities by nurses considerably enhanced the knowledge of primi

gravid women with eclampsia to practice selected self-care activities (SSCA). Eclampsia which includes both gestational hypertensions, is a common and morbid pregnancy complication for which the pathogenesis remains unclear. Emerging evidence suggests that insulin resistance, which has been linked to essential hypertension, may play a role in eclampsia. Hypertension is the most common medical disorder encountered during pregnancy. Hypertensive disorders are one of the major causes of pregnancy-related maternal deaths in the United States.

According to the WHO, (2021) approximately 295000 women died during pregnancy and childbirth in 2017. The vast majority of these deaths (94%) occurred in low-resource settings, and most could have been prevented.Maternal mortality is unacceptably high.Sub-Saharan Africa and Southern Asia accounted for approximately 86% (254 000) of the estimated global maternal deaths in 2019. Sub-Saharan Africa alone accounted for roughly two-thirds (196 000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58 000).Eclampsia, considered as serious complication of preeclampsia (it's a hypertensive disorder which usually occurs after 20 weeks of gestation), remains a major cause of maternal mortality. Its accounts for 12% of maternal deaths and 16- 31% of perinatal death worldwide. Most deaths from eclampsia occurred in resource limited settings of sub-Saharan Africa (WHR, 2018).

Our research determines the causes of eclampsia in pregnant women, meanwhile children are generally considered as fragile, tender, vulnerable, innocent creatures symbolizing purity. The unborn seen as a mystery of nature, delicate, fragile, yet revered and marveled by all pertaining to their origin, necessitating much care and attention with great enthusiasm and a feeling of awe as we await the bringing forth of this creature to existence. An unborn can be defined as the youngest form of a human being, a baby in the womb.

An unborn is usually referred to as a fetus after eight weeks of gestation or an embryo prior to eight weeks of gestation before all the organs are developed. An unborn simply mean a baby not yet born Pregnancy is a delicate moment in a woman's life. William et al, (2018) says pregnancy is a state of containing a developing embryo, fetus or unborn within the female body. He continues by saying pregnancy lasts for about nine months,measured from the woman's last menstrual period.It is conventionally divided into three trimesters, each roughly three months long.There is little to no chance that a first-trimester foetus can survive outside the womb, even with the best hospital care. Its systems are simply too undeveloped. It is in the first trimester that some women experience "morning sickness," a form of nausea on

awaking that usually passes within an hour, the breasts become tender as it begins to prepare for nursing, and the mother may experience many physical and emotional changes, ranging from increased moodiness to anxiety, darkening of the skin in various areas as the pregnancy progresses.

According to Julia (2010) in United States of America (USA) found that, many women reported several barriers to prenatal care which could be social, maternal and structural. Women may not be motivated to seek care especially for unintended pregnancies. Societal and maternal reasons cited for poor motivation include a fear of medical procedures or disclosing the pregnancy to others, depression and they believe that prenatal care is unnecessary.Structural barriers include long wait times, the location and hours of the clinic, language and attitude of the clinic staff and provider, the cost of services and the lack of child friendly facilities. Paula et al, (2001) in Maharashtra, India identified key social, economic and cultural factors influencing women's decision to use maternal health care and the places used for child delivery, whilst considering the accessibility of facilities available in local area. Socioeconomic status was not found to be a barrier to service use when women perceived the benefits of the service to outweigh the cost and when the service was within reasonable distance of the respondent's place of residence. Women identified the poor quality of services offered at government institutions to be a motivating factor for delivering at home.Women who received antenatal care went on to deliver in the home environment without a trained birth attender.

As per a study carried in Kilifi South sub-country**,** *Kenya, Wabwire et al.,* says approximately 830 women die each day worldwide from pregnancy related complications, 99% of them in developing countries and more than 50% in sub Saharan Africa. The study established that 73.3% of the women of reproductive age are aware of the traditional beliefs and practices that affect maternal health.These range from diet taboos that deny women the nutrient required by pregnant women. They restrict women from accessing health services due to restriction in movements prior to and after delivery and those that demand they seek assistance from traditional birth attendants.The continuity of the belief systems is accounted for by the need for preservation of culture (36.8%), ignorance (35.9%), fear of rejection (14.9%), past experiences (10%) among other factors that pose threat to the health of the women and their babies.

A research carried out by Moungbakou, (2018**)** in the Noun Division West Region of Cameroon revealed that money has become the driving force in service provision.As such, it

is the patient's economic capital that counts. Considered "clients", pregnant women without sufficient financial resources wait long hours in corridors. Some die in pain under the indifferent gaze of the professionals who are supposed to take care of them. In sharp contrast, the findings revealed that financially privileged patients are able to bribe caregivers to attract their favour and obtain prompt, careful and effective care. These abuses observed in the Noun public health facilities drive women to use, from the beginning of their pregnancies to delivery, only healthcare delivered by traditional health attendants.

Halle (2018) puts forth that, "the rise in maternal mortality in Cameroon is due to shortage of quality health care as well as prenatal visits and inadequate clinical provisions". Mothers regularly depend on traditional birth attendants to give birth at home. Mothers who do not have transport usually trek for long hours to get to health facilities. Ironically, these mothers are not likely to have consistent prenatal check-ups. Maternal health is a human right and no woman should be deprived of this right (Nehsuh, 2016). Providing improved antenatal care to all pregnant women is consistent with the Alma Ata Declaration of 1978 and the European health policy framework.It also contributes to achieving SDG3, which seeks to ensure health and well-being for all at every stage of life and addresses a range of health priorities. However, there are general drawbacks in as much as upholding this practice is concerned. Poverty, lack of awareness on the importance of antenatal care, lack of health facilities like infrastructure as well as personnel.

Researching on this about the people of Yaounde II , they see Eclampsia as astrange sudden illness that surprises the pregnant Mother with child that is why it is sometimes called witchcraft (witchcraft Sickness to abort a child) this expression is given by the family concerns at First identification until Diagnosis this is different to our authors who see it as dangereous because of the biological diagnoise that is linked to High blood , Tension, Disorder etc which can affect a child due to the poor health of the mother

2.1.1 Characteristics of Eclampsia

We shall be looking at the following;

Hypertension

Talking about Hypertesion, it is a case in which blood pressure rises up during pregnancy. Normally a woman's blood pressure drops during the second trimester, then it returns to normal by the end of the pregnancy, but in some women, blood pressure goes up very high in the second or third trimester. This is sometimes called gestational hypertension

and can lead to preeclampsia (Johnson, 2009). The blood pressure normally ranges from > or =111 for systolic pressure and 70-80mmHg for diastolic blood pressure, but in this case, high blood pressure is Systolic blood pressure > or = 140mmHg and Diastolic blood pressure > or =90mmHg.

People in Yaounde II see this as Witches Troubling the Flow of Blood from mother to child

Protein in urine (proteinuria)

This is the case where there is excess protein in urine during pregnancy, greater o.3g in 24 hours. Such abdnormalities, are described as punishment to the mother to cause delivering problem.

Headache

In this case, there is severe headache.

Convulsion

This is a condition in which the pregnant woman enters into fits

Oedema

Oedema is swellings that occur in a particular tissue, it can be: Oedema of the legs, eodema of the hands and eodema of the feet. So, if pregnant women are presented with eodema, the midwives must surely fine out if the blood pressure and sugar level is normal, before he or she can conclude if the eodema is alarming or not. Eodema in a pregnant woman does not automatically means the woman would have preeclampsia, eodema is just one of the signs associated to elevated BP and proteinuria, making it to be concluded with the diagnosis of Eclampsia. This aspects are roots of evil spirits to take away the unborn as perceive by many inhabitants of Yaounde II.

2.1.2. Risk factors

There are a couple of factors that influence the occurrence of pre-Eclampsia and Eclampsia as shown below:

Predisposing factors

Risk factors for Eclampsia are factors that do not seem to be a direct cause of the disease, but seem to be associated in some way. Having a risk factor for eclampsia makes the chances of getting a condition higher but does not always lead to eclampsia. Also, the absence of any risk factors or having a protective factor does not necessarily guard you against getting Preeclampsia. For general information and a list of risk factor. Factors that can be measured

early in pregnancy that increase the likelihood of pre-eclampsia developing in any given pregnancy (Duckitt et al, 2005):

Women with chronic hypertension (high blood pressure before becoming pregnant).

Women who developed high blood pressure or Eclampsia during a previous pregnancy, especially if these conditions occurred early in the pregnancy.

Women who are obese prior to pregnancy.

Pregnant women under the age of 20 or over the age of 40.

Women who are pregnant with more than one baby.

Women with diabetes, kidney disease, rheumatoid arthritis, lupus, or scleroderma

Though (Duckitt et All 2005) outline these characteristics, the people of Yaounde II see this as signs of witchcraft or a need to complete Diary so as to have a peaceful delievery that is why some people turn to pray, others may perform rituals, or add diary to some family members of the Pregnant woman's family.

2.1.3. Pathophysiology of Eclampsia

Eclampsia is a disease which appears only during pregnancy, characterized by hypertension, proteinuria and oedema.it is widely widespread, and in the underdeveloped countries, is the leading cause of maternal mortality; Its pathogenesis is thought to be associated to a hypoxic placenta, which is responsible for the maternal vascular dysfunction. It occurs more commonly in first pregnancies and primarily affects maternal, renal, cerebral, hepatic and clotting functions while elevating blood pressure and the delivery of the placenta is the only way to control this pathology.

Although the exact cause of Eclampsia remains unclear, many theories center on problems of placental implantation and the level of trophoblastic invasion (Positivist *et al*., 2001). It is important to remember that although hypertension and proteinuria are the diagnostic criteria for preeclampsia, they are only symptoms of the pathophysiologic changes that occur in the disorder. One of the most striking physiologic changes is intense systemic vasospasm, which is responsible for decreased perfusion of virtually all organ systems (Roberts *et al*., 2001). Perfusion also is diminished because of vascular hemoconcentration and third spacing of intravascular fluids. In addition, preeclampsia is accompanied by an exaggerated inflammatory response and inappropriate endothelial activation. Nowadays, it is

considered as a disease originated in the activation of the vascular endothelium, triggered by placenta ischemia.

This 2015 reports estimated maternal mortality rate in Cameroon at 596 maternal deaths per 100,000 live births. In 2015, countries met and put forward a series of goals known as sustainable development goals (SDGs). SDG 3 calls for the acceleration of current progress in order to achieve a global maternal mortality rate (MMR) of 70 maternal deaths per 100,000 live births in 2030 (Alkema et al., 2016). This global reduction of MMR and a positive pregnancy outcome can only be achieved if the care offered to women during pregnancy improve and they initiate antenatal care (ANC) early enough. Recently in 2016, WHO recommends a minimum of eight ANC contacts during pregnancy and the first contact should be done before the 12th weeks of gestation. Planning for a safe delivery is an integral part of ANC. Early initiation of ANC plays a major role in detecting and treating some complications of pregnancy and form a good basis for appropriate management during delivery and childbirth. The rate of early booking ANC visits in Cameroon is low, as is evident by the Demographic and health Survey (DHS) report in 2011 where only 34% of pregnant women did a booking visits within the first trimester.

Halle et al., (2014) reported a similar prevalence of 27% in a health center in Buea. Narrowing down to the Bamock community, many of these pregnant women tend to hide their pregnancies. Consequently, the neighboring health systems instituted to cater for these pregnant women receive fewer pregnant women. Pregnant women of this community do not reveal their pregnancies until it becomes obvious by putting “kabbas” to hide their pregnancy. The reason for this is to make the witches not to notice and to come press out the unborn baby.

2.1.4. Causes of Eclampsia

In most cases, the causes of eclampsia is not known. But it is known that eclampsia causes blood vessels to tighten which blocks blood flow.The eclamptic syndrome is thought in many cases to be caused by a shallowly implanted placenta which becomes hypoxia leading to an immune reaction characterized by secretion of unregulated inflammatory mediators from the placenta (Jerome et al., 2006). The exact causes of eclampsia are not known, although some researchers suspect.

Genetic, Poor nutrition, Insufficient blood flow to the uterus, endothelial cell injury, immune rejection of the placenta, compromised placenta perfusion, altered vascular reactivity,

imbalance between prostacyclin and thromboxane, decreased glomerular filtration rate with retention of salt and water, decreased intravascular volume, increased central nervous system irritability, disseminated intravascular coagulation, uterine muscle stretch (ischemia), dietary factors, including vitamin deficiency, genetic factors, air pollution and obesity. Like many in Yaounde II , they could mot give the real meaningful causes of Eclampsia. This means that our research Ties with Jerome et al 2006. But when something is not known, it is set to be mystical, that is why the people of YaoundeII sees it Mystical.

Signs and Symptoms

Eclampsia can be found early during your prenatal visits. The following are signs and symptoms of eclampsia, Being 20 or more weeks pregnant with a blood pressure that is 140/90 or higher, Blurry vision (cannot see clearly), Breathing problems, Urinating small amounts, Feeling very sluggish, Gaining 3 to 5 pounds (1.4 kg to 2.3 kg) in 1 week (7 days), Having very bad pain over your stomach (belly) or under your ribs, Seeing spots in your eyes or having light flashes before your eyes, Sudden swelling of your face, hands, or feet., Increased blood pressure.Protein in the urine.Edema (swelling).Sudden weight gain, nausea, vomiting, Severe headache. When this felt, a woman takes some local herbs or call her mother to seek ways to solve it instead of going to the hospitals when it persist for medical checkup.

Diagnosis

Eclampsia is diagnosed when a pregnant woman develops high blood pressure (two separate readings taken at least 6 hours apart of 140/90 or more) and 300 mg of protein in a 24-hour urine sample (proteinuria). A rise in baseline blood pressure (BP) of 30mmHg systolic or 15mmHg diastolic, while not meeting the absolute criteria of 140/90, is still considered important to note, but is not considered diagnostic. Swelling or edema (especially in the hands and face) was originally considered an important sign for a diagnosis of Eclampsia, but in current medical practice only hypertension and proteinuria are necessary for a diagnosis. Pitting oedema (unusual swelling, particularly of the hands, feet, or face, notable by leaving an indentation when pressed on) can be significant, and should be reported to a health care provider, **severe eclampsia**" involves a BP over 190/150mm Hg (Robbins et al., 2000) and additional symptoms, **proteinuria:** 8 g or more of protein in a 24-hour urine collection or 3plus or greater on urine dipstick testing of two random urine samples collected at least four hours apart, **other features:** oliguria (less than 500 mL of urine in 24 hours),

cerebral or visual disturbances, pulmonary edema or cyanosis, epigastric or right upper quadrant pain, impaired liver function.

Differential Diagnoses

Eclampsia can be mimic and be confused with many other diseases, including chronic hypertension, chronic renal disease, primary seizure disorders, gallbladder and pancreatic disease, immune or thrombotic thrombocytopenic purpura, antiphospholipid syndrome and hemolytic-uremic syndrome. It must always be considered a possibility in any pregnant woman beyond 20 weeks of gestation. It is particularly difficult to diagnose when preexisting disease such as hypertension is present (American medical network; 2003).

Diagnostic test

Blood pressure measurement, urine testing to rule out preeclampsia, assessment of eodema, frequent weight measurements, liver and kidney function tests to rule out preeclampsia, blood clotting tests to rule out preeclampsia.

If this is confirmed by the medical doctor, the woman starts taking some local herbs or go for prayers, while others run to witch doctors for protection. When it stops he continues her normal life if not some take the drugs prescribed by the doctor alongside other herbs.

2.1.5. Prevention

The prevention of eclampsia as requires a wide range of precautionary motives that most be taken into consideration when ever women wants to put to birth or during their pregnancy. That is why many of our informants testify that they follow alternative treatment.

Prevention of gestational hypertension

Early identification of women at risk for gestational hypertension may help prevent some complications of the disease. Education about the warning symptoms is also important because early recognition may help women receive treatment and prevent worsening of the disease.

Unfortunately, there is no guaranteed way to prevent eclampsia; the best way of ensuring that neither you nor your baby comes to any harm is to go to all your antenatal appointments. If you have to cancel your appointment for any reason, arrange another time to see your midwife as soon as possible. Each time your midwife tests your urine for protein and measures your blood pressure she is checking for the early signs of pre-eclampsia.preventive measures can only be needed to avoid complications (Padayatty, et al., 2006). The prevention

of eclampsia does not automatically mean that it can be controlled in such a way that the pregnant woman would not develops eclampsia , but in a certain way to detect the risk factor and fight towards them such as; Identification and appropriate action for those women with known risk factors at booking.Early recognition and appropriate action for those women with symptoms and signs of eclampsia.Antiplatelet agents, e.g. low-dose aspirin, have moderatebenefitswhen used for prevention of pre-eclampsia (Duleyet al., 2007),Avoid stress,Regular antenatal visits.

Enough rest as much as possible, for the prevention of eclampsia and its complications for women with normal blood pressure. (Meher et al., 2006).

2.1.6. Treatment of Eclampsia

In sub Saharan Africa, Adenkale and Akinbile (2012) found that mortality due to eclampsia was 9.9% of total maternal deaths and case fatality rate was 8.3%. In Tanzania Ndaboine et al. (2012) reported that 76 patients out of a total 5562 deliveries presented with eclampsia. In the same study there were six maternal deaths, two before delivery and four after delivery, accounting for a case fatality rate due to eclampsia of 7.89%. In Dar es-salaam, Urassa, Carlstedt, Nystrom, Massawe and Lindmark (2006) reported that incidences of eclampsia in Muhimbili National Hospital and at population were 200/10,000 and 67/10,000, respectively. The case-fatality rate for eclampsia was 5.0% for women who delivered at MNH and 16% for those referred to MNH after being delivered elsewhere.

Kim et al. (2013) reported that Magnesium sulphate is the drug of choice for preventing convulsions in pre-eclamptic women and for preventing recurrence of convulsion. Multicentre trials have demonstrated that this anticonvulsant does not require special storage, is significantly more effective than diazepam or other drugs in reducing convulsions, preventing progression from severe pre-eclampsia to eclampsia, and improving outcomes for mothers and newborns (Duley & Henderson-Smart 2003; Kim et al., 2013).

Ekele (2009) indicated that ―There are two standard protocols for using magnesium sulfate as anticonvulsant in pre-eclampsia or eclampsia‖. In both regimens, initiation is by the intravenous route, the difference is the route for the maintenance doses. With the Zuspan regimen, an initial intravenous bolus dose of 4 g is given slowly over a period of 5-10 min and maintenance is with 1-2 g hourly by intravenous infusion for 24 hours using infusion pump (Ekele, 2009; Zuspan, 1978). Another protocol came from Pritchard regimen, which is also initiated by giving 4g bolus magnesium sulfate intravenously over 5-10 minutes and

simultaneously administering 10 g intramuscularly (5 g each buttock). This is then followed by 5 g intramuscularly at 4-hour intervals into alternate buttocks for 24 hours (Ekele, 2009; Pritchard, 1984).

Therefore, the authors concluded proteinuric patients may respond differently from nonproteinuric patients to this treatment, where the nonproteinuric patients responded the most to treatment with isradipine. Labetolol or Nicardipine are also often times the antihypertensive of choice for eclampsia or pre-eclampsia according to the CHEST 2007 study. Especially Labetolol as it has little placental transfer. Women with underlying inflammatory disorders such as chronic hypertension or autoimmune diseases would likely benefit from aggressive treatment of those conditions prior to conception, tamping down the overactive immune system. Smoking reduces risk of pre-eclampsia (Jeyabalanet al., 2008) though smoking is discouraged in pregnancy in general.

2.1.6.1. Diets and proteins

Studies of protein/calorie supplementation have found no effect on pre-eclampsia rates, and dietary protein restriction does not appear to increase pre-eclampsia rates (Kameret al., 2003). No mechanism by which protein or calorie intake would affect either placentation or inflammation has been proposed. Studies conducted on the effect of supplementation with antioxidants such as vitamin C and E found no change in pre-eclampsia rates (Rumboldet al., 2006). If the baby is pre-term, the condition can be managed until your baby can be safely delivered. Your health care provider may prescribe bed rest, hospitalization, or medication to prolong the pregnancy and increase your unborn baby's chances of survival. If your baby is close to term, labor may be induced. The treatment for more severe Eclampsia (having vision problems, lung problems, abdominal pain, fetal distress, or other signs and symptoms) may require more emergent treatment -- delivery of the baby -- irrespective of the baby's age.Corticosteroids. If you have severe Eclampsia or HELLP syndrome, corticosteroid medications can temporarily improve liver and platelet functioning to help prolong your pregnancy. Corticosteroids can also help your baby's lungs become more mature in as little as 48 hours an important step in helping a premature baby prepares for life outside the womb. Anticonvulsive medications. If the Eclampsia is severe, the doctor may prescribe an anticonvulsive medication, such as magnesium sulfate to prevent seizures.

2.1.6.2. Complications

Eclampsia can occur after the onset of pre-eclampsia. Eclampsia, which is a more serious condition, complicates 1 in 2000 maternities in the United Kingdom and carries a maternal mortality of 1.8 percent (Douglas et al., 1994). The HELLP syndrome is more common, probably about 1 in 500 maternities, but may be as dangerous as Eclampsia itself. These two major maternal crises can present unheralded by prodromal signs of pre-Eclampsia. Cerebral hemorrhage is a lesion that can kill with pre-eclampsia or Eclampsia. In that cerebral hemorrhage is a known complication of severe hypertension in other contexts, it must be assumed that this is a major predisposing factor in this situation, although this has not been proven.

2.1.6.3. Management of the disease

Management in hospital is multidisciplinary with involvement of the obstetric team, anesthetics and hematology, liaison with pediatrics, and appropriate arrangements for in utero transfer if required and once the woman's condition is stable ;(Greer, 2005).The management of Eclampsia is also to be considered (Hibbard et al, 1997):(Antenatal care: routine care for the healthy pregnant women ,march 200) Reassure and calm the pregnant woman,Put the patient on bed rest,Give IV fluids,Monitor the blood pressure regularly, Take the fetal heart beat,Induction of labor if possible,Prompt diagnosis with prevention and treatment of complications and Blood pressure.

Anti-hypertensive treatment should be started in women with a systolic blood pressure over 160 mmHg or a diastolic blood pressure over 110 mmHg. In women with other markers of potentially severe disease, treatment can be considered at lower degrees of hypertension. Labetalol (given orally or intravenously), oral nifedipine or intravenous hydralazine can be used for the acute management of severe hypertension. Atenolol, ACE inhibitors, angiotensin receptor-blockers and diuretics should be avoided. Anti-hypertensive medication should be continued after delivery, as dictated by the blood pressure. It may be necessary to maintain treatment for up to 3 months, although most women can have treatment stopped before this.

In 2008, Folic, Varjacic, Jakovljevic, and Jankovic concluded that control of severehypertension, intravenous labetalol or oral nifedipine is as effective as intravenous hydralazine, with less adverse effects. The authors recommended that randomized controlled studies are required to determine whether antihypertensive therapy in mild-to-moderate

hypertension in pregnancy has greater benefits than risks for both mother and fetus (Greer, 2005).

Magnesium sulfate should be considered when there is concern about the risk of eclampsia.In women with less severe disease, the decision is less clear and will depend on individual case assessment. Magnesium sulfate is the therapy of choice to control seizures. A loading dose of 4 g is given by infusion pump over 5-10 minutes, followed by a further infusion of 1 g/hour maintained for 24 hours after the last seizure. Recurrent seizures should be treated with either a further bolus of 2 g magnesium sulfate or an increase in the infusion rate to 1.5 g or 2.0 g/hour (WHO, 2015)

Fluid balance

Fluid restriction is advisable to reduce the risk of fluid overload in the intrapartum and postpartum periods. Total fluids should usually be limited to 80 ml/hour or 1 ml/kg/hour.

Delivery

The decision to deliver should be made once the woman is stable and with appropriate senior personnel present.

If the fetus is less than 34 weeks of gestation and delivery can be deferred, corticosteroids should be given, although after 24 hours the benefits of conservative management should be reassessed. Conservative management at very early gestations may improve the perinatal outcome but must be carefully balanced with maternal wellbeing. The mode of delivery should be determined after considering the presentation of the fetus and the fetal condition, together with the likelihood of success of induction of labor after assessment of the cervix (Johnson, 2009). The third stage should be managed with 5 units intramuscular/slow intravenous Syntocinon. Ergometrine and Syntometrine should not be given for prevention of hemorrhage, as this can further increase the blood pressure.

2.5.2. Nursing responsibilities during Eclampsia

During the period in which the pregnant woman is diagnosed with preeclampsia, the midwives have to take precautions for the woman, because the life of the mother and foetus can be in danger. What the midwives have to do are as follows. Prepare the woman psychologically, Arrange for regular antenatal visits as much as possible, in order to monitor the vital signs, especially the blood pressure, Advised the pregnant woman to stay away from stress and have enough rest as possible, Advised the woman not to take a lot of salt and

spices, and to control her diet, Take her medications as ordered, Respect her antenatal visits, so that her blood pressure and sugar level can be taken note of and control. And Avoid noisy environment and quarrels.

2.1.7. Overview of Culture and Eclampsia

Eclampsia is among the leading causes of maternal mortality. It is a serious hypertensive complication of pregnancy and increases the risk of cardiovascular disease in later life. Pregnancy-related hypertension complications predispose to chronic hypertension and premature heart attacks. A significant proportion of women with preeclampsia/eclampsia does not reach the formal healthcare system or arrive too late because of certain traditional or cultural beliefs about the condition.

Perceptions towards a health condition are influenced by several facets such as culture, personal beliefs, experiences and knowledge. Studies conducted in Asia and West Africa suggest there is a variety of community perceptions that may be barriers for women with pre-eclampsia to seek care and eventually deliver at a health facility.(Vilder M et al 2016) here clinical presentation of preeclampsia and eclampsia may not be well understood by some of the communities, and is often confused with other conditions; some communities believe that local home remedies may cure them.

A research carried out in rural Southwestern Uganda shows that majority of the women understood that Eclampsia was related to high blood pressure and is also potentially fatal. Although, a distinct local name did not emerge, participants related the condition to other medical conditions namely epilepsy and meningitis due to a shared symptom of convulsions(Nabul H et al , 2021).

In a similar research in Mozambique designed to examine community knowledge about preeclampsia, women also believed that it is caused by stress, worry and mistreatment from in-laws. In this Mozambican study, extreme suggestions such as snakes living inside the woman's body were fronted as possible explanations(Boene H & Vilder H , 2016).

2.1.7.1. Culture and Eclampsia Management (review of possible remedies in the context of culture)

The only known and practicable cure is delivery. In some cases, the delivery may be pre-term leading to the death of the baby. In a bid to prevent this as further noted by the AllRefer Health Journal in 2008, the disease may be managed by bed-resting the pregnant mother with careful monitoring of her blood pressure, urine protein levels and body weight

until the baby is term for delivery (promoting survival outside the womb) (AllRefer health, 2008). Pregnancies between 24 and 28 weeks of gestation are coined the GRAY ZONE where proper monitoring and clinical management of the pregnant women are prime. Health workers usually manage the pre-eclamptic mother until after 36 weeks of pregnancy, ensuring proper foetal development and survival on delivery; in severe cases after 28 weeks of pregnancy, delivery can be opted to preserve life.

The AllRefer Health journal in 2008 revealed that, in pregnancies which are less than 24 weeks, delivery can be performed in emergencies but the possibility of a viable foetus is minimal (AllRefer health, 2008). If such pregnancies are prolonged, especially in severe eclampsia, maternal complications occur and infant deaths have been observed in about 87% of cases. Labour could be induced when any of the following occurs: Diastolic blood pressure is above 1 00mmHg consistently over 24 hours, the patient presents with severe persistent headache, abdominal pain, failure of foetal growth as noted by the ultrasound, pulmonary oedema, HELLP syndrome, and eclampsia. It could also be induced if the liver function tests are abnormal or serum creatinine levels are high in the pregnant patient (AllRefer health, 2008). During the induction of labour and subsequent delivery, eclamptic seizures are controlled, as well as the blood pressure of the woman. It was also stated in The All Refer Health journal in 2003, that the decision to perform either vaginal delivery or caesarean section depends mainly on the state of consciousness ofthe mother and the level of tolerance oflabour by the foetus (AllRefer Health, 2003).

In summary, the most significant human effort in preventing the worst effects ofpre-eclampsia in pregnant women was the extensive introduction of ante-natal care. The irony in Cameroon and in Yaoundé II in particular is the lack of presence of these ante-natal services as well as the zeal to motivate pregnant women to attend these clinics. This has marred the provision of safe and effective maternal and child healthcare in the nation, thus the high mortality figures observed

2.1.7.2. Overview of health workers knowledge in the management of eclampsia

In Iran, a research conducted by Mirzakhan, Shoorab, Golmakani, Eafazoli and Ebrahimzadeh (2011) reported that average of the age among graduates of midwifery in this research was 24 years, majority of participants (64%) were skillfully in managing Eclampsia. Level of self-confidence for graduate of midwifery from university and colleges about situation and emergencies, was statistically significant difference between self-confidence and those two situation ($p = 0.027 < 0.05$). The authors go on to explain that a Pearson test has

shown a positive correlation between acquiring the skills during education and self-confidence of the graduates for the management of the situation (T test result is P = 0.02< 0.05). Providers who completed Skilled Birth Attendant (S.B.A) in-service training performed better. Of the 250 providers who participated in various round of assessment, 70 SBA trained providers scored an average of 89% versus 61% among the 180 non SBA trained providers (USAID & Nepal Society for Obstetricians and Gynecologists, 2009).

The skills of health care providers influence the care provision (Gia-Linh Nguyen et al., 2020). More so a research carried out in reveals that as the age increase also knowledge increases, professional qualification, year of experience, working experience in the obstetrics unit has an association with increases in knowledge in the management of preeclampsia/eclampsia (Joho, Kibusi, Mwampagatwa & Ernest, 2020).

Another research identified that the work experience of nurses /health care providers improves competence together with managerial guidance. This enables the nurses to be capable in service provision to the patient. Furthermore, managerial guidance is essential to the new graduate nurse who does not have experience (Rizany et al., 2018).

The service providers' knowledge and skills are important in the provision of quality care that is competently applied. They counterpart the individual's theoretical and educational foundation to impact on inclusive job performance (Office for Health Management, 2004).

2.1.7.3. Gaps identified in knowledge and practice

USAID and Nsog (2009) found out that 80% of providers improved their knowledge of severe pre-eclampsia/Eclampsia however they found changes in practice particularly in managing pre-eclampsia/eclampsia and monitoring for toxicity. Furthermore, gaps identified in knowledge and skills were: repeating the dose of Magnesium sulphate if further fits occur after 15 minutes, management of low urine output, monitoring signs and symptoms of pulmonary edema, In the same study the most gaps found during baseline assessment were:, transfer of trained service provider, non-availability of magnesium sulphate, reflex hammer, calcium glucometer and resuscitation kit including ambu bag. Ghebrehiwet (2006) reported that among the quality gaps identified was poor monitoring of normal and complicated labour. Although both anti hypertensive and anticonvulsive drugs were administered in almost all eclamptic patients (96.2 percent), use of drugs in preeclampsia mothers was low; no drug was administered in 32 percent of them.Furthermore monitoring of Eclampsia patients is found to

be poor, as only in one fifth (22.3 percent) of patients were blood pressure monitored hourly, and in only14 percent were fetal heart beat measured hourly. Barriers in managing Eclampsia

Engender Health (2007) reported that key barriers in management of Eclampsia are lack of National Priority and Guidelines, lack of Education and Training, Supply Shortage, financial cost and weak health system. The nurse at three Indian hospitals stated that they had neither the knowledge nor the skills to manage Eclampsia patients at the same time; they accepted that there was some hesitancy to manage such complicated cases (Baruaa et al., 2011). The authors go on to report that; they feared being blamed for any negative outcomes that could result, even when those outcomes were a natural consequence of the condition.

2.1.8. Overview of barriers to the management of preeclampsia and eclampsia

A recent research carried out by the Centre for reproductive rights (CRR) located in New York identified deep-seated problems undermining the promotion of maternal health in Nigeria; they included the lack of political will by the Government on the issue of developing and implementing maternal health policies as well as providing adequate funds to finance such policies; weak infrastructure; nonpayment of health workers; widespread corruption amongst relevant stakeholders in health service delivery and the Government. On the grass root level, issues arising from patient user fees for accessing healthcare services, availability and proximity of maternal healthcare centers, lack of adequate health information, and the socio-economic status of majority of the women in Nigeria amongst others are contributory to the poor health indices amongst Nigerian women (Raphael, 2008).

Lack of critical knowledge and standard skills by some doctors, many midwives and nurses has been implicated in a 2007 Centre for Maternal and Child Health report as one of the leading causes of avoidable mortality amongst women, especially when complications in pregnancy is involved (Cemach, 2007). A cross sectional survey by Lawoyin et al in 2007 supported this statement pointing out that a wide range of health care professionals have been unable to identify and manage medical conditions or emergencies outside their immediate skill base, especially in developing nations like Nigeria (Lawoyin et al, 2007). The CEMACH report also noted that skills requiring the resuscitation of a pregnant woman are also vital in the management of pre-eclampsia, and in severe cases the pregnant woman may have eclamptic seizures and become unconscious (CEMACH, 2007). Thus, the quality of care and services given to the affected women in Nigeria is uncertain. Pre-eclampsia is a serious maternal health condition which requires immense understanding and regular documented

training, but there has been only little efforts done at consistently upgrading the knowledge base of the healthcare team in the country.

2.2. Theoretical framework

The following the theories are used in our work in other to interprete the work and circumscribe it into a scientific framework.

2.2.1. Ecological theory by Bronfenbrenner, 1994

The purpose of nursing science is to develop knowledge using paradigms and theories that guide both research and practice (Walker & Avant, 2011). Bronfenbrenner's Ecological Systems Theory was operationalized to guide this research. Bronfenbrenner's Ecological Systems Theory stems from the social ecology approach to health promotion (Bronfenbrenner, 1994). A core theme of ecological research is that human health is influenced not only by environmental circumstances but also by a variety of personal attributes, including genetic heritage, psychological dispositions, and behavioral patterns (Stokols, 1996).

Eclampsia is a disease which appears only during pregnancy, characterized by hypertension, proteinuria and oedema.it is widely widespread, and in the underdeveloped countries, is the leading cause of maternal mortality; Its pathogenesis is thought to be associated to a hypoxic placenta, which is responsible for the maternal vascular dysfunction. It occurs more commonly in first pregnancies and primarily affects maternal, renal, cerebral, hepatic and clotting functions while elevating blood pressure and the delivery of the placenta is the only way to control this pathology (Positivist et al., 2001).

Different pathogenesis of (preeclampsia) PE is an attractive hypothesis. This is not only in accordance with wide clinical experiences, but could also explain the controversies of results of different former studies in PE, especially in central hemodynamics. Increased systemic vascular resistance (SVR) with contracted blood volume is a classical hallmark of PE.Elevated blood pressure, chronic or pregnancy-induced, complicates 6−30% of all pregnancies. The most important hypertensive gestational condition is the pre-eclampsia-eclampsia syndrome. Although the etiology of PE remains obscure, studies with central hemodynamics and also epidemiologic data have challenged its homogenous pathogenesis. Different pathways leading to hypertension with proteinuria during the second half of pregnancy not only may disturb the results of scientific studies but may alter our management

strategies as well. The goal of this review is to support the theory of different origination of classic symptoms of pre-eclampsia and Eclampsia.

Since man uses environment to create culture, the nutrition on the people of Yaounde II comes from the agricultural products cultivated. Some of these elements could be toxic to their bodies resulting to Eclampsia. However, using our ecological theory in connection to our work, the people of Yaounde II collect natural Herbs from the same environment to treat the same Eclampsia just as they do for other diseases like Maleria, amongs others.

2.2.2 Disease Causation Theory by Demand, 1994

In ancient Greece, between the late 5^{th} and early 4^{th} centuries the Hippocratic subscribed to the theory of the four humors to describe the cause of illness and disease. They believed that the body was made up of four humors (fluids) that included blood, phlegm, yellow bile, and black bile. Health depended on a balance of the humors and any imbalance in the humors resulted in illness (Demand, 1994).

The wet and dry theory was used to explain the vulnerability of female physiology to disease (Green, 1985). Women were considered wet while men were considered dry (Green; because a woman's flesh was porous and soft, she was at risk of drawing in too much moisture, resulting in an over abundance of fluids (humors) and subsequent illness. Treatment: Because disease was believed to result from either an imbalance in the four humors, a woman's overly porous skin, or a wandering womb, treatments focused on the restoration and maintenance of internal balance and health. As a result, remedies to restore balance included altered diets, purging, and blood-letting.

During the Middle Ages, medical and scientific progress came to a standstill. Between 400 current era (**CE**) and 700 CE, Christianity greatly influenced such progress, for Christians were opposed to science and forbade human dissection (Cianfrani, 1960; Graham, 1951). Closing of medical schools at Athens and Alexandria by Byzantium Emperor Justinian in the 6^{th} century further slowed medicine's progression (Cianfrani). Consequently, little original work was accomplished. Instead, individuals such as Oribasius, Aetius of Amida, and Paulus of Aegina, focused on the compilation and rewriting of the medical works of their predecessors.

Treatment: treatment of disease during the Middle Ages was greatly influenced by Christian beliefs. Remedies prescribed by physicians in Ancient times were often replaced with charms, amulets, faith healing, miracles, and prayers (Cianfrani, 1960; Graham, 1951).

As evidenced by the many review articles published in the scientific literature, the theories on disease causation are numerous and diverse. Such theories are related to mechanisms involving oxidative stress, immunologic intolerance between the fetoplacental unit and maternal tissue, and angiogenic imbalance (Leeman & Fontaine, 2008). For example, the endoglin protein, which is involved in regulation of placental trophoblast differentiation/invasion of the uterus (Caniggia, et al., 1997) and maintenance of vascular tone (Jerkic et al., 2004; Toporsian et al., 2005), represents an anti-angiogenic factor potentially involved in preeclampsia development given that placental and blood pressure abnormalities are observed in preeclampsia. Regardless of the mechanism, a two stage model of preeclampsia has been developed to provide a guiding framework for scientists in their search of disease causation (Hladunewich, Karumanchi, & Lafayette, 2007; Roberts &Gammill, 2005; Roberts & Hubel, 2009).

Treatment: In an era of evidenced-based practice, the standardized care of women affected by preeclampsia-eclampsia is guided by the best available evidence. Based on the National High Blood Pressure Education Program Working Group on High Blood Pressure report (2000), the American College of Obstetricians and Gynecologists' (ACOG, 2002) most recent practice bulletin indicates that current management of preeclampsia-eclampsia is reflective of past treatments. Although ACOG's bulletin was published eight years ago, a more current review of evidence-based information on the management of preeclampsia further demonstrates that the mainstay of treatment has remained consistent (Norwitz & Repke, 2009). Diagnosis of preeclampsia continues to be based on prenatal blood pressure and urinary protein measurements and initial disease severity is evaluated with laboratory testing.

Though the different diseases just like Eclampsia manifest differently and treated in many cultures, the world view of individuals permits one to acknowledege the origin of Eclampsia in Yaounde II. In the same light, health seeking behavior are related to worldview.

(Venkatesha et al, 2006). It is speculated that adenoviral expression of Endoglin induces a preeclampsia-like phenotype in rats via inhibition of angiogenesis and endothelial nitric oxide synthase (eNOS) activation. Such effects of adenoviral-delivered Endoglin can be enhanced by the co-infection with expressing adeno virus. Venkatesha et al, (2006) suggesting that Endoglin may augment the effects. While such investigations may shed light on the pathogenesis of preeclampsia, it is important to consider that using an adenovirus system to deliver factors relies on its capacity to infect many organs throughout the body, including the

liver. In Yaoude II people consider Eclampsia in first delivery as bad signs in marriage that needs cleansing.

2.2.3 Self-awareness theory by Duval & Wicklund (1972)

Self-awareness is the capacity to take oneself as the object of thought. People can think, act, and from their experiences, and they can also think about what they are thinking, doing, and experiencing. According to the theory, anything that makes people focus attention on the self will increase self-awareness.The theorists accomplished this by placing a group of people in front of large mirrors, videotaped them, had people listen to recordings of their voices, and made the people feel like they stickout. Momentary levels of self-awareness are measured by people's use of self- referential words and pronouns and by how quickly people recognize self-relevant information. Duval and Wicklund (1972) proposed that, at a given moment, people can focus attention on the self or on the external environment. Focusing on the self enables self-evaluation. When self-focused people compare themselves with standards of correctness that specify how the self ought to think, feel, and behave, then we can say that objective self –awareness has taken place. The process of comparing the self with standards allows people to change their behavior and to experience pride and dissatisfaction with the self. Self-awareness is thus a major mechanism of self-control. When people focus attention on the self, they turned to regulate their emotions and that is why the researcher found the theory relevant.

When a person knows what Eclampsia is in Yaounde II area, he does not take it lightly. Many who knows what happens to a pregnant woman in the state simply rush to the hospital for confirmation but those who do not, turn to see it as mystical disease turn to go in for witchdoctor.

2.3. Conceptual framework

This framework helps us to understand how variables relate with indicators and how strategies can be put in place to better manage Eclampsia in this setting. Here the independent variables and dependent associate in this case how the perceptions and culture affect the management of eclampsia and how various indicators are related depending on the literature reviewed.

Independent variables

Culture and norms, sociodemographic charasteristics, beleifs (HBM), level of knowledge

Dependent variables

The following aspects will help us examine the different variables

management of eclampsia

Most studies reviewed expressed the advantages of strict antenatal attendance and adequate clinical knowledge by the health workers. Others focus mainly on improving maternal and perinatal health, and these models which are applicable in the western worlds are usual1y assumed to be compatible in developing nations like ours. Such acts have led to development of pregnancy-related and childbirth interventions that have failed in low resource settings (rural areas) in these developing nations. This research tackles unanswered questions dealing with the level of awareness of community women in a rural setting especially first time and multiparous women as regards the burden of pre-eclampsia; its classical symptoms.

The study also attempts to evaluate if the healthcare workers are actually playing their roles in preventing this silent disease which is claiming a lot of lives in our communities; the standard of the antenatal care service given to the women, as well as the level of commitment by these health staff in reducing the incidence of eclampsia and ensuring more women seek antenatal care. lf feasible preventive strategies are to be developed and implemented in low resource areas, then adequate research must be done in these areas to obtain relevant data required to design these models.

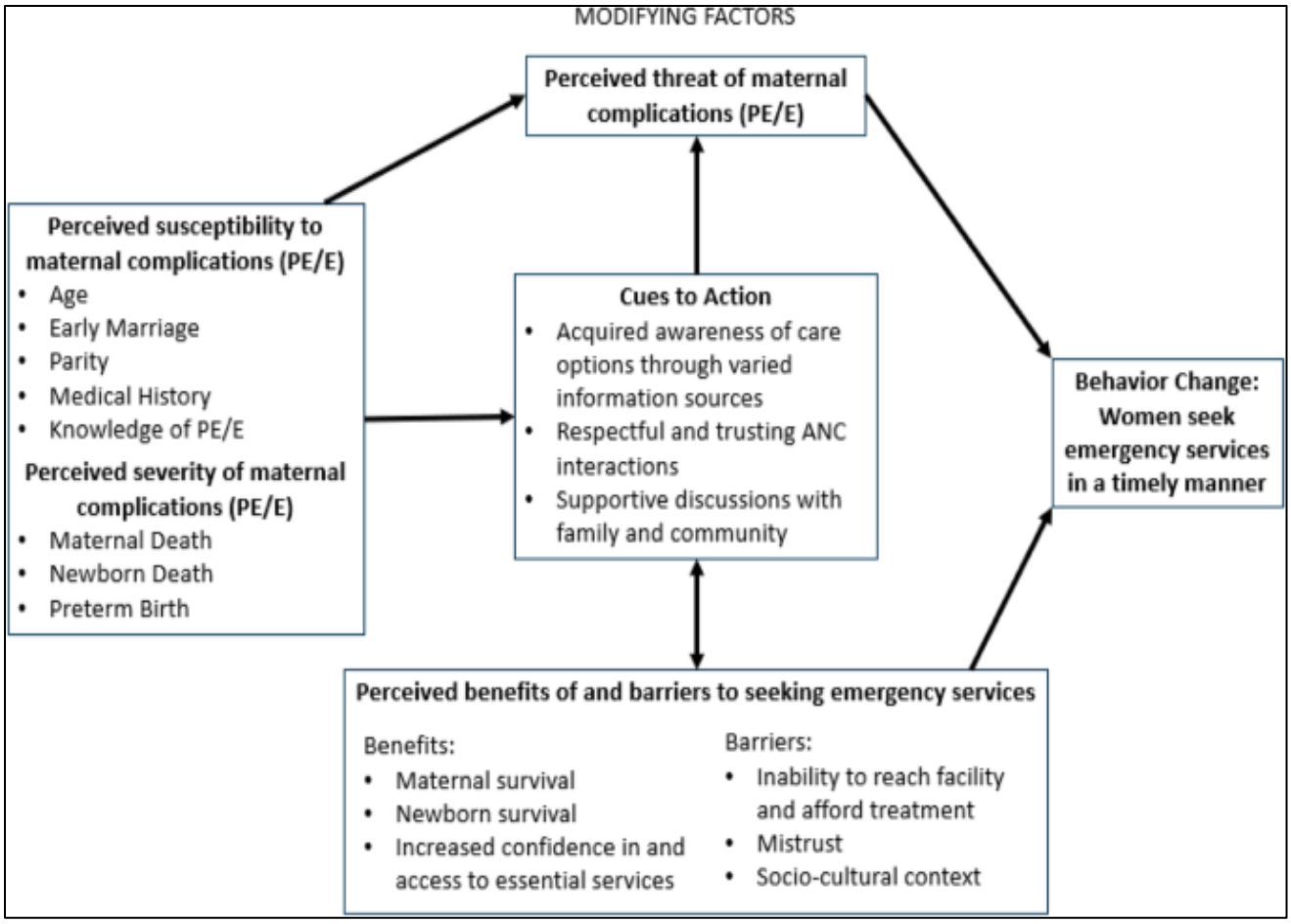


Figure 2: Conceptual model for health workers management of Pre-Eclampsia (Eclampsia) during pregnancy.

Source: WHO, 2015

This framework helps us to understand how variables relate with indicators and how strategies can be put in place to better manage Eclampsia in this setting.

Source; Adapted from WHO, (2015)

Figure 3: Conceptual Framework

In our conceptual framework we will be seeing the following terms to explain in the context of Eclampsia

Gestational hypertension: Gestational hypertension is usually defined as having a blood pressure higher than 140/90 measured on two separate occasions, more than 6 hours apart, without the presence of protein in the urine and diagnosed after 20 weeks of gestation (Dekker, 2002).

Preeclampsia: Pre-eclampsia is gestational hypertension plus proteinuria (>300 mg of protein in a 24-hour urine sample). Severe preeclampsia involves a blood pressure greater than 160/110, with additional medical signs and symptoms.

Eclampsia: This is when tonic-clonic seizures appear in a pregnant woman with high blood pressure and proteinuria. Eclampsia is a life threatening condition in which a pregnant woman, woman in labour or within 42 days after delivery, experiences seizures or convulsions.

HELLP syndrome: This is a dangerous combination of three medical conditions: hemolytic anemia, elevated liver enzymes and low platelet count.

Hypertension: Hypertension is defined as either: A systolic pressure consistently at 140 or higher or a diastolic pressure consistently at 90 or higher.

Nurses and midwives in the maternity unit are those who practically manage pregnant women with Eclampsia, therefore they are the main actors in stopping complications of this condition. Eclampsia has been documented to occur as from 20weekofgestation, third trimester of pregnancy.

Abortion is a term used when pregnancy is ended so that it does not result in birth of the child, it usually occurs from one month after conception to six months.

Knowledge is the fact or condition of knowing something with familiarity gained through experiences or association. Maternal death is defined as the death of women while pregnant or within 42 days after termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related or aggravated by pregnancy or its management but not from accidental or incidental cause (WHO, 2007).

Nurse-midwives are licensed health care practitioners educated in two disciplines of nursing and midwifery. Preeclampsia is a disorder that can occur during pregnancy and is characterized by high blood pressure (hypertension), and protein in the urine. Standard of care is a formal diagnostic and treatment process a doctor/nurse will follow for a patient with a certain set of symptoms or a specific illness**.**

Eclamptic period is characterized by changes that occurs in the pregnant woman between two weeks of gestation and six weeks post-partum. Some of these characteristics include:

Eclampsia, one of the deadliest complications of hypertension in pregnancy, it is defined by onset of seizures in woman who already has preeclampsia Hypertension during pregnancy is a worrying situation for health workers, who still have many theoretical and practical gaps in our context. These gap toward knowledge, attitude, and practices of HBP during pregnancy were greater for low-level instructed health workers, except for the measurement of blood pressure. Facing up this problem, we recommend regular on-the-job training and up-to-date practical guide should also be provided.

Perception is the act or faculty of perceiving, or apprehending by means of the senses or of the senses or of by mind; cognition; understanding.

Cultural perception is how people gather information, learned within their specific culture, to inform themselves about their world. Culture and perception are inextricably linked, because it is through people's own culture that they view and perceive themselves and others in the world, as well as events and social and political happenings. Culture includes people's background and upbringing as well as their religious and political beliefs.

Conclusion

The systematic review of literature in this chapter has helped us to fill knowledge gaps in this domain of studies. This has enable us to have a perspective a bit different or show other dimension of views of eclampsia. The theories used has also help us to see the work in a new scientific base and also to see the interest of the work. The chapter that follows helps us to handle the ethnographic presentation of Eclampsia in Yaounde II.

CHAPTER THREE

THE ETHNOGRAPHIC PRESENTATION OF ECLAMPSIA IN THE YAOUNDE II MUNICIPALITY

Every society has its own way of presenting a situation as the case of Eclampsia in Yaounde II. The chapter permits us to have an analysis on the various knowledge base level of persons suffering from Eclampsia and those who are even aware in the existence of the disease. Thus, presenting how they consider Eclampsia to be for them in the community of Yaounde II. In this section of the research, We shall examine the different actors and knowledge level of eclampsia in Yaounde II health area. This chapter focuses on stakeholders such as; the general population, health workers, traditional authorities and other relevant stakeholders who contributed to data collection as concerns the perception of Eclampsia as a disease. This chapter attempts to answer the first specific question, the second objective in line with the second hypothesis of the reseach that stipulates that the ethnographic presentation of eclampsia in the Yaounde II directly influences Eclampsia in women's death at pregnancy.

3.1. Peoples' awareness and management of Eclampsia in the Yaounde II health area.

Previous studies carried out in a few countries in Africa indicate that eclampsia knowledge among women is generally low. Eclampsia is a disease of signs which requires prompt attention. Early diagnosis and management can reduce the dangers of preeclampsia and eclampsia; most deaths associated with this condition are avoidable when care is given in good time. One major challenge in fighting eclampsia is women's late reporting to health care centers following a sign or symptom experience (Chid, 2017). Avoiding delays and "blockages" currently occurring in diagnosis and management are critical. Three phases of delay have been identified; "phase one delay" relate to the time taken to decide to seek care, "phase two delays" involve problems in reaching care and "phase three delays" encompasses issues in the provision of care. Inadequate knowledge is one of the problems hindering the reduction in maternal mortality. Maternal deaths could be prevented if women have adequate knowledge and use good quality services, especially when complications arises. Women equipped with knowledge that experience eclampsia would report early to the hospital, receive timely medical intervention and have fewer adverse outcomes.

Eclampsia often results from wrong diagnosis (recognition) and improper management of preeclampsia. Preeclampsia is a condition that develops during pregnancy and is characterized by high blood pressure (hypertension) and protein in the urine (proteinuria). Monitoring and early diagnosis of preeclampsia in pregnant women and effective treatment can prevent eclampsia. Eclampsia is reported to have 0.3% prevalence globally (Vousden, 2019). It is associated with a risk of 0-1.8% for maternal death in developed countries.

However, the maternal mortality rate may be as high as 14% in developing countries; it accounts for a significant number of maternal deaths in Africa and Asia. Each year approximately 63,000 women worldwide die of eclampsia and preeclampsia, and 99% of these deaths occur in low-income countries (Vousden, 2019).

In 2017, Nigeria accounted for a significant proportion of maternal deaths globally. The maternal mortality ratio in Nigeria as of 2017 was estimated to be 917 per 100,000 live births. In many developing countries such as Nigeria, eclampsia remains a significant contributor to adverse maternal and perinatal outcomes despite all measures to reduce its incidence and impact (Gasnier, 2019).

To better evaluate knowledge level in the management of eclampsia, a checklist of 30 questions was administered to participants using either tape records and some pen and paper interviews as earlier mentioned. Analysis revealed that some of the 68 participants, 22(32.35%) had a good knowledge level in the management Eclampsia, 28 (41.18%) had an average or moderate knowledge level in the management of Eclampsia while 16(23.53%) had poor knowledge and only 2 (2.94%) had very good knowledge in the management of eclampsia as shown in the table below.

Table 3: Distribution of participants according to level of knowledge awareness about Eclampsia in Yaounde II (April-May 2022)

Awareness score on eclampsia	Frequency (n)	Percentages (%)
Good	22	32.35%
Moderate or Average	28	41.18%
Poor	16	23.53%
Very good	2	2.94%

Source: Semi-structured interview data, 2022.

It should be noted that only 2 participants had a very good knowledge level on the management of Eclampsia in this setting indicating serious gaps in knowledge level as to what concerns the management of eclampsia. Some respondents indicated during intervierws that,

> *"Preeclampsia is when blood pressure is high in pregnant woman, not that person who has started fits, no. But Blood pressure is going up and has signs that the blood pressure is going up such as swelling of legs with high blood pressure above 140 over 90. On the other hand,*

eclampsia is when the blood pressure is high but she has started fits in pregnancy due to high blood pressure". (Nurse-midwife)

"Preeclampsia are signs that a woman shows like high BP (blood pressure) compared to what it is supposed to be in a person's body who is pregnant, but she has other signs but is not fitting. Eclampsia means that she has convulsions and she also has a raised blood pressure and she is pregnant". (Medical assistant)

More so**,** more than half of the health care providers in this research were able to state how, when, and where pregnant women with pre-eclampsia are identified. The commonly mentioned place for detection of preeclampsia was antenatal clinic when women come for their antenatal visits. Apart from the antenatal clinic, they also mentioned the labour and postnatal wards. Some participants stated that some women ignorantly reported at outpatient department (OPD) with complaints of swollen legs, palpitations and shortness of breath, but were eventually referred to the labour ward with suspected pre-eclampsia. However, most participants expressed concern that in most cases they did not have essential tools to assist them to detect the conditions, and as such they just based their diagnosis on presenting signs and symptoms of the woman. The commonly mentioned tools lacking were blood pressure measuring apparatus (machine) and urine protein dipsticks . When asked where patients with pre-eclampsia are detected, these health care providers stated.

A study conducted in Nairobi-Kenya by Vousden et al, 2019 revaled that majority of the pregnant women 58 (61.7%) had not heard of preeclampsia, most of the women 45 (47.9%) had not heard of eclampsia while 67 (71.3%) of the women reported to had heard about induced hypertension in pregnancy during lectures in antenatal care.

Regarding the knowledge of pregnant women on the danger signs of eclampsia, 47 (50%) rightly identified persistent headaches as a danger sign, 47 (50%) rightly identified convulsion as a danger sign of eclampsia, 67 (67%) rightly identified abdominal pain as one of the danger signs of eclampsia, 33 (36.2%) rightly identified dizziness as a danger sign of eclampsia, over sixty percent of the pregnant 57 (60.9%) were correct about leg and face edema being a danger sign of eclampsia, 65 (69.1%) of the respondent also correctly identified sweating and visual disturbance as one of the danger signs of eclampsia while Majority of the pregnant women 66 (70.2%) wrongly identified nausea and vomiting as one of the danger signs of eclampsia and 56(59.6%) of the pregnant women reported vaginal

bleeding as one of the danger signs of eclampsia In terms of the causes or risk factors of eclampsia, majority of the women 87 (92.6%) rightly identified hypertension as a risk factor for eclampsia, 51 (54.3%) of the women identified prolonged exposure to cold a risk factor of eclampsia, 62 (66%) of the women identified depressive thoughts as a risk factor of eclampsia and over sixty percent 61 (64.9%) identified stress as a risk factor. Similary, studies on the demographich characteristics and knowledge level of Eclampsia was conducted in our study area and similar results were obtained which shows that it is a situation very common in the sub-Sahara Africa.

3.2 Association of demographic characteristics and awareness on the management of Eclampsia

It was hypothesized that some socio-demograpic characteristics had relationships with the level of knowledge in the management of eclampsia. This means that the management of eclampsia stems from the knowleged required to handle the desease. It was thus important to correclate the relationship between socio-demographic characteristics and the knowledge base management of eclampsia. First of all, that correlation was noted between the association between the health care workers knowledge in the management of eclampsia.

In a study conducted in Nigeria, (Adamu, 2018) sowed that the distribution of pregnant women according to age showed that only 8 (8.5%) were within the age group of 45-49years while almost half 47(50%) of the pregnant women were within the age group of 25-34years. The mean age of the women was 31.2 years (See Table 1). Two-third of the pregnant women 35 (37.2%) got married between the age 20-24years while 29 (30.9%) of the women got married above 29 years of age. Majority of the pregnant women 65 (69.1%) are married, 21 (22.3%) are separated while 8 (8.5%) are single. Most of the pregnant women 37 (39.4%) had secondary school education, while 30 (31.9%) had no formal education. In term of parity, about 13 (13.8%) had more than five children. The religious distributions within the study respondents showed that more than half of the pregnant women 57 (60.6%) were Christians, 37 (39.4%) were Muslim. Majority of the pregnant women 78 (83%) were from the Yoruba ethnic group, 8 (8.5%) were igbo.

3.2.1. Association in awareness and management of Eclampsia

It could be noted that more than half of respondents (56%) who aged 51-60 years scored good and there was no significant difference between age of respondents and knowledge of managing woman with Eclampsia.

The table above shows that more than half of respondents (60%) who aged 51-60 years scored good and there was no significant difference between age of respondents and knowledge of managing woman with Eclampsia.

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The analysis revealed that health workers with 6 – 10 years of working experience and those with 11 years and above, of working experience were more knowledgeable as they scored good points means (56%) and (55%) respectively. Statistical evidence shows that; there was a significant association between years of working experiences and knowledge level of managing woman with Eclampsia

It could be highlighted that statistical evidence shows that; there was a significant association between years of working experiences and knowledge level of managing women with eclampsia. Furthermore However the evidence shows that there was no significance association between knowledge level of staff health workers and job specification.

As regard personal characteristic of the studied sample, it was found that near half of research sample (49.3%) their age ranging from 25-30 years with mean of age were 28 years. this finding is not consistent with which found that most participants were from age group of 31- 40 years followed by age group 41-50 and did a study on management of pre-eclampsia and eclampsia in Dar-el Salaam public health facility and found nearly two third of health care workers were between 31-40 years and the majority were nurses, followed by the age of 40 and above.

Regarding nurse's years of experiences this research showed that more than half (59.8%) were have for 1- 10 years and (40.2%) have years of experiences more than 10 years. This result was in agreement and supported by the study of the (Esther nwan; et al, 2010) which

had found that slightly above half of the respondents had worked for 1- 10 years while 48% of respondents had worked for over 11years and above. This indicated that more nurses working.

3.2.3. Presentation of the socio-demographic characteristics of respondents

From the data gathered from the 68 participants that took part in the field survey, 46 (67.6%) were nurses, 18 (26.5%) were midwives and 4 (5.8%) were doctors. Their ages ranged from 22-58 years, average age 39.5. The maximum age was 58 years while the minimum age was 22 years. The table 3 below shows a better representation of respondents' demographic data gathered from the field.

Table 4: presentation of socio-demographic information of participants health workers (April-May 2022)

Variables	Frequency (n)	Percentages (%)
Age range		
22-30 years	28	41.18%
31-40 years	20	29.41%
41-50 years	15	22.06%
51 years and above	5	7.35%
Job status (specification)		
Nurses	46	67.6%
Midwifes	18	26.6%
Doctors	4	5.8%
Gender		
Male	9	13.24%
Female	59	86.76%
Years of job experience		
0-5 years	22	32.35%
6-10 years	28	41.18%
11 years and above	18	26.47%
Highest level of education		
Secondary O levels	14	20.59%
Secondary A levels	29	42.65%
University or college	25	36.76%
Marital status		
Married or concubinage	25	36.76%
Single or separated or widowed	43	63.24%

Source; Semi-structured interviews data, 2022.

From the table above, we can observe that the majority of respondents were females 59(86.76%) while 11(13.24%) were males, from the table it could also be noted that 22 (32.35%) had 5 years and below of health work experience while 28 (41.18%) had between 6-

10 years of experience and 18 (26.47%) had 11 years and above of experience in the field of health care. As concerns the distribution of participants according to age range, the 68 participants involved in the research had their ages that were distributed as follows; the majority of the respondents were aged between (22- 30) years of age while the lowest were aged 51 years and above. According to job specifications of the 68 respondents who were enrolled, the majority of them were nurses representing 67.6% while 26.6% were mid-wives and the minority 5.8% were doctors. Here it a could be observed that they were more nurses and midwifes than doctors which represented the minority of the respondents.

In terms of gender, the majority of respondents were females (86.76%) while (13.24%) were males. It was observed here that the majority of respondents (41.18%) had between 6-10 years of job experience while (32.35%) had between 0-5 years of experience and 26.47% of the respondents had 11 years and more of job experience. The analysis gathered here showed that the majority of participants 29 (42.65%) had Advanced levels as their highest level of Education followed by 25(36.76%) which had University or college degree. The analysis of the data also indicated that the majority (63.24%) were divorced or widowed while (36.76%) were either married.

On a similar note, the WHO, (2015) using the a Pearson Product Correlation analysis to determine the relationship between specific socio-demographic factors and the level of knowledge of the pregnant women on eclampsia. The result of showed that there is relationship between specific socio-demographic factors and knowledge of eclampsia among pregnant women attending antenatal clinic. However, there was no significant relationship between level of education and knowledge of eclampsia among pregnant women attending antenatal clinic ($p > 0.05$). The result implies that age, religion, ethnicity and parity were significantly related with level of knowledge of the pregnant women while there was no significant relationship between the educational level of the pregnant women and their level of knowledge about eclampsia.

In another region in the south-west Nigeria, Osogbo, average level of knowledge of eclampsia was also reported because of the entrenched cultural believes about treatment and prevention of eclampsia among pregnant women with secondary school education attending LAUTECH Teaching Hospital Osogbo (Adekanle et al, 2012), the reseach however reported a contrary opinion to this research that there was good level of knowledge of eclampsia among university educated pregnant women attending the teaching hospital. Furthermore, the result is consistent with the findings of a study on the knowledge of eclampsia among women living

in Makole ward, Tanzania, that eclampsia knowledge is significantly not predominantly common among pregnant women attending the community health centre.

Although the result of this research indicated average level of knowledge of eclampsia, however, this was significantly influenced by several supports from close family relations and health education for pregnant women residing in rural urban communities of low and middle income countries like Tanzania (Savage et al, 2016). The research found that age, religion, ethnicity and parity were significantly related to level of knowledge of eclampsia among pregnant women while educational level was not significantly related to the level of knowledge of eclampsia among the pregnant women in this study. The finding is in tandem with the findings of Chobanian (2013) that age, religion and ethnicity.

The result of this research revealed that Majority of the pregnant women had fair level of knowledge of eclampsia. Most of the women in this study responded not to have heard of preeclampsia or eclampsia before this is similar to women presented in rural-urban communities of Ogun State (Adekanle et al, 2012). A large percentage of the women have had formal lecture on pregnancy induced hypertension during their antenatal care visits. From the research most of the women did not have adequate knowledge on the danger signs and risk factors of eclampsia. A large percentage of women considered Nausea and Vomiting, sweating and Vaginal bleeding as major danger related to the level of knowledge of eclampsia among the pregnant women in this research particularly in Yaounde II health area.

3.3. Exploring health workers perceptions on Eclampsia management

Here we had to identify the stakeholders Who manage eclampsia in this community

From the analysis we noted that the people who manage eclampsia and preeclampsia conditions in this setting are divided into 2 broad groups as shown below namely :

Health Care Workers (nurses, doctors ,midwives, nursing assistants) this were the people who manage eclampsia at the levels of the hospital or health centers which made up a total of 68

TBAs (traditional birth attendants) they were those who made up the herbalist spiritualist and naturopathologists

“What they TBAs] do when they find a pregnant woman is to refer the health facility for antenatal care, to raise awareness of the importance of antenatal consultation [and] giving birth at the health facility. It is what

they do, and they issue a referral slip […] to health facility. They always make regular visits until […] after childbirth also [they] have to make follow-up to see if the child up to five years for example has completed the vaccinations [programme]. They always have to make regular visits to that family".-

3.3.1. Health workers perceptions in the management of Eclampsia in the Yaoundé II health area

To understand the health workers perceptions on the Eclampsia and Its Management in this setting we made use of qualitative methods through FGD and in-depth interviews of stake holders. At this point after thorough content analysis the following themes and subthemes were highlighted as elaborated. It could also be underscored that older health workers had more positive perceptions with regards to eclampsia and its management and it could also be noted that the was a statistically significant relationship between years of job experience and level of knowledge and positive perceptions.

Some health workers indicated misconceptions in their definitions of eclampsia as shown in this extract from a junior nurse in an interview conducted in the Central Hospital.

*"It is caused by their husband's bad behavior, because a lot of men want their wives and not her pregnancy. Some husbands would stop taking care of their wives when they become pregnant." (*junior nurse*)*

Although a number of possible causes for eclampsia emerged from focus group discussions and in-depth interviews, the most common were the influences of cold, heredity, diet, and depressive thoughts or stress from health care workers. There was a strong perception that taking cold food, or drinks during pregnancy can lead to convulsions, as well as the exposure to cold weather. This was by far the most common explanation of convulsions in pregnancy in the community. A pregnant woman demonstrates this belief in the following quote:

"There is a belief that if a pregnant woman frequently sleeps on a cold floor, it could cause convulsion, or if the body is exposed to too much breeze [...] and also if there are excessive depressive thoughts...it can lead to convulsion."(junior nurse, 29 years, Cite Vert)

"Something that I have noticed about Eclampsia is that some things are hereditary. There are some things that people would say similar thing

happened to the father or mother at a time. So, things like this would have become hereditary and if this is not treated early it will run from two to three generations and it would become a family problem." (nurse assistant, 31 years, Cite Vert)

Some health workers attributed Eclampsia to have a spiritual cause and believed prayers could relief the symptoms "The church believes everything is a spiritual attack and as a result, they keep you there until you pass out." "I think the unborn child causes a change in the mother, as it is a foreign body, and she struggles daily to balance this and please both the foetus and herself' (senior nurse, 37 years, Central Hospital)

A respondent was of the opinion that Pre-eclampsia could be viewed as an auto-immune disorder affecting women during the last stages of their pregnancy. and can have harmful effects on the unborn child. In all, the respondents all believe that there is limited knowledge about the complete understanding of the disease condition and this has hampered progression in tackling it, supporting evidence from the questionnaire findings.

Quand je fais face a une situation d'Eclampsie ou de preeclampsie j'ai un peu de panique et je cours cherchez de l'aide chez les infirmieres plus exprerimentees ou un medecin¨ (jeune infirmière, Central Hospital, 23 anns, 19/06/2022)

In the socio-cultural context, while spirituality and tradition affect women's lives profoundly, they rarely factored into our sample's actual care seeking decisions. Women often (particularly in tis setting) describe the importance of offering prayers (by a third party) to promote well-being of a woman experiencing Eclampsia. Some health workers described going to a traditional birth attendant and few mentioned using traditionalist/herbalists, but the majority did not use or even mention them.

3.3.2. Perceptions and views of incidences of Eclampsia by traditional women

When it comes to Eclampsia among women, the traditional women uaually have an important role to play in most African societies such as the case of Yaounde II. At times, the perceptions that the traditional women take is cultural or spiritual. In Yaounde II it was noticed during field work that when the case of Eclampsia is announced, they turn to think

that there are some traditional rites that were not well performed or needs to be performed. Some believe that that it is a generational issue that transends across some families. To them it is something that exist in people's families or in lineages of people that cannot be eliminated. In an interview with a traditional woman, it was underpinned that,

> *Eclampsia is something very critical in our culture, in fact it is a taboo which means that something is not going on very right. Some families actually have such issues in their families in losing children during birth. When a woman loses the child or passes away during birth, it is something not to be taken lightly because it has not been existing in our culture here. In case the child passes away, we usually ask the mother to take some traditional cleansing to avoid such taboos from existing among the people… (A traditional woman in Briketerie, 11/08/2022, 42 years old)*

The views and perceptions of these traditional women is what has actually impaired the effective management of Eclampsia in Yaounde. From the analysis of the responses of respondents, it shows clearly most of the women do not even believe in the existence of Eclampsia but instead attaches spiritual and cultural connotation to the disease. It is therefore important to come to the new realities of Eclampsia among the people of Yaounde II. Some of the traditional women actually had the believe of Eclampsia but however still attaches socio-cultural views to the sickness. Some believed that something has to be done far beyond what the conventional medicines are providing. Interviews spelled out that,

> *The case of child loss at birth is something we do not take lightly in our culture. It is a bad signal to the woman and her entire family which most have some cultural and spiritual connotations or have to do with the way of life of the woman in question. In our cultural setting, we usually recommend traditional remedies to handle such issues. However, some people have started perceiving it as problem related not only to socio-cultural and spiritual things but also physical stress experience in the early days of pregnancy…* (A traditional woman in Nkomkana, 17/08/2022, 39 years old)

Studies conducted in other areas in Akure State in Nigeria by Nabulo et al, (2021) revealed that older and senior women in the communities and families play a significant role and decision on where women will deliver especially in traditional settings or home delivery for the women who do not have access to health facilities like hospitals. The perceptions they

carry about are ties to their cultural believes which most at times are misconceptions, because they attach a lot of culture and belives to the disease. Besides, some women do not even believe that it is an illness because of the perceptions and believes that they attach to Eclampsia. There was a common belief in spirits and ghosts. Some respondents thought the fits were linked to a ghost attack from recent demise of a close relative especially if the

> *Some relatives don't die completely. If at the time of demise, you had a misunderstanding or they loved you too much and are not resting in peace, they may strangle you so that you die too. So, ghost at times are responsible for the death of some pregnant women when they are giving birth….* (A 72 year old woman at Nkomkana, 15/07/2022).

Pregnant woman was either not at peace or was liked too much by the deceased. It was underlined during interviews by an elder woman that, Several respondents believe the illness may be a result of witchcraft especially from persons that do not wish the pregnant woman well.

> *Not everyone is happy for you when you get pregnant, for some reason, someone can bewitch you, a co-wife for example could wish you dead. When you are pregnant, she is already imagining that your child will compete for property with her children" 45-year-old woman and a mother of 5 in Cite vert, mother of 5. 12/07/2022*

Our data show that when women were asked about causes and risk factors for eclampsia, they revealed a high level of misconception regarding the condition. The women suggested several potential causes for eclampsia and these included; anemia or having little blood, carrying a very big baby, poor feeding, witchcraft and even marital stress. Misconceptions are common in sub Saharan Africa. In a qualitative study in Nigeria, women also suggested that marital conflict, abusive husbands and strained relationships were responsible for eclampsia.

In a similar study in Mozambique designed to examine community knowledge about preeclampsia, women also believed that it is caused by stress, worry and mistreatment from in-laws. In this Mozambican study, extreme suggestions such as snakes living inside the woman's body were fronted as possible explanations. Witchcraft was mentioned as a possible cause in our study and the Mozambican one. Despite these prevailing misconceptions, some participants correctly associated Eclampsia with high blood pressure.

The perceived susceptibility to still birth and death among mothers with eclampsia as reported by these senior influential women in our study and the acknowledgement by some that medical attention should be sought could provide a valid basis for interventions. Community health workers provide a potential first line of intervention as they have been shown to have sufficient knowledge and ability to identify women with preeclampsia and administer initial treatment. Future programs will need to develop interventions that focus on demystifying the prevalent myths and promote a more scientific understanding of the condition and eventually this knowledge could serve as cues for action.

3.3.3. Mothers with daughters with Eclampsia

Mothers were very instrumental when it concerned their pregnant daughter in catering for them. This was mostly because their daughters could not understand several things very well. According to information gathered in the field, it was noticed that immediately a person falls pregnant the mother has to came an be with the daughter until she puts to birth even if it mean travelling from the village to town for that purpose. "Women with Eclampsia, in common with others who have poorly understood diseases, have suffered from many treatments that ultimately turned out to be ineffective or even harmful, but which were difficult to question when they were in common use.

A significant proportion of women with preeclampsia/eclampsia does not reach the formal healthcare system or arrive too late because of certain traditional or cultural beliefs about the condition which most at times is influenced by their mothers from the village. The older, senior women in the community are knowledgeable and play a significant role in decision making regarding where mothers should seek maternal health care. This was echoed by other participants who thought not taking the right foods is solely responsible for body swellings in pregnant women. To some extent elder women were taking good care of their pregnant daughters in their husband houses especially when it concerns the feeding habits of the pregnant daughter.

> *…the woman was not having a balanced diet. At times the pregnancy restricts someone and they have no appetite, the cravings also. A woman may end up eating bananas with only salt, they don't want beans or other times they depend on only drinking water. Such a person may lack blood and end up getting swollen feet or even the whole body.' 56 years, women's leader, mother of 5. 'The challenge is that some pregnant women are not feeding well*

or have other diseases that are left untreated and can swell up or even fit and so they will blame pregnancy when it isn't the case that is why I as a mother most came and be with my daughter to ensure she feeds very well…. (A 45-year-old mother of 4, Mbankolo, 13/07/2022).

Our research has important strengths. Although several studies have been conducted on this subject, our study focuses on the senior and older women who play a significant role in the health care seeking behavior of pregnant women. Second, our study is community- based in a rural and urban population. The data collected will inform interventions to improve outcomes of women with eclampsia. These participants are the custodians of local knowledge and have the power to influence belief and practice of younger women and eventually their health seeking behavior.

3.3.4 Men involvement in their partner's health care during eclampsia : men perceptions and practices

It was important to gain a deeper understanding of men experiences and involvement in their partner's healthcare during pregnancy complications. The findings might inform interventions of these men or Fathers during pregnancy complications at different level. Our research has been taken during a focus group discussions (FGDs) with the quarter head of Nkomkana. Many head of family testified about their relatives who went through this situation of Eclampsia during pregnancy, how they perceived it and how they managed the situation.

3.3.5 Friends and relatives vis-à-vis Eclampsia

When they notice and suspected Eclampsia, they advise her to go to the hospital for the diagnosis of preeclampsia which happens if you have high blood pressure after 20 weeks of pregnancy and at least one of the following findings: Protein in your urine (proteinuria), indicating an impaired kidney, Other signs of kidney problems, A low blood platelet count, Elevated liver enzymes showing an impaired liver, Fluid in the lungs (pulmonary edema), New headaches that don't go away after taking pain medication, New vision disturbances. After this diagnosis, if there is no improvement in the situation, the friends and relatives who have a good mastering of eclampsia will further push her to go again to the health personals for further diagnosis or Additional tests which their care providers might prescribe the following;

Blood tests; A blood sample analyzed in a lab can show how well the liver and kidneys are working. Blood tests can also measure the amount of blood platelets, the cells that help blood clot.

Urine analysis; Your health care provider will ask you for a 24-hour urine sample or a single urine sample to determine how well the kidneys are working.

Fetal ultrasound; Your primary care provider will likely recommend close monitoring of your baby's growth, typically through ultrasound. The images of your baby created during the ultrasound exam allow for estimates of the baby's weight and the amount of fluid in the uterus (amniotic fluid).

Nonstress test or biophysical profile. A nonstress test is a simple procedure that checks how your baby's heart rate reacts when your baby moves. A biophysical profile uses an ultrasound to measure your baby's breathing, muscle tone, movement and the volume of amniotic fluid in your uterus. After the diagnosis the health personals might prescribe the following Treatment;

To deliver the baby or manage the condition until the best time to deliver the baby. This decision with your health care provider will depend on the severity of preeclampsia, the gestational age of your baby, and the overall health of you and your baby. If preeclampsia is not severe, you may have frequent provider visits to monitor your blood pressure, any changes in signs or symptoms, and the health of your baby. You will likely be asked to check your blood pressure daily at home. They might equally provide Treatment of severe preeclampsia which requires that you be in the hospital to monitor your blood pressure and possible complications. Your health care provider will frequently monitor the growth and well-being of your baby and will suggest medications such as Antihypertensive drugs to lower blood pressure, Anticonvulsant medication, such as magnesium sulfate, to prevent seizures, Corticosteroids to promote development of your baby's lungs before delivery, all this process are only encourage by friends and relatives and not just that, they equally contribute money to ensure that the diagnosis and medication are provide to her on time so as to remedy the situation. After delivery, they equally stay closely to monitore her, so that any malfunctioning, they can notify the hospital to check for high blood pressure and other signs of preeclampsia after delivery. Before you go home, you'll be instructed when to seek medical care if you have signs of postpartum preeclampsia, such as severe headaches, vision changes, severe belly pain, nausea and vomiting.

Further more, some gave testimonies about how prayers had help others free then from such situations, so they will encourage her to meet a pastor who can assist her in prayers by not only depending on the hospital for treatment. At this friends and relatives will engage in a sery of prayers with her to intercede for the situation for God to heal her, under the instructions of a pastor she might meet, she might engage in a type of Prayers with will comfort her and will boasts up her believe system and her faith that everything will be well and that she will put to birth normally as other women does, at times, biblical verses are given her to study which helps to further boost up her faith leading to positive results. He friends and relatives at times under the instructions of their spiritual leader (pastor) in fasting inorder to assist recover as fast as possible and most often, spiritual instruments such as anointed oil, anointed said, anointed water and others are given to her so she could apply for God to facilitate the healing process which will make her to give birth in good condition.

Moreover, others will not seek God not the hospital due to their belief system. They will encourage the eclampsia affects pregnant woman to seek traditional help from herbalist who have been helping women in such conditions, they will give testimonies of some women who at the point of death thanks to the help of the herbalist they were able to recover and put to birth in good condition and still survive, so they will encourage them by taking them to some of the herbalist and will provide them with the necessary requirements to carry out the healing process and will equally be by them to encourage them not to be afraid of anything and what ever is done is to help them out of the situation, by so doing, the pregnant women will gain courage and will be able to go through the necessary processwhich will further lead to good delivery condition.

Other friends and relatives yet will not encourage any of the above mentioned facts, but rather they will asked them to examine the stage of their heart and will take time to cancel them to ensure that if they have any difference with people around they should settle them and if they are in any debt, they should make sure to clear up the debt and by so doing, they will get heal and will put to birth in normal circumstances as others.

4.4. Perceived treatment and management strategies by people of Yaounde II.

We find many people of different cultural background in Yaounde II and who have lived for Two or more decades, we consider them as indigenous people and they presented their different symbols and perception of Eclampsia. Among this group were the Bambilike, the Baka, Bagante etc. they explained to us how they do to identify and treate Eclampsia.

Here most nurses underscored that Regular ANC visits could go a long way to prevent the occurrence of Eclampsia “

> *As for me I think when a woman undertakes her ANC visits regularly it significantly reduces the chance of her having hypertensive complications during pregnancy¨*.(Midwife, 34 years, Central Hospital 18/05/2022)

Another health worker indicated having regular sports during pregnancy could go a long way to reduce occurrence of Eclampsia as seen in this extract;

D’après moi les femmes qui font du sports regulierement on peut de probleme dhpertension ou d’Eclampsie pendant les periodes d’accouchement (Medecin gynecoloque). It was important to ivestigate the importance the outcomes of eclampsia in pregnant women according to health care workers (Plate 1).

Plate 1: Some traditional herbs used in treating eclampsia by indigent

Source: Antia carene, 12/05/ 2022, Briketerie

*Note; **(A)** shows some barks of trees **(B)** some combined herbs **(C)** liquid extracted from barks ready to be mixed with herbs of various kinds **(D)** a herbalist from Bagante*

Home-based and traditional treatments for pregnancy complications were very common in Yaounde II. There were many traditional treatments used for eclampsia including eating onion, drinking salt solution, and applying Robb to the chest. Robb is a type of balm used for relieving aches and pains among children and adults in addition to its use for treating cold and shivering condition. Other traditional treatment options mentioned were bodily incisions and prayers. According to one woman, *“they could give the pregnant woman onions, they should shred the onions and put in it in her mouth, the aroma of the onions would*

calm her down, before they take her to the hospital". As eclampsia was believed to be caused by exposure to cold, a concoction known as "oògùn ilè tútù" meaning cold ground medicine was widely reported as one of the traditional medicines used.

> *"They should turn her to her right side and raise her up…that is what I know and that is what I've witnessed, if they pour water on her head and raise her up and put her down gently. Nobody should say a word around her at that moment. If it's just a normal convulsion, she would be revived."* (Nursing Mother, Cite Vert Hospital, 02/07/2022, 1:40pm)

In the treatment of eclampsia, some put salt in the pregnant woman's mouth as it is believed "salt would dissolve the substance blocking the blood vessels". In addition to giving salt, a spoon or 'chewing stick' is often inserted into the mouth to avoid clenching the teeth. Other types of treatment include asking the woman to lie down on her right side, and then pouring water on her head until she is revived. Limon and hot spices were also reportedly used for treating eclampsia. A TBA described the contents of one of the local concoctions used for eclampsia:

> *"I use original tobacco leaves… use it with boiling water and soak it with lemon juice, if pregnant woman is convulsing give her one teaspoon, rub it on her eyes and body… it will usually calm her down."* (Traditional Birth Attendant, Mokolo, 22/06/2022, 9:30 am)

Some opinion leaders reported the use of incisions on the forehead or abdomen of pregnant women for treating eclampsia. This was usually combined with other local items such as black soap, concoctions, and burnt leaves.

> *"They treat it in the traditional way, using herbs, black soap, burnt leaves or make incisions. You would see some pregnant women with many incisions on their heads." (Community Leader,* Mbangkolo, 18/05/2022, 4:00pm*)*

A wide range of methods or were identified during field survey all capable in treating Eclampsia and Preeclampsia. The use of herbs, banana flower were dominating as informants even explained that they were very good in treating even menstrual bites and so many other female realted complications. In some cases, the herbelists added alcohol especially when its just preeclampsia (Plate 2).

Plate 2: A herbalist with herbs to remedy Eclampsia in Nkomkana-Yaounde II

Source: Field work, 12/05/ 2022, Nkomkana

Note; *(A) a herbalist (Bangante) with a foliage of leaves that are used to treat pregnancy complications (Eclampsia) (B) a foliage of leaves (C) a banana flower* ***(D)*** *barks of trees (mango)*

From the above picture, a herbalist with different kind of leaves used for the treatment of Eclampsia. Among those who patronized prayer houses and spiritualists, different treatment methods were reported: holy water. In addition, a special prayer session was reportedly carried out for these women.

3.4 . Perceived outcomes of Eclampsia according to health care workers

> *The most perceived outcomes registered were mainly loss of mother's life is the was case scenarios both the mother and baby are lost* (MD, 31 years, Central Hospital 18/05/2022)

The findings of this research show that health workers perceptions of pre-Eclampsia and Eclampsia in the Yaoundé II health area differ slightly from biomedical perspectives. While the perceived cause of Eclampsia in these communities was exposure to cold, biomedical evidence suggests that the he use of traditional treatment has been identified as a source of delay to accessing appropriate health care services and also could be a marker for harmful behavior. Participants were aware of the potential consequences of the symptoms of eclampsia. They mentioned that the condition could lead to death of the baby in utero or even the mother. These potential adverse outcomes were mentioned by the majority of participants.

> *'The person may die if not referred to hospital. If the woman does not die, her baby will die in the womb. How can the baby survive with a mother that has no blood?'* (FGD, Central Hospital 18/05/2022)

Other participants thought that women with symptoms of preeclampsia/eclampsia become very weak; fail to push the babies necessitating surgical operations to deliver their babies.

> '*…No, it's not that they get all that well, they remain weak and at the time of giving birth they may still be weak, they may fail to push the baby and are delivered by caesarian section.**(FGD**,* Central Hospital 25/05/2022)

Participants acknowledged that preeclampsia/eclampsia is a serious and life-threatening illness. They agreed that if not attended to, the disease had some grave consequences including the potential to cause death. The general perception that psychological distress could be an underlying cause of pre-Eclampsia and Eclampsia requires further exploration. This research shows that there is a gap between health workers perceptions Eclampsia and the biomedical perspective. Sadly, relevant policies, like the Health Policy in Cameroon, do not take into account community perspectives in framing such policies. As such, these policies are generally disconnected from peoples' experiences, beliefs and local realities.

It was suggested that Increasing awareness of hypertension in pregnancy through community-based health promotional activities that leverage locally relevant and trusted forums:

- Improving quality of ANC at primary health care level, closer to where women live; and
- Strengthening primary health care givers' ability to manage hypertension in pregnancy and make timely referrals to hospitals.
- Health care providers reported of more benefits than detriments to the care provided to patients at the health centres prior to referral to the hospital.

The majority reported that the pre-referral care reduced further complications to the mother and the expected baby; hence reduced maternal and perinatal mortality. They also reported that the care enhanced management of patients and reduced workload for their counter parts at the referral facility. Most of all, they felt it was a way of fulfilling their responsibility as first level care providers. Explainations were put forth on how they perceived the prereferral care, these midwives said, "We would be failing our duty as a health centre if we just send the patient without doing anything. When we are referring a patient at health centre we do have pre-referral treatment, treatment before referral. It is our responsibility as health centres that if we are referring a patient to the central hospital we are supposed to do a

few things which we can manage as a health centre. The rest will be done at the big hospital. If we don't do anything then it means our friends will be busy there doing basic things. The treatment we give here helps the patient to get there in a good condition somehow".

3.5. Gap in awareness of the existence of eclampsia

Knowledge of causes and consequences of pre-eclampsia and eclampsia, in addition to awareness about when and where to seek care, affect a woman's perception of threat of developing pre-eclampsia as seen in our study and elsewhere. A research conducted in Sokoto, Nigeria interviewed 'relations' of women with eclampsia and found that only 7 % of 159 interviewees correctly associated eclampsia with high blood pressure. Instead, they cited 'evil spirits', pregnancy, and God as causes and tended to seek traditional rather than biomedical treatment (Adamou, 2014). Another communitybased survey collating binary responses from 200 adult women in Tanzania demonstrated the sample's significant.

Lack of awareness (50% or less across all knowledge items); only 13% knew epigastric pain to be a symptom of preeclampsia and half believed evil spirits and exposure to fire are contributory causes of pre-eclampsia (Savage, 2016). A systematic review confirms that traditions, cultural beliefs, and social norms are common factors that affect perceptions of antenatal and obstetric care in sub-Saharan Africa. It is critical to address this awareness gap and focus on how women are getting their maternal health information. Improving community awareness and understanding of pregnancy risks will allow them to perceive threat of preeclampsia and eclampsia and promote timely and appropriate care seeking.

3.6. Implications of limited awareness of the existence of eclcampsia

Despite these limitations, research findings reinforce a need to address educational deficiencies, health care attitudes, and access to resources at the community level to effectively harness use to action and mitigate the barriers faced by women to seek care. Connecting women with timely care in this context requires:

- Increasing awareness of hypertension in pregnancy through community-based health promotional activities that leverage locally relevant and trusted forums;

-Improving quality of ANC at primary health care level, closer to where women live; and

-Strengthening primary health care givers' ability to manage hypertension in pregnancy and make timely referrals to hospitals.

Community-focused interventions that emphasize birth preparedness for all women during their pregnancy and adopt social behavior change approaches render cues to action (in case of a complication). In Nigeria, the role of communities and social leaders in dispelling myths, translating knowledge of hypertension in pregnancy, and link women to quality care at primary health care facilities ought to be leveraged (Amadou, 2014).

Group of ANC and women's groups are potential platforms to improve health literacy, care-seeking attitudes, and use of necessary antenatal and delivery services (Savage, 2016). Affording access to financial resources that enable women to reach facilities at the community level in Nigeria requires evaluation of the functionality of National Health Insurance Scheme, though could also draw from regional work demonstrating increase in maternal service use among women participating in micro-finance groups. Public policies enhancing primary health care givers' capacity to manage preeclampsia and linking women to a functional referral system that does not rely solely on a family's financial ability is critical to facilitating care use.

From the forgoing, analysis on the findings of this chapter, it is seen that people have different practices as far as Eclampsia is concerned in Yaounde II council area. While others are even aware of the disease, other are not even aware that it exist partly because they think it result from spiritual origins or curses, others understand that it a normal sickness. The management strategies are not only conventional or antenental care or in hospitals. Most of the management attitudes stem from traditional solutions in herbal homes, churches via prayers among others. However, it is important to underline that these practices are important because all of them helps in the management of the disease. This shows the diversity of the practices about Eclampsia in Yaounde which all seems to be very important in the management of the disease.

In summary, A research conducted in the current research area, Tigray regional state, Ethiopia revealed that pregnancy induced hypertension is among the three most common obstetric causes of maternal mortality. Recent evidence suggests that the presence of complications related to hypertension disorder of pregnancy was the result of inadequate knowledge; negative attitude towards hypertension in pregnancy and lack of preventive practice. In addition, research showed that women with a good awareness of pregnancy induced hypertension were more likely to promptly report symptoms and seek health care. Poor awareness of pregnant women is one of the potential factors for delay in seeking care and decision and a bottleneck for early diagnosis and management of critical illnesses.

However, there was no evidence about the awareness of pregnant women regarding pregnancy

Among the people of Yaounde II, it is clear that the knowledge and perceptions of the people are very different especially when it concerns their socio-cultural and demographic characteristics. Misconceptions and other religious belives is what has made this disease have a very little knowledge base about Eclampsia particulary among women. The implications of these limited awareness of the disease are fatal and has help in the spread of this illness in our research area. This gives us now the green light to carry out research in the anthropological interpretations of the disease in Yaounde II community.

CHAPTER FOUR

PREGNANT WOMEN CULTURAL INTERPRETATION OF ECLAMPSIA IN YAOUNDE II MUNICIPALITY

Anthropological interpretation involves culture since antropology lays much emphasis on culture. Coupled with this diversified cultures found in the community of Yaounde II, it is not new to await diverse cultural interpretation of these various cultures. In this chapter we shall be discussing what eclampsia is, the way it names among the people of Yaounde II. This enables us under stand appropriately scientific and local conotations about the disease before proceding with the research. This chapter attempts to answer the second specific question, the second objective in line with the second hypothesis of the reseach that stipulates that cultural interpretation of eclampsia in Yaounde II are diversified in aspects such as believes, rituals, misconceptions and among others.

This chapter is subdivided in to an introduction, five main sections that potrays the diverse cultural interpretation of eclampsia and a conclusion. This chapter examines the cultural perceptions of preeclampsia and eclampsia in Yaounde II health care area. The next section examines the cultural interpretation of pre-eclampsia and eclampsia in Yaounde II. In this regards, the following section evaluates the perceived causes of pre-eclampsia and Eclampsia in Yaoundé II. Section examines the the different representation of eclampsia by the various stakeholders in Yaounde II mean while the next section evaluates the peoples thoughts and attitudes about Eclampsia. This chapter is finally crowned with a conclusion that recapitulates the main sections raised in the chapter and equally announces the subsequent chapter.

4.1. The cultural perceptions of Preeclampsia and Eclampsia

The traditional definition of pre-eclampsia and Eclampsia (PE/E), based on the development of hypertension and proteinuria, has been revised to include cases without proteinuria but with evidence of renal, hepatic or hematological dysfunction. The new definitions of PE/E resulted in, first, an increase in pregnancies classified as having PE/E but the additional cases had milder disease, and, second, a non-significant decrease in the performance of first-trimester screening for PE/E. According to the World Health Organization (WHO, 2013), Eclampsia which is considered as a complication of severe preeclampsia, is commonly defined as new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs or symptoms of preeclampsia. It typically occurs during or after the 20^{th} week of gestation or in the postpartum period.

Hypertensive disorders of pregnancy are an important cause of severe morbidity, longterm disability and death among both mothers and their babies. In Africa and Asia, nearly one tenth of all maternal deaths are associated with hypertensive disorders of pregnancy, whereas one quarter of maternal deaths in Latin America have been associated with those complications. Among the hypertensive disorders that complicate pregnancy, pre-eclampsia and eclampsia stand out as major causes of maternal and perinatal mortality and morbidity. The majority of deaths due to pre-eclampsia and eclampsia are avoidable through the provision of timely and effective care to the women presenting with these complications. Optimizing health care to prevent and treat women with hypertensive disorders is a necessary step towards achieving the Millennium Development Goals. WHO has developed the present evidence-informed recommendations with a view to promoting the best possible clinical practices for the management of pre-eclampsia and eclampsia.

Pre-eclampsia stands out among the hypertensive disorders for its impact on maternal and neonatal health. It is one of the leading causes of maternal and perinatal mortality and morbidity worldwide. However, the pathogenesis of pre-eclampsia is only partially understood and it is related to disturbances in placentation at the beginning of pregnancy, followed by generalized inflammation and progressive endothelial damage. There are other uncertainties too: the diagnosis, screening and management of pre-eclampsia remain controversial, as does the classification of its severity. However, it is generally accepted that the onset of a new episode of hypertension during pregnancy (with persistent diastolic blood pressure >90 mm Hg) with the occurrence of substantial proteinuria (>0.3 g/24 h) can be used as criteria for identifying pre-eclampsia. Although pathophysiological changes (e.g. inadequate placentation) exist from very early stages of the pregnancy, hypertension and proteinuria usually become apparent in the second half of pregnancy and are present in 2%–8% of all pregnancies overall (WHO, 2013)

Obesity, chronic hypertension and diabetes are among the risk factors for pre-eclampsia, which also include nulliparity, adolescent pregnancy and conditions leading to hyperplacentation and large placentas (e.g. twin pregnancy). Preeclampsia is usually classified as mild or severe. In most settings, pre-eclampsia is classified as severe when any of the following conditions is present: severe hypertension, heavy proteinuria or substantial maternal organ dysfunction. Early onset (before 32–34 weeks of pregnancy) of pre-eclampsia and fetal morbidity are used as independent criteria to classify pre-eclampsia as severe in some parts of the world. Maternal deaths can occur among severe cases, but the progression from mild to

severe can be rapid, unexpected, and occasionally fulminant. Primary prevention of pre-eclampsia is controversial and subject of active research, particularly with regard to the use of anti-inflammatory agents and micronutrients including calcium, vitamin D and antioxidant vitamins C and E supplements (WHO, 2011). The only definitive treatment for pre-eclampsia is termination of pregnancy/delivery of the fetus and placenta, though some women with preeclampsia also present a transient aggravation of the disease in the postpartum period. Management of women with pre-eclampsia aims at minimizing further pregnancy-related complications, avoiding unnecessary prematurity and maximizing maternal and infant survival.

Delaying the interruption of pregnancy may lead to progression of pre-eclampsia, eventually resulting in placental insufficiency and maternal organ dysfunction. These conditions are clearly associated with increased risk of maternal and perinatal mortality. Maternal organ dysfunction associated with pre-eclampsia may present with varied clinical features, including eclampsia and HELLP syndrome (haemolysis, elevated liver enzymes and low platelet count). Eclampsia is characterized by the occurrence of generalized seizures in women with pre-eclampsia, provided that the tonic–clonic seizures are not attributable to other causes (e.g. epilepsy). As with pre-eclampsia, the pathogenesis of eclampsia remains largely unknown and 5%–8% of women with pre-eclampsia present this condition in developing countries (Kim et al, 2013)

Yaounde II Sub-division there are a of a rich and diverse culture made of different ethnic groups. Each cultural group has his own perception of Eclampsia, etiology and treatment. According to the Maka Culture, in Eastern region), ''Msuumb Mbwoara'' which is their local name of Eclampsia is defined as a sickness which occurs during pregnancy affecting the pregnant woman and his baby. It is identified by some signs and symptoms like the woman will have serious headache, her body will swell and make her to bleed constantly given her pains in the stomach. They believe in several causes of Eclampsia ; mystical, inherit, curses, witchcraft, violation of forbidden for example a woman who is unfaithful to her husband. So after the traditional doctor called ''Louegeet'' will diagnose the sickness to the pregnant woman, he will proceed with the healing process. It is the combination of plantains or banana flower and some herbs that they have to boil and drink one glass morning and one in the evening, and use another one to bath herself. The treatment is very effective; most of the cases recover after taking it. But when the sickness persists they will take the woman to the hospital to continue the treatment. So once there, the pregnant woman with

Eclampsia will follow the treatment from conventional medicine and still associate with the traditional one.

Another cultural group we have found in Yaounde II is ‘’Bamileke’’ from west region. ‘’bagangte’’ culture defines Eclampsia with their local name ‘’Wooc’’, as a form of epilepsy, with strong onset of seizure during pregnancy that can lead to death of the pregnant woman and his baby. The traditional healers can be both men and women, mostly elders, full of experience. During consultation they will notice some symptoms which will confirm the sickness; stomach-ache, convulsion, headache, swelling of the legs, hands, feet. Some of the causes they mentioned are marital stress, tension, curses, inherit, affliction by witches. Husband are mostly the one decided of the choice of the treatment, but at time the woman will choose where to receive it. Concerning the traditional treatment, the pregnant woman has to take some concoction that will help her to eliminate the excess of water that was causing the swellings of her body, and avoid salt and maggi. Also, according to the culture of one of our respondent, each time she was pregnant with eclampsia, they had to provoke the deliverance of the baby before time by practising some rituals of protection on her and consuming some concoction to facilitate the labour and for save deliverance, which has also work for her to put to birth without any complications.

Pregnant woman attends also prayers and deliverance in churches for healing. Prayer in an African society is regarded as central point and the most revered custom in the society. Its forms the communities bond, because it brings people together has one family, one community and one society under the supreme leadership and aid of the Supreme Being (God). Prayer acts as a channel of communication between the people and God.This channel has specific agents who aid in the work of communication and they are commonly known in many African communities as prophets, prophetess, priests, pastors, imam, man of God, among other local names. These agents bring the community together to worship and communicate to their creator and also convey messages from the creator to the people. Therefore, prayers is very important in the life of the community, in the prevention and treatment of sickness like eclampsia which can be the results of an agression and affliction by witches, disconnection from supreme God, desobedience of His commandments leading to destruction by the enemy ; prayer for protects, delivers, heals, restore peace, joy, success.

4.2 The interpretation of pre-eclampsia and eclampsia in Yaounde II

Pre-eclampsia is a complication of pregnancy responsible for high rates of morbidity and mortality, particularly in sub-Saharan Africa as earlier underlined. When undetected or poorly managed, it may progress to eclampsia which further worsens the prediction. While most studies examining pre-eclampsia have used a bio-medical model, this research recognizes the role of the socio-cultural environment, in order to understand perceptions of pre-eclampsia within the community. Bio-medical model used to examine causative factors, prevention and treatment without much attention to local perceptions. This research takes an alternate approach by adopting a perspective that recognizes an interaction of various components of the socio-cultural environment that influence community perceptions. The etiology of pre-eclampsia remains a mystery; the cause and disease pathways are not fully understood. There is a gap in knowledge regarding the causes among communities in Yaounde II where preeclampsia is believed to be caused by spiritual attacks and neglecting maternal health care services. Similarly, Nigerian men have reported that maternal deaths are caused by supernatural spirits, social and economic factors, or poor quality health care services (Lawoyin, 2007). It was observed that some women do not even recognize the signs of pre-eclampsia; however, some women recognized eclampsia and hypertension as potential causes of maternal mortality.

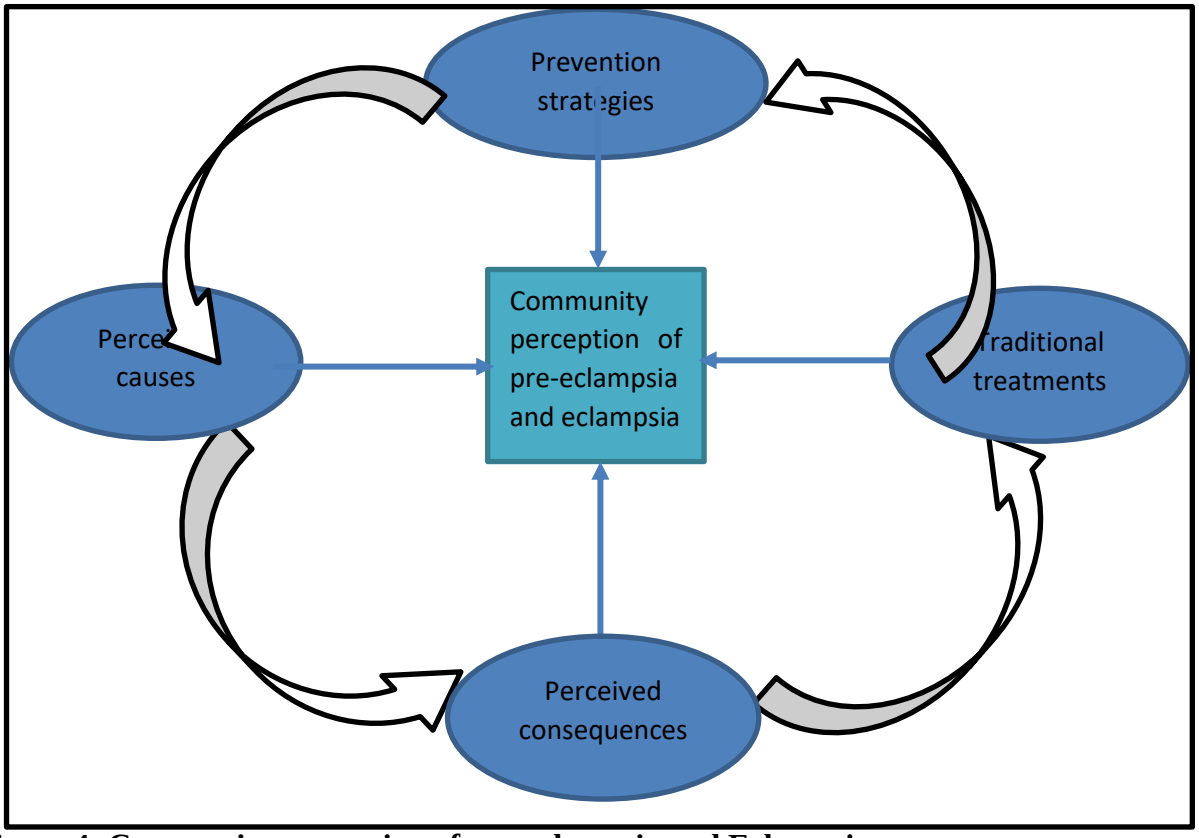

Figure 4: Community perception of pre-eclampsia and Eclampsia

Source; Conceived by the author

Figure 4 illustrates the perception of the community on pre-eclampsia and eclampsia especially in Yaounde II. This perception turns around prevention strategies, perceived causes, perceived consequences, and tradition al treatment of the disease. From personal perception (health workers, senior women etc) it was very important that the study should have a general perception of the community of this disease.

4.2.1. Cultural influence on the perceptions of health workers in Yaounde II

The purpose of this section is to explore the perceptions of older and senior women cultural aspects that influences eclampsia regarding the manifestation of risk factors and possible causes of preeclampsia/eclampsia. Eclampsia/pre-eclampsia is among the leading causes of maternal mortality. It is a serious hypertensive complication of pregnancy and increases the risk of cardiovascular disease in later life. Pregnancy-related hypertension complications predispose to chronic hypertension and premature heart attacks.A significant proportion of women with preeclampsia/eclampsia does not reach the formal health care system or arrive too late because of certain traditional or cultural beliefs about the condition.

The older, senior women in the community are knowledgeable and play a significant role in decision making regarding where mothers should seek maternal health care.

During field surveys, it was noticed that some women seek maternal health workers in traditional herbalists homes and not in the hospitals which was increasing or exposing them to more health risk such as eclampsia. This was the case of pregnant woman interviewed in the Cite Vert hospital who underline that,

> *Traditional medicine is very effective in catering for the health of a pregnant woman. I cannot came to the hospital except I have some complications that traditional medicine cannot handle. So far, I have given birth to 4 children without undergoing anti-natal care but this firth pregnancy has cause me very complicated situations that I have decided to reach out to the hospital for antenatal care. I am afraid that I am exposed to eclampsia.* (43 years, 11/08/2022/ Cite Vert)

This therefore brings us to the lamp light that some women do not seek anti-natal attention but prefer to focus on traditional concoctions which may be effective at the early stage of their pregnancy but latter expose the health of the woman to risk in the latter days of the pregnancy and future pregnancies. Key informants in the Central Hospital explained to the research that, cases of women who do not attain atenatal care in the Yaounde II council area are many and that it is already raising concerns. It was noted that, it was mostly the under-educated and those coming from peripheries who have such perceptions against antenatal care. This directly falls within the framework of the theory of disease causation and self awareness since there in the above interview knows hereself and here health system.

More so, it was realized during field surveys particularly in the Cite Verte that some women even prefer to use their concoctions even when they are in the hospital for delivery. According to some of them, it is embedded in their cultural beliefs that they must take some herbs continuously in pregnancy period till they put to birth. In line with this, interviews conducted with a gynecologist in the central hospital revealed that such women are highly exposed to pre-eclampsia and eclampsia since the concoctions they are taking are not scientifically proven to be effective. Interviews on the subject matter with a medical doctor underpinned that,

> *It has come to our notice here in the central hospital that most women rely on their cultural believes and traditional medicine when they are*

> *pregnant which can possibly expose them to pre-eclampsia or eclmapsia at birth. Some of these women even when they are in the hospital refuse the midwives or doctors from seeing their nakedness which is in line with their cultural believes. We have observed several of such cases here and such women usually end up having complications in the hospital. They really need sensitization to change their perception about maternal health care* (39 years, 19/07/2022/, Yaounde Central Hospital)

This partly falls in line with the ecological theory which is based on the environment providing assistance to the people by way of traditional medicines. Notably, perceptions towards a health condition are influenced by several facets such as cultures, personal beliefs, experiences and knowledge. Studies conducted in Asia and West Africa suggest there is a variety of community perceptions that may be barriers for women with pre-eclampsia to seek care and eventually deliver at a health facility. The clinical presentation of preeclampsia and eclampsia may not be well understood by some of the communities, and is often confused with other conditions; some communities believe that local home remedies may cure them. Some communities associate preeclampsia/eclampsia with witchcraft. These alternative explanations may lead to late care seeking for mothers with preeclampsia and this is often further compounded by weaknesses in the existing health care system that prevail in low resource settings.

4.2.2 Cultural myths and realities of pre-eclampsia and eclampsia in Yaounde II

Some women see eclampsia as myths while some perceive it as realities that can be very eminent. This explains why some women do not pay attention to maternal health care. We interviewed 13 key informants with four themes identified. The ‘causes’ theme emerged from the subthemes of confusion with other conditions, spiritual beliefs and high blood pressure. The ‘risk factors’ theme emerged from the subthemes of oedema-related illnesses, poverty-induced malnutrition, and strained relationships. The ‘remedies’ theme emerged from the consistent mention of traditional herbal treatment, seek medical help, spiritual healing, emotional healing and corrective nutrition as potential solutions. The theme ‘effects of preeclampsia/eclampsia’ emerged from the mention of pregnancy complications like premature delivery, child loss, operative delivery like caesarian section delivery as well as death.

There was no identifiable local name from the interviews. Women carried several myths regarding the cause and these included little blood, witchcraft, ghost attacks and stress from strained relationships including marital tension. Women were generally aware of the outcomes of eclampsia, mainly that it kills or can cause latter delivery issues. The data collected from the field surveys was glaring that eclampsia is associated with significant myths and misconceptions in this rural communities such as some cases that were identified in hospitals in Yaounde II. In some cases, like in the Cite Vert hospital were observations were made, some women came to the hospital with concoctions to use in case of any delivery complications that they may face. Most women in accordance with their culture were perceived to have lots of misconceptions about eclampsia. Some even came to give birth that have never attended antenatal care before which has exposed them to risk of eclampsia/preeclampsia. In an interview conducted with a *mbororo* woman in the Yaounde Central hospital, it was noted;

> *Pre-eclampsia or eclampsia is related to witchcraft, spiritual attacks, emotional stress...herbs can be more effective than what the hospital dishes out. We believe this because when you are pregnant, so many witches are after you to destroy your pregnancy. So, such a thing cannot be normal as people may thing.* (39 years, Female, 19/07/2022/, a senior woman, Yaounde Central Hospital)

This shows crystal clear that some people see Eclampsia as a myth which needs spiritual attention and management while others sees it as a reality resulting from maternal negligence. However, it is very important to consider maternal care as a curbing factor to Eclampsia. Some women who have very strong cultural attachments continue to resist maternal care and instead prefer to venture into cultural beliefs. Some do not even believe in the existence of Eclampsia which worsen the situation. The theory of desease causation holds critical views about causing diseases which in this research Eclampsia is the disease caused by stress in women, beliefs to be caused by witchcraft, curses among others. This futher explains the theory of disease causation that holds that women are exposed and vulnerable to diseases like the case of Eclampsia which is the subject matter of this research. It was thus important to examine the community's perception of pre-eclampsia and Eclampsia.

4.2.3. How culture influences the perception of eclampsia in Yaounde II council area

From the analysis of this reaearch, qualitatively speaking; The questions we asked the health workers, guided us in the development of themes. Three major themes identified from our analysis namely; 'causes & predisposing factors', 'remedies', and 'effects of eclampsia.' In Yaounde II council area (Table 4).

Table 5: Thematic analysis on cultural aspects influence about the management of Eclampsia in the Yaounde II health area (April-May 2022)

Codes (tags)	Subthemes (sub category)	Themes (major category)
-Customs and tradition -Witchcraft & curses -high blood pressure -Marital tension & stress from nagging co-wives -Poverty & Poor feeding -Alcohol intake -Multiple pregnancy or big baby	-High blood pressure & Oedema-related conditions -Spiritual beliefs and misconceptions -Over-fed (obese) women -Malnutrition due to poverty -Strained marital relationships	**CAUSES & PREDISPOSING FACTORS**
- Medical treatment -Herbal treatment -Prayers and Counseling -good nutrition -keeping healthy relationships	-Traditional medicine -Corrective nutrition -Seek medical help -Spiritual remedies -Emotional/psychological healing	**REMEDIES**
-Premature delivery -Still birth -Caesarian section delivery -Loss of baby or loss of mother	-Pregnancy complications -Child loss -Operative delivery -Death	**EFFECTS**

Source: Field work data derived from informants, 2022

This table present the various themes under which the influence of culture was felt on pre-eclampsia and eclampsia in Yaounde II council area. It was therefore important for use to

briefly examine the perceived cultural perceptions or opinions on the cause on eclampsia on pregnant women.

4.3. Perceived causes of pre-eclampsia and Eclampsia

There was a consensus amongst the community regarding what was believed to cause pre-eclampsia and Eclampsia. Most often, depressive thoughts and stress were described as the origin. According to interviews conducted on the causes of pre-eclampsia and eclampsia in some major hospitals in the Yaounde II council area, it was realized most people especially the senior women believed that it was resulting from depressive thoughts and excessive stress. An interview with a pregnant woman in the Central hospital supported that,

> *"If the pregnant woman is having depressive thoughts, if she encounters something that is beyond her, and she begins to worry about the issue, a thing like that could cause high blood pressure."* [Pregnant Woman, 37 years 4/06/2022, Nkomkana].

This makes us reflect about the theoretical position of "theory of disease causation" which explains and through more light about disease causing elements. Practically, the root of these depressive thoughts was most often related to marital or financial worries. This marital conflict included abandonment, teenage pregnancies, unfaithful partners and lack of adequate care by the husband. These and more were the leading factors causing pre-eclampsia and eclampsia in pregnant women during and after putting to birth. This stands out very clear in the lights of the "theory of disease causation" . According to a community leader in the in Yaounde II Municipality, it was noted in during an interview that,

> *"It is caused by their husband's bad behaviour, because a lot of men want their wives and not her pregnancy. Some husbands would stop taking care of their wives when they become pregnant."* [Community Leader, 49 years, 07/07/2022, Briketerie]

Depressive thoughts were also believed to be associated with a lack of rest which could cause hypertension. Most respondents in this research did not believe that hypertension could have a spiritual origin; however a small number maintained this belief. Although a number of possible causes for eclampsia emerged from focus group discussions and in-depth interviews, the most common were the influences of cold, heredity, diet, and depressive thoughts or stress. There was a strong perception that taking cold food, or drinks during

pregnancy can lead to convulsions, as well as the exposure to cold weather. This was by far the most common explanation of convulsions in pregnancy in the community. A pregnant woman demonstrates this belief in the following quote:

> *"There is a belief that if a pregnant woman frequently sleeps on a cold floor, it could cause convulsion, or if the body is exposed to too much breeze […] and also if there are excessive depressive thoughts…it can lead to convulsion."* [Pregnant Woman, 23 years, Huiteime]

Another explanation was that convulsions during pregnancy could be genetic. This is especially to women who are in the early stage of pregnancy or about to give birth.

> *"Something that I have noticed about 'eclampsia' is that some times are hereditary. There are some things that people would say similar thing happened to the father or mother at a time. So things like this would have become hereditary and if this is not treated early it will run from two to three generations and it would become a family problem."* [Community Leader, 17/04/2022, 52 years, Madagasca]

From the communities, several voices were recorded and several perceptions were noted in line with the perceived causes of pre-eclampsia and eclampsia in pregnant women. The issue on stress was very much outstanding as a resulting factor to eclampsia in pregnant women. According to a senior woman interviewed in Madagascar, she quoted that,

> *If she's under too much stress, she might not sleep and it can get to the point that she finds it difficult to sleep and the health care workers begin to monitor her blood pressure, a thing like this could cause convulsion for an adult and it's the same predicament for a pregnant woman"* (Focus Group Discussions, 19/07/2022/, Yaounde Central Hospital)

Similarly, a number of respondents perceived the role of diet to be important in the development of seizures. Poor diet was rarely stated as an independent contributor, but rather a co-factor with marital problems or financial constraints. Apart from the causes mentioned above, the medical conditions thought to be related to eclampsia were anaemia, malaria, urinary tract infections, diabetes, infections, oedema, pre-existing hypertension, and the lack or loss of blood. The possibility of a spiritual origin for convulsions in pregnancy was widely

discredited by the community. Some participants showed comprehension that high blood pressure is a cause of convulsions; however, most did not associate the two conditions.

> *"What causes convulsion is like the other participant explained earlier, if a pregnant woman should have high blood pressure there would be a substance in her urine, there's a way they detect the substance, also if her legs are swollen…blood shortage could cause swollen legs for the pregnant woman, lack of blood in her system could make her legs to swell. If a woman should stress herself too much during pregnancy a thing like this could make her develop high blood pressure, all these factors together would cause convulsion for the pregnant woman and the condition would be out of control.* [Community Leader, 61 years, Mbangkolo, 12/05/2022]

Pregnant women who a stressed up because of issues were noticed during field observations to be a contributing factor to Eclampsia among pregnant women. The community's perception on the prevention strategies was largely based on reducing stress among the pregnant women such as over working and privding them with much care. Much of the preventive practices mentioned were related to pre-eclampsia and centred on the type and quality of care women received during pregnancy. There were a few mentions of local or traditional practices for prevention of pre-eclampsia aside from dietary suggestions. The role of its management at the community level. In addition, the roles of community health workers in expanding knowledge and creating awareness on pre-eclampsia and eclampsia conditions was perceived to be very crucial.

4.4. Causes and Predisposing factors of Eclampsia in Yaounde II

The causes were dominantly based on spiritual beliefs in line with customs and cultures of the people in Yaounde II. Spirituality however, is not though to be a reality in the world of science. The subsequent parts analysis how spirituality and other relating factors causes eclampsia in line with cultural beliefs.

4.4.1. Spiritual beliefs and misconceptions

Several beliefs and misconceptions have been attributed to Eclampsia. This have affected the management of the disease couple with the different perceptions health workers have about the disease.

4.4.1.1. Witchcraft (from different sources)

During some interventions on the field, we heard an exclamation from a health care worker who said: *"Cachez votre Ivou, je suis là juste pour faire mon travail!"(medical doctor)* This exclamation came up while the health care worker was about to operate an Eclampsia patient. The health care worker was telling her that she should put aside her witchcraft in order to proceed with the procedure of delivery. From the exclamation, we realize that at times, some of these women have their witchcraft that is part of their culture, which hinders the health care workers to carry out their services the way it is supposed. In this light, we understand that many people from different cultures or background are not reacting the same when it comes to delivery. Yaoundé is an agglomeration which gathered population from all the ten (10) regions of Cameroon and even from abroad. Due to so many reasons, they find themselves in the same community where they share their culture, their experiences, and their background. That is the reason why we cannot be surprise that each of them carry their mentality background to the hospital and health care workers have to adapt to it.

People from the North Region of Cameroon do not have the same culture as people from South region or center region when it comes to give birth. Some have to prepare themselves in a certain way by drinking certain mixed solutions which according to them, will facilitate the delivery, and most of the time, the mixture can compromise the treatments administrated to them by the health care workers. In addition to that, we have some pregnant women who carries their *"Totems"* anywhere they go, and according to their tradition or their original environment, it's a protection form their gods according to their belief system. Some also are involved in occultism and are constrained to submit themselves to some conditions that encourage them to resist the modern treatment administrated by the health care workers.

In Extreme-North and Nord Region of Cameroon, we notice a high percentage of home delivery and this is due to the fact that, in those particular regions, modern health care centers are still not really taken into consideration by women ready to give birth, with, according to the *"Monde" article concerning "health cheque" (March 2018),* a percentage of *25.2 %* of women who gave birth in a medical center in Extreme-North region against *34%* in the North region in 2015. Some of those women once in a modern town are still not use to the practices of their new environment. All these causes applies to women practically pregnant women. Just as explained by the theory of disease causation outlines, women are exposed to such disease such as Eclampsia which is very common among pregnant women. The pregnant women are also influenced their environment which along the ecological theory.

Alternatively, the research noticed that health care workers are complaining that many pregnant women are coming there with some complications due to witchcraft. According to them, based on some comments and observation, jealousy from a member of the family or a close person is one of the causes of women's death at pregnancy. In Africa in general and in Cameroon in particular, witchcraft is one of the major causes of death. During the delivery period, we heard a health care worker exclaim himself: *"laissez votre sorcellerie pour que je fasse mon travail!"* From this exclamation which is a bit similar to the first one, we can assume that relatives to the patients are behind the different complications due to a particular conflict between them. This leads us to understand why many pregnant women are losing either their lives, either they lost their new born baby or the two of them die. A part from scientific proofs, culturally speaking, it makes sense. Another participant

> *"Not everyone is happy for you when you get pregnant, for some reason, someone can bewitch you and you fit, a co-wife for example could wish you dead. When you are pregnant, she is already imagining that your child will compete for property with her children*"(TBA, Briketerie, male, 15/06/2022).

"Les gens çi vont me mettre dans les problèmes avec leurs genres de remèdes-ci!"(senior nurse FGD, Cite Vert Hospital, 11/03/2022). This is another exclamation from another health care worker from the Yaounde Central Hospital. Though there are prenatal and perinatal protocols in that Hospital, traditional practices are commonly used by women at delivery. Some are improving maternal delivery condition and understanding of local cultural approaches and traditional health systems and others spoiling the treatments administrated by the health care workers. From this exclamation, we can clearly understand that health care personals are working under ethical rules established within the hospital grounds.

A failed to those strict rules can be fatal to them and will compromise their capacity to handle these cases efficiently and with professionalism, meanwhile some of them are finding in their job a mean to survive. In another hands, we also understand that patients (pregnant women at term), most of the time in complicity with their husbands or their child genitor, use to take their traditional treatments most seriously than the conventional one administrated by health care workers. Most of the time, they impose these mixed traditional concoctions to the health care personnel as a condition to be taking in charge. According to the health center personnel, the patient impose conditions before the process of delivery begins and this is

usually be the cause to the death because the nature of the traditional mixture is unknown and it usually doesn't match with the medical treatments administrated later.

4.4.1.2 Curses (Violation of laws)

According to health care workers, Curses are also one of the reasons causing the death of women or their child during the delivery and even birth defect if not detected early. Curse can lead to Eclampsia when the complications due to them are not taken in charge subsequently and to an extent, can take away the mother or the child life. We therefore not excluding the fact that the manifestation of Eclampsia might be issued from some paranormal process. The processing of curses is when one person curses another, the cursing persons evokes in the cursed one mental images of some unpleasant and even fatal events that is to happen. Some curses can be released through a word that works from generation to generations and many are suffering the effects even unknowingly till today. After the foundation is been laid, it restructures the spiritual belief of those under the curse. In the Yaounde central hospital, health care personal was mentioning curses as a cause because communication has been established between them and their patient in order for them to understand what could be the origin of these complications. Over years, they came to understand that violation of foundational laws establish by their ancestors are still following them till today.

4.5. Other related Customs & Traditional influences

Concerning customs and traditions we faced a case where the husband of the pregnant women on the delivery process with complications where exclaiming his self by saying: *"Dans notre famille on ne coupe pas notre corps avec des ciseaux et ce n'est pas aujourd'hui que ça va commencer!"(major nurse)* by expressing his self that way with an authoritave voice mixed with a bit of anger and conviction, he was opposing the health care worker to save his wife and his child through *surgery intervention* because in their family, it has never occurred and he want to respect their traditional ways. The health care workers were trying to find a common ground between her and the husband in other to save the life of the mother and the child. But it took several discussions before the man finally agree, he knew that he was about to lost everything and finally came back to his mind. This example is one on a million cases that hospitals are facing due to traditional uses, and we need to take it into consideration if we want to limit the level of premature deaths of pregnant women due to cultural phenomenon. In view of the above, it is clear that culture influence the perception of Eclampsia in Yaoundé Central Hospital in particular and in Yaoundé II in General. Therefore,

these perceptions have great impacts on the management of Eclampsia by health care workers in the municipality of Yaounde II.

Some health workers and traditional birth attendants interviewed in the community, indicated;

> *They are not many though I usually see some women with swollen hands, face and legs and I always think it is because one is expecting twins and at times, we joke about it. Having twins is a blessing but going through multiple pregnancy is no easy task'(nurse assistant, Central Hospital-Yaounde)*

Others highlighted that,

> *'When you eat poorly, especially when you cannot find foods that give blood, then your whole body will swell. In our days, our diet used to be dominated by green vegetables, bean soup and millet porridge; rarely did women swell feet because of little blood. Young women these days shun these foods; that's why they swell the body due to little blood*"(TBA, Cite Vert, 32 years)

Some participants especially the older TBAs seemed to correctly relate having high blood pressure with symptoms of pre-eclampsia and eclampsia as evidenced in the narrative from a TBA. This is probably because some TBAs in Yaoundé II might have received some training on identification of obstetric danger signs. The theory of disease causation also makes it very clare that feeding habits during pregnancies can also be responsible for igniting Eclampsia. It was underlined duing a focus group discussions that,

> *I think the person is weak in this case and does not have enough blood because of poor feeding, food insecurity ; you know village life where people don't have money to buy foods rich in iron, like the health worker tells us to eat meat and fish, so this may be the cause for the swelling in pregnant women, then the stress associated with this lack will bring about headache. As you know, our poor way of living in the village may have brought about this,* (FGD Briketerie, 22/07/2022)
>
> *'The signs that she has, the woman who has [high blood] pressure, she has severe headache, she tells you that the heart pumps a lot like it is about to fly out of the chest, the feet swell, she can fit sometimes; these*

> *are the only signs I know. I don't do much with such a woman, I just give her a referral letter to hospital immediately. There is nothing more I can do really because am not empowered to help her'.* (FGD, Briketerie, 22/07/2022)

Meanwhile others could ideally mention the causes as indicated above. others indicated that:

The challenge is that some pregnant women are not feeding well or have other diseases that are left untreated and can swell up or even fit and so they will blame pregnancy when it isn't the case'

4.6. Different stakeholders and representation in Yaounde II

Although Eclampsia is not always known by many because of the perception behind its occurrence. Different people's view are react according to the knowledge or belief system where he or she belongs amgong diferent social groups like Njangi or work places, churches or fan clubs, they react to the disease with shocks at first hearings. Then contributions are given to the affected party mostly financial or encouraging words, from other, husbands, mothers, and fathers, inlaws, mates , friends, naitive doctors, midwifery amongst others do also react differently in Yaounde II area.

The following were life stories to the hearing as representationof the disease and implications to get rid of the disease among members of this area.

4.6.1. Reactions of fathers, husbands and mothers of the concerned Eclampsia woman

In more practical terms, reactions and perceptions of observed from fathers, husbands and mother of Eclampsia patients during field surveys were very different. As concerns that fathers, most of them were of the view that their daughter have been bewitched since the level of believe of knowledge of Eclampsia was very low among our respondents in Yaounde II. Some fathers of the concerned believed that their daughter might have been living a bad life and thus, a man somewhere might be angry at the daughter. This partly explains why most fathers were observed to be taking their daughters for traditional cleansing when they were pregnant or given some sought of protection. Such incidences were observed in the Cite Vert and Central hospital. We came in contact with a father whose daughter have Eclampsia and while giving birth to twins. Unfortunately, only the kids passed away but the daughter survived. The father explained that,

> *I received the news of the passing away of the kids of my daughter in the Cite Vert Hospital with dismay. She was carrying twins but unfortunately all of them passed away. Good enough she survived the situation. This situation could not have been empty because my daughter was doing well. I am still to go the roots of the matter because I do not really believe the view point of the doctor. This situation has never occur to any of my children but particular one is strange and shocking to me … A father of 5 girls at Cite Verte, 19/06/2022*

This still brings us back to the misconceptions and believes attached to Eclampsia that needs to be handled and sensitised intensively among the people of Yaoundé especially the inhabitants of Yaounde II were this study was conducted. However, fathers were not seen to have a greater role compared to their wives when it concerns Eclamsia. However, they received the news of Eclampsia with dismay and sadness. It was also revealed that men attached cultural connotations to Eclampsia in Yaounde II. It should be noted that Yaounde II is a cosmopolitan area with people from various socio-cultural background but their views and perceptions were all taken down under consideration though their general views were that their wives had the greater part to play in any case of Eclampsia among their children. The true engine of change in maternal health…will be the determination of people at the front-lines of health systems- patients, providers, and managers-to find or take the power to transform their own live reality. Our job in global health is first to listen to them, and then to co-create the conditions at every level of the system that can make that locally drive transformation possible despite the local believes of perceptions of the people.

4.6.2 Husbands and their role on their Eclampsia wives

Men can be essential sources of support in maternal health, even more so in case of severe acute maternal morbidity. Male partners play an essential role in maternal health in low- and middle-income countries, especially in terms of their influence on care-seeking behaviour (Aborigo et al. 2018). Because of their roles in the division of labour, control of means and power in decision making, involvement of men can improve maternal and newborn health by supporting health-promoting and care-seeking behaviour (ComrieThomson et al. 2015, Mbalinda et al. 2015). The need for male support may become more urgent for women who suffered from severe acute maternal morbidity (SAMM), that is, ‘a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy. The news of Eclampsia to husbands of the women was

noticed to be very sad. This was very critical to husbands who has never had a child with the wife only to lose the child during birth because of Eclampsia. According to interviews conducted with a victim whose wife lost a child during birth, it was as sad as he narrated how the situation all happened nearly

I remember when I lost my first kid because of Eclampsia as explained by the doctor. It was something very had to believe-it was terrifying. My wife that day but good enough God saved her from the death. Her pregnancy had lots of complications until people were saying somethings about the pregnancy. We visited several herbal homes for safe delivery and even conducted prayers but everything was a dismay because we finally lose the baby. The doctor explained it to be Eclampsia. The complications even aggravated because of the so many advices that we were given couple with pressure from in-laws and other relatives' couples with the fact that most people did not have adequate knowledge about Eclampsia. Instead of going for antenatal were busy considering other non-conventional remedies which did not help us much… A married man, 37 years, Nkomkana, 10/07/2022

Mothers in pregnancy need social support from family, especially from their partners. Good social support improves the health of pregnant women. Some studies show that male involvement in pregnancy preparation is low, especially in developing countries (Lokah, 2018). More than 60% participant had less knowledge about preeclampsia especially the signs and the risk factors. The majority of husband performed moderate role in caring their wives attends antenatal visit, motivates wives to reduce salt intake and limit tiring activity. Only less than 20% always avoid smoking while at home, helps with house chores, and seeking information related preeclampsia. This research revealed that the husband's knowledge of preeclampsia was still low. The husband in this research not aware that excessive nausea, vomiting, excessive salt consumption, parity above two and weight gain of more than 20 kg can cause complications in the mother. The role shown by the husband in this research was at moderate level. This means that there were some behaviors that already good, but some need to be improved. This is consistent with the results of several studies that men try to be involved in maternal and newborn health services on their own terms.

The involvement such as waiting for the wife to have antenatal visits but remain waiting outside, choosing the health centers or by giving wives incentives to pay fees and transportation for health services.4,5 Though husband's role is at a moderate level, there were behaviors that still need to be improved. The husband in this study rarely avoided smoking when at home, helped his wife do housework and. Husbands with better knowledge related to

preeclampsia performed a better role in caring for wives who were at risk of preeclampsia. The husband is expected to increase knowledge about risk factors, signs and symptoms of preeclampsia. Husband is also expected to improve care for the mother during pregnancy by avoiding home smoking, took over the household chores, and improve health information-seeking behaviour.

Although some studies point to these forms of negative impact of men on women's well-being after SAMM, their care and support can have an important positive effect on women's long-term health and coping abilities (Mbalinda et al. 2015, Munguambe et al. 2016). Male partners indicated that they played a decision-making role concerning healthcare-seeking and transport to health facilities. Some participants took their female partner to the hospital themselves, primarily by motorbike, and others hired a vehicle or called for an ambulance.

> *She kept complaining of a headache. After the headache, I gave her painkillers, but later she got convulsions. It really confused me […]. In the morning […] my wife's health changed. She developed convulsions. I was forced to call for an ambulance. A married man at Briketerie, 41 years, Nkomkana, 09/08/2022*

Several men, however, described problems in arranging transport and delays occurring on the road, for example, due to heavy rains. Before any complication occurred, male partners also took decisions concerning the place of birth and accessing care. One participant indicated that he agreed to let his female partner go to her parental home towards the end of the pregnancy. Even though not taking care of her himself, he made sure she was supported at the time of birth. Men's decision-making capacities were affected by lack of knowledge, sometimes causing delay in reaching the hospital.

> *I was thinking the convulsions occur before someone has given birth. For her, it happened after delivery, so it really confused me. But after reaching the hospital, they informed me that it was eclampsia A married man at Briketerie, 41 years, Nkomkana, 09/08/2022*

The men's narratives pointed to the need for information that could help them decide how best to support their female partners. Most did not understand the cause of their female partner's illness. Through physical assistance when needed and taking over duties, male partners are seen to support their female partner's physical health for up to two years after childbirth. Support was not merely physical. When asked whether, and in what ways, they offered their female partner emotional or psychological support during pregnancy, most did

not explicitly state that they provided emotional support. Nevertheless, it could be inferred that they did so from their narratives.

4.6.3 Mothers with daughters with Eclampsia

Mothers were very instrumental when it concerned their pregnant daughter in catering for them. This was mostly because their daughters could not understand several things very well. According to information gathered in the field, it was noticed that immediately a person falls pregnant the mother has to came an be with the daughter until she puts to birth even if it mean travelling from the village to town for that purpose. “Women with Eclampsia, in common with others who have poorly understood diseases, have suffered from many treatments that ultimately turned out to be ineffective or even harmful, but which were difficult to question when they were in common use.

A significant proportion of women with preeclampsia/eclampsia does not reach the formal healthcare system or arrive too late because of certain traditional or cultural beliefs about the condition which most at times is influenced by their mothers from the village. The older, senior women in the community are knowledgeable and play a significant role in decision making regarding where mothers should seek maternal health care. This was echoed by other participants who thought not taking the right foods is solely responsible for body swellings in pregnant women. To some extent elder women were taking good care of their pregnant daughters in their husband houses especially when it concerns the feeding habits of the pregnant daughter.

> *… the woman was not having a balanced diet. At times the pregnancy restricts someone and they have no appetite, the cravings also. A woman may end up eating bananas with only salt, they don’t want beans or other times they depend on only drinking water. Such a person may lack blood and end up getting swollen feet or even the whole body.’ 56 years, women’s leader, mother of 5. ‘The challenge is that some pregnant women are not feeding well or have other diseases that are left untreated and can swell up or even fit and so they will blame pregnancy when it isn’t the case that is why I as a mother most came and be with my daughter to ensure she feeds very well….* A 45-year-old mother of 4, Mbankolo, 13/07/2022.

Our research has important strengths. Although several studies have been conducted on this subject, our research focuses on the senior and older women who play a significant role in the health care seeking behavior of pregnant women. Second, our study is community-

based in a rural and urban population. The data collected will inform interventions to improve outcomes of women with eclampsia. These participants are the custodians of local knowledge and have the power to influence belief and practice of younger women and eventually their health seeking behavior.

4.6.4 Perception of the parents and friends about eclampsia and their reactions

Our research carry on in Yaoundé area was quite enriching and full of discovery. We encountered diversity of views so far as Eclampsia is concerned. We met sets of group of people with their various experiences.

The first family we encountered shared their experience thus; when the doctor told them that the daughter had Eclampsia, it happened to be a shocking news to them. Wondering of the gravity of this sickness, they had to inquire to know what could be the cause of this. After going to a traditional doctor called..., He told them that the father of the unborn baby knows something about it. He said that the man wanted to sacrifice the woman in his cult, they are asking him blood and the Eclampsia is simply a strategy to take away their daughter's life. The parents so disappointed and upset asked for guidance and took their daughter secretly to go and perform some rituals on her for protection. Later on the daughter had to move out of the husband's house for better follow up till she delivered. She was not longer supposed to use money from her husband on what concerns her directly like feeding, clothes etc... As she followed the instructions, months later she delivered safely and went back to her home.

The next family we encountered, there was a single pregnant girl. The parents had not yet digested the news about the pregnancy when the results showed that she had Eclampsia. The mother said it's surely because of the landlord who said if they don't liberate the house they will see what will happen. The father also owe money to a colleague and could not give it for some time and their relationship degenerated to the level he was threatened. He also remembered that and said to the wife about it. Their pastor told him to go and ask for forgiveness to the various people they owed money and do their best to handle it properly before she deliverer. Couple to that they follow up serious prayers of protection and months later the daughter delivered well and is still alive.

After taking few examples of the perception of parents about Eclampsia, we realized that not everybody believe on Eclampsia but see it more spiritual and mysterious way. We will now research the perception of the friend concerning Eclampsia. We encountered a mature women of about 45 years old and after we were asking about Eclampsia, as soon as

she heard the word Eclampsia she shouted and held her heart saying: hmmm that sickness is a very bad sickness and the experience she has gotten with her friend was so terrible.

This woman is taking about her best friend whose pregnancy is always complicated and her life is at risk. When her friend was 5-6 months pregnant, she had serious symptoms of Eclampsia and she undergone serious counseling with the medical personnel on what to do, what to eat, how to behave no matter the situation that may come her way. But the situation was not getting better, her high blood kept increasingly and she followed sessions of counselling with a pastor and series of prayers organized for her wellbeing and safe delivery.

Her second pregnancy was still the same diagnosis and she now knew earlier that she had to take care of herself earlier. Despite her poor conditions of living due to the fact that her husband lost his job, her surrounding really stood for her, showed her so much love, caring and support. When she started labouring, with a very high blood pressure, medical personnel were so worried about her case and thought to save at least the child for due to their experience, the chances of my friend delivering safely and living was so low. But after she delivered with struggles, that's where she entered the phase of eclampsia and was convulsing. Fortunately, she was saved thank to the prayers of the intercessors that were making out of the delivery room says the lady. But yet she was under medical care and observation and after she left the hospital, she was put on diet.

And finally what the doctor said last time that she would be delivered her others children at seven months to prevent the worst didn't come to pass over her life coz they respected the rules and she made it well. This time around, after delivery she didn't experience convulsions and she was very okay. Eclampsia has been a complicated diseases in the life of so many pregnant women who has drawn the attention of so many people such as natives doctors, friends and equally midwifery. At this point we will concentrate on the section of the midwifery because everything is centered around her since she is the one who helps pregnant women not just during this period but equally when the situation is aggravating and during child labour. here are some reactions of midwife that we got during the research period on eclampsia in yaounde II with such situations

4.7. Implications and Remidies of Eclampsia

Eclampsia as a disease has a plethora of outcomes when it attacks a woman during pregnancy or at birth. However, a series of remidies to contain the disease have been put forth to effectively prevent or do away with the disease.

Outcomes of eclampsia

It was indicated severally that outcomes could be fatal when prompt care was not administered to pregnant women in distress. The implications are many and can be very disatrious both tob the child and to the pregnant woman othe the mother of the child. Some of the outcomes underscored during filed surveys indicated that they stem from; pregnancy complications, child loss, operational delivery to death either of the mother, child or the both of them. According to interviews with the main general practioner in the Cite Vert Hospital, it was highlighted that, so many have lost their lives in Cameroon because of eclampsia during birth especially in rural areas which most at times is attributed to spirituality origins.

4.8. The peoples thoughts and attitudes about Eclampsia in Yaounde II

Eclampsia is a hypertensive disorder of pregnancy; it is major global health problem and a common medical complication of pregnancy among pregnant women residing in low and middle income countries. It is the development of convulsions and or coma that is not related to other cerebral conditions during pregnancy or in the postpartum period in women with signs and symptoms of preeclampsia. It is responsible for the majority of poor maternal and fetal outcomes globally. In many developing countries such as Cameroon, eclampsia remains a significant contributor to adverse maternal and perinatal outcomes despite all measures to reduce its incidence and impact. The suprising thing is that some people stil have limited knowledge about the illness especially young girls who have just gotten pregnant and cannot even take proper care of the themselves.

During our field surveys, it was realized that many people still attribute Eclampsia to witchcraft, cultural beliefs and having many misconceptions about the illness. Even at the hospital, some pregnant women coming to the antenatal for the first time did not have an idea about what Eclampsia was all about. Generally, unstructured interviews conducted at the Cite Vert and Central Hospital revealed that most people are not aware of such a disease. However, it was because some of have misconceptions about the disease or because of the strong socio-cultutral conotations to the disease as they consider it as a sort of a spiritual attack on the pregnant women. This low kownledge is what has also contrinuted in making the treated and management of Eclampsia in hospitals difficult. Some women or people belief that when a pregnant woman is about 5-9 months pregnant, she is not supoposed to walk arounds with the pregnancy because *evil people* can destroy the pregnancy by infiliting the woman with Eclampsia.

Vousden et al (2019) highlighted that about ten per cent (10%) of all pregnancies are complicated by hypertension worldwide, with about half of these cases accounted for by eclampsia and preeclampsia worldwide. Hypertensive disorder of pregnancy (HDP) are among the most common medical complications of pregnancy that affect about 7-10% of all pregnant women, and they are a significant cause of maternal and perinatal morbidity globally (Gasnier, 2013). Hypertensive disorders of pregnancy (HDP) have reported accounting for about 14% of maternal deaths globally, approximately 42,000 each year, with about 99% of these deaths occurring in low resource settings and less than 1% in highincome settings. Hypertensive disorder of pregnancy is an umbrella term for preexisting (chronic hypertension) and gestational hypertension, preeclampsia and eclampsia, with preeclampsia and eclampsia being responsible for the majority of poor maternal and fetal outcomes (Vousden et al, 2019). Similary, in Yaounde II, similar perception and knowlge levels were potrayed about Eclampsia as underscored by the above authors.

More so, Eniola, (2012) working on the knowledge level of Eclampsia among pregnant women found out that there is relationship between specific socio-demographic factors and knowledge of eclampsia among pregnant women attending antenatal clinic. However, there was no significant relationship between level of education and knowledge of eclampsia among pregnant women attending antenatal clinic ($p > 0.05$). The result implies that age, religion, ethnicity and parity were significantly related with level of knowledge of the pregnant women while there was no significant relationship between the educational level of the pregnant women and their level of knowledge about eclampsia.

The chapter permited us to see the meaning attributed to Eclampsia by WHO, the community of Yaounde II, that we are carrying out the our research on. How they notice a patient of the disease. How they go about the treatment given the decision of the medical doctors, community leaders, and personal will to handle the disease wherever they may wish given the knowledge base of the sickness. This chapter introduces to the next chapter which dwells of the knowledge, alltitudes and practices of Eclampsia in Yaounde II.

CHAPTER FIVE

THE MANAGEMENT PRACTICES OF ECLAMPSIA IN YAOUNDE II MUNICIPALITY

Eclampsia is a disease that attacks only pregnant women and its treatment are often relative. In a community as Yaounde II, which is made of different people with diferent cultural backgrounds, have diversed ways of manageing or better treating the illness. From our observations and reading of Eclampsia, in Yaounde II, we were made to believe that people have different interpretations about Eclampsia and so different management strategies are invloved. This also affects the management and treatment of the desease in communities like that of Yaounde II. This chapter sets out to examine to management practices of Eclampsia. that is how the illness is been managed in Yaounde II and other related communities. This chapter attempts to answer the third specific question of the research, third objective and in line with hypothesis three of the study.

This chapter is subdivided in to an introduction, four main sections that potrays the management practices of eclampsia and a conclusion. This sections are numbered as follows, and examines the management of eclampsia in Yaounde II health care area. examins the management of Eclampsia by different stakeholders in the Yaoundé II health area. While 5.3 evaluates the challenges or barriers faced in the management of preeclampsia/eclampsia in Yaoundé II, 5.4 examines the strategies put in place to manage the challenges faced in the management of Eclampsia in yaounde II. This chapter is finally crowned with a conclusion that recapitulates the main sections raised in the chapter and equally announces the succeeding chapter.

5.1. Management of Eclampsia in the Yaounde II health area

This section visits the definition of eclampsia according to the people leaving in the Yaoundé II health area and its cultural values furthermore it examines the number of ways eclampsia is managed as well as the stakeholders concerned with managing eclampsia in this community and to identify the barriers and hindering the management of eclampsia in this setting. To effectively analyse the management strategies of eclampsia and barriers faced, it was important for the study to recall the definition of eclampsia according to the various respodents in the filed so as to accentuate properly the meaning or how the perceive the sickness before discussing on the management of the desease. According to particpants, it was underscored that,

> *Eclampsia is simply pre eclampsia that has aggravated due to the fact that it wasn't detected at an early stage and is characterized by high BP*

hypertensive disorders **(MD,** male, Cite Vert Hospital, 11/05/2022, 5:00pm)

For some ;

*'The signs that she has, the woman who has [high blood] pressure, she has severe headache, she tells you that the heart pumps a lot like it is about to fly out of the chest, the feet swell, she can fit sometimes; these are the only signs I know. I don't do much with such a woman, I just give her a referral letter to hospital immediately. There is nothing more I can do really because am not empowered to help her'***(senior TBA,** Nurse midwife, male, Cite Vert Hospital, 20/06/2022, 2:00pm)

They are not many though I usually see some women with swollen hands, face and legs and I always think it is because one is expecting twins and at times, we joke about it. Having twins is a blessing but going through multiple pregnancy is no easy task When you find a person with high BP antenatal you also send her to the clinician to see and prescribe drugs for her **(Nurse** assistant, male, Cite Vert Hospital, 115/07/2022, 3:40pm)

Furthermore we went ahead to identify stakeholders who manage eclampsia in this health area: participants were asked during in-depth interviews and focus group discussions who were those who manage preeclampsia in the communities before it reaches the hospital it was indicated that to identify the stake holders Who manage eclampsia in this community. From the analysis we noted that the people who manage eclampsia and preeclampsia conditions in this setting are divided into 2 broad groups as shown below namely :

HEALTH WORKERS (nurses, doctors ,midwifes, nursing assistants) this were the people who manage eclampsia at the level of the hospital or health centers.

TBAs (traditional birth attendant) the were made up of herbalist spiritualist and naturopathologists which handled complications at the level of the community

"What they TBAs] do when they find a pregnant woman is to refer the health facility for antenatal care, to raise awareness of the importance of antenatal consultation [and] giving birth at the health facility. It is what they do, and they issue a referral slip […] to health facility. They always make regular visits until […] after childbirth also [they] have to make

follow-up to see if the child up to five years for example has completed the vaccinations campaign They always have to make regular visits to that family".(FGD, Cite Vert Hospital, 17/07/2022, 2:00pm)

From these different definations put forth by the various field paticipants, it reveals therefore that there is limited knowledge base in the the desease. However, participants proved substantial understandinig of eclampsia though they had different perceptions about the occurance of the illness. From this level, the management of eclampsia by different stakeholders was eminent to evaluated in the Yaounde II council area.

5.2. Management of Eclampsia by different stakeholders in the Yaoundé II health area

As ealier highlighted, there exist two major groups at the level of management of eclampsia in Yaounde II. These two levels are basically at the local level which is the traditional setting and the scientific level which is the hospital. It was therefore important that we analyse these two levels and see how they manage eclampsia at their different respective domains**.** The hospital level is first of analysed and then that traditional level.

5.2.1. Hospital level

At the hospital level it was observed that eclampsia was managed by different health workers (nurses, midwives, doctors and gynecologist) and it was noted to be very participatory where ideas needed to be shared senior nurses as well as doctors assisted the younger and less experienced personnel to manage eclampsia. According to the participants in this research, eclampsia was perceived as an emergency and was dealt with urgency. Both reports from individual interviews and FGD revealed that patients with eclampsia were put on intravenous fluids, catheterized and properly positioned to ensure clear airway and to prevent them from injury. Some participants stated that they gave the patient a first dose of magnesium sulphate to control the convulsions and then referred her to the hospital for further management. They also stated that monitoring of the blood pressure, fetal and maternal conditions was done while awaiting transport to the referral.

"When you find a person with high BP antenatally you also send her to the clinician to see and prescribe drugs for her"(Nurse midwife, male, Central Hospital, 19/07/2022, 3:40pm)

"It depends the way a patient has presented, if the symptoms are severe we refer right away to central hospital, but if we see that the symptoms are mild we advise the patient like low salt diet, bed rest and the like, but

> *if she presents with risk factors then we refer immediately to go for proteinuria check and the like*" "(Nurse, 34 years, male, Cite Vert Hospital, 17/07/2022, 2:00pm)

However, some participants acknowledged that the guidelines on the management of pre-eclampsia and eclampsia in the health centres recommended using magnesium sulphate, but they too had never used it for such patients. Some FGDs participants attributed non-use of magnesium sulphate in pre-eclamptic patients to the fact that they had no urine protein dipsticks to confirm the diagnosis. As such they had no basis for giving it. This report was consistent with what was said in individual interviews where the criterion for use of magnesium sulphate was reported to be presence of convulsions.

> *"We are not giving magnesium sulphate because of the high BP, but there has to be protein positive in urine. So the reason why we don't give at the health centre is that we do not have the tests for urine protein, so we are not sure whether the BP has just gone up." (FGD,* Central Hospital, 27/07/2022, 2:23 pm***)***

Some nurses indicated That they sometimes Ensure the woman airway is open, Assess breathing, if the woman is not breathing begin resuscitation measures, give oxygen 4-6 liters per minute by mask or cannulae, evaluate pulse, If absent initiate CPR and call arrest team, Shout for help, to urgently mobilize available personnel, Turn the woman to lie on her left side to reduce the risk of aspiration of secretions, vomit and blood observe color for cyanosis and need for oxygen, Check for aspiration: lungs should always ascultated after the convulsion has ended, Check vital signs and fetal heart rate Aspirate the mouth encourage the woman to lie on her side to reduce the risk of aspiration of secretions, vomit and blood, Ensure woman air way is open

The health workers role and consistent nursing care is very important in Eclamptic cases and must be competent in knowledge and practices as should be aware how to deal accurately before, during and monitoring after fits. Moreover, nurse should provide emotional support for the mothers & their families, and inform them how to cope witheclampsia during pregnancy, encourage elevation of edematous arms and legs to increase venous blood return and compliance with bed rest in lateral recumbent position to avoid uterine pressure on the vena cava and supine hypotension syndrome. When a nurse or service provider receivesa

patient with preeclampsia/ Eclampsia, should give the patient a loading dose of magnesium sulphate then refer the patient to a higher level such as a hospital

Health care providers reported of more benefits than detriments to the care provided to patients at the health centres prior to referral to the hospital. The majority reported that the pre-referral care reduced further complications to the mother and the expected baby;

5.2.2. Community level (traditional level)

At the level of the community it was either managed by elderly women called ***aide soignante*** or ***mere guerisseur*** which had a notion of women and pregnancy related conditions it was noted that some of them did what we call ***(blindage)*** when it was suspected to be mystical origin. Furthermore concoction and herbs were sometimes administered to these patients and they were asked by herbalists to get (***pomped with okohobong)*** as indicated by some nurses for some when their feets were too swollen they were asked to (***tie black plating thread)*** on both feet to manage the swelling.

Reports from both individual interviews and the FGD revealed that management of pre-eclampsia at this level was based on severity of the condition. They stated that patients with mild pre-eclampsia were advised to have bed rest, low salt diet, their feet elevated if they have edema, and have regular blood pressure checks on weekly or 2 weekly basis. In situations where a patient was coming from a very long distance (e.g. 10km), it was reported that the patient was admitted for two to three days for bed rest and for observation. These patients were referred to a hospital if condition worsened or did not improve. Nevertheless this is without confirmation of diagnosis and without blood pressure machine in some cases. When asked how they dealt with women who came with pre-eclampsia at the health centre, they responded:

> *"Pre-eclampsia is in two levels. There is mild BP of 140/80 or 140/90. These ones they say we can just advise them on rest and low salt diet and give them time to observe. We tell them to come on the following week for a BP check. Sometimes when they come back the BP is normalized. But if the BP is still high or is still rising, then we send her to Queens for further management".* ***(A senior woman,*** Mbangkolo, 11/07/2022, 3:40pm)
>
> *"Especially those who have convulsed and we are afraid they can complicate those ones we give them straight away and refer them*

> *because it is an emergency, so we do not wait. But we tell those patients with pre-eclampsia to go to the hospital for delivery when labour starts* ***(FGD,*** Cite Vert Hospital, 19/07/2022, 3:00pm***)***

This shows that at the community level, they still work in partnership with the hospitals though the collaboration is not open or pronounce. This is because some herberlist or senior women who clamined to manage the desease at times refer pregnant women to the hospital to more attention or when it concernse operations since they cannot go that that far in managing the desease. Traditionals rituals and cultural believes too were strategies used by some community members or herberlist to handle eclampsia in pregnant women.

5.2.3. Traditional Rituals for protection and deliverance

There are some rituals that can also been favorable for the management of Eclampsia, example of a patient coulsing, after the health workers have done everything nothing changed she was still convulsing until, one of their family member said that they need to bath her with the water rain coming directly from the sky, without touching any zinc, so after that the sistr of the girl did so, Traditional herbal treatment to facilitate the deliverance like "*Ogbolo"* This herbal is drawing, clean the stomach of the pregnant woman, and facilitate the road for the child to come out without any difficulty. HERBALIST AND TBAs mostly used herbs and spiritual emphasis while scientific health workers uses guidelines in the management of eclampsia. Among those who patronized prayer houses and spiritualists, different treatment methods were reported: holy water. In addition, a special prayer session was reportedly carried out for these women.

5.2.3.1. The use of prayer to call God intervention

Prayer and faith can help in the management of eclampsia, especially in critical conditions, believing and keep on having a positive mind and hope play a lot helping the pregnant woman for a save deliverance. An example of the case of one patient with eclampsia, they wanted to operate her but the husband refused, The patient was so weak, then the midwife ask her if she has faith, the woman answered yes, then the midwife prayed and called GOD intervention and finally she gave birth normally.

5.3. Challenges or barriers faced in the management of preeclampsia/eclampsia in Yaoundé II

The barriers that were identified to be limiting the treatment of elcampsia in Yaounde II Municpality were so many and were even categorized at different levels for better comprehension. Cultural barriers were enormouse and much as ealier hlighted in out obove chapter. Therefore this section begins to analyse how culture influnces the management of eclampsia inYaounde II.

5.3.1. Culture and management of Eclampsia in Yaounde II

One can not completely say that the cultural believes of the people affects negatively eclampsia because to some extend cultural aspects and norms go an extra mile to help in some ways to manage eclampsia to such customs and traditions limits the openness of pregnant women to the scientific world. This section first of all concentrates on the negative outcomes in the management of eclampsia.

5.3.2. Cultural barriers to the management of eclampsia in Yaounde II Municipality

Culture has affected health workers not to carry their work the way it thought to be. This is because most of the health workers have different perceptions concerning Eclampsia according to their own culture. According to the health workers it's always difficult for them to manage Eclampsia due to the belief of the patient; for example the midwife has already injected "Ocytocine" without knowing that the patient has taken honey, it may cause bleedings and complications leading to the death of the mother and the baby. Another example of a patient with anemia who needs blood to bring her back, because many are convulsing, and they will need blood transfusion, but some patient refuse to receive external blood due to their culture that doesn't permit them to receive blood. We observe this kind of reaction mostly to the "*JEHOVAH WITNESS*" people.

While spirituality and tradition affect women's lives profoundly, they rarely factored into our sample's actual careseeking decisions. Women often (particularly in the south) describe the importance of offering prayers (by a third party) to promote well-being of a woman experiencing preeclampsia. Convulsions during pregnancy are believed to be the result of the "evil eye"; many believe holy water, herbs, exorcism, and charmed amulets can improve this condition; and the fact that the patient may not alike with the health care personal or their instructions it leads to some complications like bleedings, death of the mother and the child.

5.3.3. Other related barriers to the effective management of eclampsia

Perceived barriers to seeking timely care include an inability to reach facilities and afford treatment, mistrust of the health system, and socio-cultural context that affect a women's decision-making to seek emergency obstetric care, considering the perceived threat of complications. The content analysis on the bariers of handling eclampsia were highlighted and presented in the table beloow.

Table 6: Content analysis on barriers in the management of Eclampsia

Themes Category	Subtheme subcategory	Tags
Access barriers	Inaccessible facilities Inaccessible resources Access to qualified personnel Access to SOP and guidelines	- Roads and Distance to facility - Number of knowledgeable caregivers in facility - Ratio of caregivers attending to patients - Are SOP put up for revision - Are standard guidelines constantly revised
Availability barriers	Availability of finances Availability of materials Availability of qualified personnel Availability of SOP and guidelines Availability of good referral systems	- Number of qualified personnel - Availability of ambu bag, and magnesium sulphate - Availability of finances to pay for insurance schemes - Availability of out of pocket money to motivate caregivers to attend to your client faster - Availability of referral facilities at proximity

Source; Field Survey data, 2022

From this table of analysis, it is revealed that we can identify the analysis a number of challenges or barriers can be identified through free listings an in-depth interviews as follows;

- Delays in reaching care facility
- Availability of resources
- Access to resources
- Knowledge and skill gaps in Eclampsia management
- Availability and access to guidelines

Here the 2 themes highlighted were **Accessibility** and **Availability barriers** some extracts were illustrated as seen below;

5.3.3.1. Accessibility barriers

> *La majorités des cas qui arrives ici sont assez avances parce que ces sont des cas déjà référer d'une autre centre de santé et quand ils viennent ici et il y a manque de personnel ou d'outils parce que c'est toujours très saturés aux urgences il peut y avoir des situation défavorables (infirmière major,* male, Central Hospital, 115/07/2022, 4:00pm)

5.3.3.2. Availability barriers

They also concluded that women are not properly educated on issues concerning their health; hence they end up visiting the hospitals when pregnancy complications or an emergency arises. This may be too late and the results demoralizing.

> *"We lack the manpower, drugs and basic amenities like electricity. storage and tramporlafion system for emergencies. These patients do not die due to our lack of vital knowledge about pre-eclampsia or pregnancy-related complications, but due to our carelessness and lack of effort by relevant stakeholders"**(junior nurse,*** Cite Vert Hospital, 17/07/2022, 2:50 pm***)***

Providing health information through leaflets in local dialects, use of town criers. community and religious leaders, radio adverts and jingles are applicable strategies which can improve advocacy on pre-eclampsia from grassroots to upper-class levels"

> Furthermore, it was outline that,
>
> *It's very aching but sometimes its due to lack of finances when you get to a big referral hospital like ours and you don't have the means to purchase the necessary drugs and pay for the necessary services here and there your patient might be left sometime in serious pain because the inflow of patients is too much and for very few personnel on seat sometimes(Doctor, male* Central Hospital, 17/04/2022, 3:33pm***)***

More so, another participant underscored that

> *sometimes due to over purchase of magnesium sulphate in the pharmacy its limited in supply so some clients might come and asked to go and buy from a nearby pharmacy* ***(nurse assistant,*** Cite Vert Hospital, 26/07/2022, 2:00pm***)***
>
> *"... we need to fully utilize the role of these healthcare assistants. In most hospitals, even when the Doctor is not available, we must always meet one or two healthcare assistants on duty. They are the first contact these patients come across; hence they must be well-trained to deal with day to day complications amongst these patients"*

Respondents from the individual interviews and the FGD identified many challenges that could explain why some patients arrived in a poor state at the referral hospital. These challenges were grouped into four categories; those that relate to the patient herself, those that relate to the health care provider, those that relate to health facility and those that relate to administration.

5.3.3.3. Challenges related to the patient

Some participants implicated patients' delay in reporting to the hospital and non-compliance to referral as factors that condition of the patients. As this health care provider lamented that,

> *But there are some when you tell them to go to Central hospital they just go home and stay, they even stop attending antenatal care, they just come unexpectedly, checking her blood pressure you find it high, you check the notes you find that you already referred her but because she thought that she cannot manage to go there"* ***(Nurse midwife,*** Cite Vert Hospital, 05/07/2022, 2:00pm***)***

This will normally play negatively on the management of eclampsia since pregnant women do not take antenatal care very serious which limits the follow up and the development nof the chield in their womb. This explains the reason why the mide wife nurse was lamenting because of the excessive impose on them irregular pregnant women during antenatal care.

5.3.3.4. Challenges related to health care providers

Challenges reported as hindrances to proper management of patients with pre-eclampsia and eclampsia were as follows the main challenge related o health care providers was based on gaps in knowledge and practice they say one thing and do the other. Even though the majority said that they used magnesium sulphate on patients with eclampsia, there was limited knowledge and comfort ability with its use. Most of the health care providers reported that they depended on guidelines and support from colleagues to administer the drug. Some participants confused it with antihypertensive drugs.

As a result they combined it with diazepam. The main source of their discomfort was reported to be fear of magnesium sulphate side effects and lack of the antidote. The fear was based on theory other than actual experience with its use. Expressing uncomfortability these health care providers had this to say:

> *"After putting up a drip we give her diazepam injection, instead of Magnesium Sulphate. There are some who went to learn about magnesium sulphate but not us. Yes, when they came back they were explaining to us but for me I should not lie I didn't get anything**.(nurse)***
> *"So, we first give her a first dose Magnesium Sulphate intravenously then intramuscularly and if need be we also give her Diazepam there and then. Then we put her in the ambulance*
> *"She was brought here from home because she had convulsions. She had three episodes of convulsions at home. It was at night and it is far to bring her from home to here; however the time they found me here she was not convulsing. She just arrived, then I started taking history whether she has ever had convulsions before, and I checked the BP, all these I was talking to her without any problem. Later in the middle of history taking, she started having the convulsions"**(nurse,*** Central Hospital, 11/07/2022, 4:09pm***)***

5.3.3.5. Challenges related to health facility

The participants reported many factors related to the health facility which could contribute to improper management of patients with pre-eclampsia and eclampsia as follows:

The majority of the participants reported lack of resources as one of the factors that constrained their efforts in the management of patients with pre-eclampsia and eclampsia. The

resources included blood pressure machine (apparatus), urine protein dipsticks and antihypertensive drugs. Similar problems concerning scarcity of blood pressure machines also emerged from the FGD. Another challenge was lack of urine protein dipsticks. All participants except two from one private clinic reported that they had no urine protein dipsticks in the health centres.

Lack of antihypertensive drugs was also reported by participants from both individual interviews and the FGD. With the exception of the two private health centres, all of the centres had no antihypertensive drugs and they bemoaned that this made their care incomplete because they did not tackle the main problem in pre-eclampsia and eclampsia, which in this case is the elevated blood pressure. This what the group said;

> *"Drugs like hydralazine are not available at the health centre, which is a very big problem we meet. Because with hydralazine we are fighting the rising of the BP (blood pressure), the cause of the convulsions is the BP. So even if we give her magnesium sulphate, we still feel that where she is going even on the way she may continue having convulsions". (FGD,* Cite Vert Hospital, 19/07/2022, 2:00pm***)***

Another reported problem was shortage of staff. Most participants reported that management of eclampsia requires team work but it was difficult for them because in most cases they operated alone. The participants stated that due to shortage of staff, patients with severe pre-eclampsia and eclampsia were not accompanied to the referral hospital by a health professional on referral; they just went with a guardian, and sometimes with a cleaner. Reports from FGD were also similar with this report. When asked on patient safety and escort this is what was reported:

> *Souvent très souvent nous sommes confronter à six ou huit cas d'éclampsie et nous sommes peut-être seulement deux infirmières de garde comment allons-nous assister ces mamans avec tous les cris et même souvent le manques des produits (infirmière, female,* Cite Vert Hospital, 12/07/2022, 11:00am***)***

Delay of ambulance was also reported by health care providers as one of the major challenges in the management of patients with severe pre-eclampsia and eclampsia. Participants, except for those working in private health centres, expressed concern over the

delays of ambulances. The participants stated that on average the ambulance took three to four hours before arrival after it had been called. It was reported that there was only one ambulance that was stationed at the district health office that ferried patients from all health centres, and consequently, it was difficult for the patients to be collected and ferried to the hospital on time. It was also reported that most often the ambulance came already full with patients, so much that it was so difficult to put an eclamptic patient in the proper lying position. Furthermore, the transport problem was also reported as to having contributed to health care providers' inability to escort critical patients,

> *"Because a real ambulance is supposed to have everything inside, but if you observe you see that when they are coming they remove the oxygen cylinder, they remove what, every necessary thing is removed, and they say that they want to load many (patients). (*FGD, Central Hospital, 18/06/2022, 1:00pm

5.4. Barriers to related to administration and policy

Health care providers reported that they received general supervision but no supervision for the management of patients with specific complications like pre-eclampsia and eclampsia. They also expressed concern over the manner in which the general supervision was done as illustrated in quotes below.

> *"Because a real ambulance is supposed to have everything inside, but if you observe you see that when they are coming they remove the oxygen cylinder, they remove what, every necessary thing is removed, and they say that they want to load many (patients). (*FGD, Cite Vert Hospital, 19/04/2022, 5:00pm)

A respondent expressed that supervision would help to ensure a uniform management of obstetric complications in the health centres as can be observed by what this health care provider said:

> *"Supervision would ensure uniformity in the management of the patients. But you find that in the same district people are managing same conditions differently, all because we do not have a chance to come together as people of the same program to discuss or refresh on how we go about different conditions. Such refreshers would also help to remind*

> *some of us of the things we forgot long time ago. Yes, we are human beings okay, and in the course of our work we always wish to ask someone; and there are other things which you consult books, so if it were possible to be reminding each other some of these things it would be helpful." (*Nurse midwife, male, Cite Vert Hospital, 115/07/2022, 4:00pm)

The health care providers at the referral facility level were asked why they thought patients were inadequately managed prior to being referred. There were similarities in what all the participants stated as challenges at the health centre. The reported perceived challenges included shortage of staff, lack of resources, limited knowledge, and problems with transportation of patients, as reported in the narratives provided below.

> *"..health centres do not have their own ambulances, so it happens that it has been called by health centre 1, 2,.. it is upon the driver to decide where to start from, then where, because most of the times many patients come at once but coming from different health centres.(FGD,* CentralHospital, 17/06/2022, 2:00pm)

There was very little feedback that health centres received from the referral hospital regarding the patients they referred. "As my friends have already pointed out that it is like fault finding, and when they find the fault they fire on you, forgetting that we cannot work if we do not have the resources (**FGD)**

Shortage of drug and equipment shortage were among the leading Barriers reported by midwives in managing eclampsia in this setting

5.5. Strategies put in place to manage challenges faced in the management of Eclampsia

From the data obtained from the field and analysed, a number of strategies were identified that can be used to manage eclempsia in Yaounde II which are listed as follows: Increase in the supply of certain drugs like; magnesium sulphate, etc.; In the VIP ward every bed has an ambu bag attributed to it whether the be a client or not; Regular Training/seminars workshop; Encouraging ANC participation for both men an d their spouses could be emphasized, Special space for caring eclamptic patient; Regular update of WHO Guidelines and SOPs; The participants suggested that there is need for adequate resources such as low beds, enough medicines such as Magnesium Sulphate, antihypertensive drugs, enough spatulas and working blood pressure machines.

They also suggested the need for improved communication between the health centres and the referral hospital. They also mentioned quarterly supportive supervision and refresher courses on management of pre-eclampsia and eclampsia. When asked what they would suggest for improving the care of patients with pre-eclampsia and eclampsia, they said

> *"We must at least have adequate resources. I don't know whether we are allowed to have oxygen in health centres, but it can help us. Because even with resuscitation of the baby in case she delivers the baby will be asphyxiated secondary to the mother's convulsions, so an oxygen cylinder will be helpful. And also the calcium gluconate, we are talking about that may be while waiting for the ambulance which might be delayed, if anything goes wrong we can give. And antihypertensive drugs like methylodopa and nifedipine, because hydralazine also has its own problems because it requires close observation too because it can bring down the BP abruptly" (**FGD,** Cite Vert Hospital, 15/07/2022, 4:18pm)*

As much as they appreciated that shortage of staff was a general problem in the country, they still suggested that there was need to increase human resource at the health centres. On the other hand, they suggested that critical patients, like eclamptic patients, need an escort to prevent further complications. Asked to make suggestions for improvement, this is what they said,

> *"I would like in-service or refresher courses on management of preeclampsia and eclampsia. For them to know what they are supposed to do before referral. Because such a person is at risk of convulsions. She can end up with eclampsia anytime. So they must do first aid treatment that at the receiving point or in transit the person must not be at risk of convulsing or that at least where she is going they must have a starting point. They must at least put up an iv line, catheter, and that will help. On the other hand the supply of equipment must be readily available, like urine dipsticks and catheters .*

Reinforcing community awareness around birth preparedness, healthy diet, complications during pregnancy, and ANC, delivery, and PNC options emerged as a key recommendation from all respondents. Multiple avenues for knowledge building were described, including HEW-dissemination of information during door-to-door visits in the community and ANC forums provided at health posts and health centers.

That a community action and mobilization strategy must be implemented to increase the use of antenatal care services and promote healthy maternal behavior (see Appendix 10). Concerted efforts by the Government, its related ministries and relevant stakeholders are required to implement this, as partnerships can augment costs.

Improve physical access to health facilities by implementing community strategies for transporting women in the context of maternal complications. Leverage the collective interest of getting a woman to emergency care by implementing community efforts (e.g. pooling funds for auto-rickshaws) to mitigate challenges like ambulance shortages.

The respondents unilaterally expressed the importance of local participation in improving the awareness and advocacy of pre-eclampsia at community level and beyond. They acknowledged that co-operation and improved community support of strategies which enlighten the women on the benefits of routine antenatal care, promote their knowledge on dangers of complications in pregnancy, and the provision of support groups and a patient friendly healthcare team who are well informed of the issue surrounding pre-eclampsia could help mitigate the downfalls of this disease condition amongst Cameroonian women.

That the issue of long waiting times and poor feedback patterns to these patients must be countered if they are to be encouraged to make regular hospital visits for ANC. An improved patient-centred environment must be encouraged *Improvement of knowledge and counselling skills base of health workers must be routinely undertaken.* Out-of-pocket expenses, lack of transportation, distance from home to facility, and lack of quality care and skilled providers are additional barriers.

Most of these challenges came as a result of the gaps which were present to both knowledge and skills were based on physical examination needed after convulsion. Majority of respondents 70% in knowledge and 100% in skills did not know that they were required to observe color for cyanosis and need for oxygen, check for aspiration, lungs should always auscultate after the convulsion has ended and share the findings to a woman.

In this research the barriers (challenges) faced by health workers in managing Eclampsia were shortage/irregular availability of drugs, equipment shortage like monitor, BP machine and suction, and staff shortage. This is similar with the findings of the study done by engender health in developing countries(2007), and study done by Mundle et al. (2011) in Indian hospital which indicated shortage of drugs, lack of manpower and equipment to manage preeclampsia and Eclampsia were the barriers in managing Eclampsia may not be a

good predictor of treatment compliance. Getting expertise on managing Eclampsia from Midwifery/Nursing schools, on job training workshops and years of working experiences were associated with knowledge on managing women with Eclampsia. Resuscitation equipment and essential drug for managing Eclampsia are not enough and not regularly available. Enough provision of drugs, equipment and in-service training were suggested among the ways of enhancing management of women with Eclampsia.

Barriers to the management of eclampsia

Our present study identified 2 major themes as barriers to the management of eclampsia in this setting which were **accessibility** and **availability** barriers mainly. was observed that under this themes challenges occurred due to 4 other factors. we identified challenges those that relate to the patient herself, those that relate to the health care provider, those that relate to health facility and those that relate to administration and policy.

In this study the availability barriers (challenges) tackled by healthworkers in managing eclampsia were shortage/irregular availability of drugs, equipment shortage like monitor, BP machine and suction , and staff/personnel shortage . This is similar with the findings of the study done by engender health in developing countries (2007), and study done by Mundle et al. (2011) in Indian hospital which indicated shortage of drugs, lack of manpower and equipment to manage preeclampsia and eclampsia were the barriers in managing eclampsia may not be a good predictor of treatment compliance.

In this study healthcare providers reported receiving little or no supervision at all; and this had negative implications on care given to patients. Due to lack of supervision in this study health care providers adhered to their old practices which compromised the quality of care given to patients despite availability of guidelines for new practices. It is necessary that health care providers at this setting receive supervision to ensure adherence to evidence-based practice. Though, lack of supervision in the current study may be attributed to lack of financial resources, human resources and lack of knowledge on how best to do a proper constructive supervision. The findings on lack of supervision in this study support what was previously reported by other studies. In a study on health workers' perspectives on improving motivation among primary health care workers in Tanzania, the researchers reported that lack of supervision and feedback demoralized health care providers and made them feel unappreciated (Manongi et al, 2006)

Patient transportation problems have previously been reported by other studies in relation to the three phase model of delay associated with maternal deaths. Cham, et al in 2005, in their study on maternal deaths in order to assess access to emergency obstetric care in rural Gambia, they reported that transportation difficulties were experienced by women with obstetric complications even after reaching the first medical facility due to lack of a readily available ambulance at the facility. They also reported that traveling time was prolonged for these women due to long distances, visiting of different health facilities, poor roads, and ambulance conditions. Similar experiences were reported by one guardian to a patient with eclampsia that they had to visit different health centres before getting to the referral hospital. Delays in getting to the referral facility may contribute to adverse outcomes of women and their unborn babies.

Voices of informants

Given that our research was a participatory interative exercise, our informants join to some government institutions as a WHO, UNICEF among others to express these: The participants suggested that there is need for adequate resources such as low beds, enough medicines such as Magnesium Sulphate, antihypertensive drugs, enough spatulas and working blood pressure machines. They also suggested the need for improved communication between the health centres and the referral hospital. They also mentioned quarterly supportive supervision and refresher courses on management of pre-eclampsia and eclampsia.

A well-functioning referral system allows for timely transfer of emergency obstetric emergencies. Despite recommendations to improve communication and referral systems through placement of ambulances in rural facilities and introduction of bicycle ambulances to speedup transportation of women with obstetric complications. Results from previous studies have shown that increased public awareness of danger signs and the need for referrals for cases of pre-eclampsia and eclampsia, as well as improved communication skills between healthcare workers and patients positively contributes to reduction in mortality from this health condition (Dolea et al, 2003; Urassa et al, 2003; Gardner, 2005). Treatments in Nigeria is still dependent on bed rest, use of anti-hypertensive and anti-convulsants and in extreme situations, delivering the infant. The problems of availability, accessibility, coverage and quality of care all limit the potential gains of Antenatal care services in Nigeria.

As much as they appreciated that shortage of staff was a general problem in the country, they still suggested that there was need to increase human resource at the health

centres. On the other hand, they suggested that critical patients, like eclamptic patients, need an escort to prevent further complications. Asked to make suggestions for improvement, this is what they said, this study is in line with a study by cham, et al in 2005. Government's efforts to improve the situation for the past years include increasing the student intake in medical and nursing colleges, and recruiting retired professions to cover the nurse to patient ratio gap ; but the status core seems to remain the same. critical shortage of staff is deterrent to better patients' care both institutional and in transit to the referral facility. team work is very crucial for prompt resuscitation of patients with eclampsia this study is in light with Hassan-Bitar and Wick in 2006, reported that shortage of staff contributed to substandard obstetric care for women in a large referral hospital in pakistan.

Hospital administration has formulated operational team that will assess and ensure the adherence of checklist/Guideline use in managing women with eclampsia; this will help in improving quality of care in the management of eclampsia. Futhermore, Reinforcing community awareness around birth preparedness, healthy diet, complications during pregnancy, and ANC, delivery, and PNC options emerged as a key recommendation from all respondents. Multiple avenues for knowledge building were described, including HEW-dissemination of information during door-to-door visits in the community and ANC forums provided at health posts and health centers.

That a community action and mobilization strategy must be implemented to increase the use of antenatal care services and promote healthy maternal behavior (see Appendix 10). Concerted efforts by the Government, its related ministries and relevant stakeholders are required to implement this, as partnerships can augment costs.

In conclusion, the findings of this research are not in conflict with those of other earlier studies on pre-eclampsia and eclampsia. Instead, it offers a further dimension to the understanding of the complexity of the interplay among policy, theory and practice in the management of the management of the conditions, given the harsh conditions prevalent in primary health care systems in most developing countries such as Malawi. First level health care is more effective where health workers enjoy high professional and material support. The findings I have presented here are but a simplified theory that explains the complex process of the management of the pre-eclampsia and eclampsia

The problem of preeclampsia and eclampsia is a disturbing one which requires urgent attention to mitigate its effect on the reproductive health of women. Despite the initial registration for antenatal care by women resident in the rural areas, the high drop-out rates

and poor performance of antenatal care in managing and educating the women on the issue of pre-eclampsia draws attention on the fact that preventive measures could be appropriate especially in low-income settings. Further more, some of the cries of our informants were expreesed in this light;

- Regular training should be conducted to improve knowledge of health care provider's on recent changes on the management of pre-Eclampsia: Management should implement a hospital-wide application of WHO standard guidelines to improve managements of pre-Eclampsia.
- There is need for advocacy on the use of magnesium sulphate as emergency treatment at secondary health facilities for the best maternal and fetal outcomes.
- It was detected in this study that health care providers have the knowledge but there are limitations in their competences. There is need for skill building among all staff that are involved in the management of patients with pre-eclampsia and eclampsia. This would be effective if it is coupled with regular monitoring and supportive supervision. Since eclampsia is a rare condition, health care providers may benefit from allocation to referral hospitals where these cases are common.
- The research also exposed that there was scarcity of essential resources for management of patients with pre-eclampsia and eclampsia which compromised the care of these patients. The scarcity of some items like blood pressure machines in this study was partially due to poor quality of the items. There is need for health centres to be supplied with essential and durable essential resources for management of patients with pre-eclampsia and eclampsia.
- Unavailability of staff is a long standing problem in CAMEROON, and was also reported in the present study. The government's efforts to address the situation must be acknowledge. However, there is need to continue and intensify training of nurses midwives since they are the ones who are very few.
- Further studies are needed evaluating of the impact of training on the knowledge and management practices of pre-Eclampsia among health care providers.
- Greater efforts are needed to tackle this health menace and its existent problems.
- Policies, programmes and strategies should go beyond provision of health information, but extend to actively promoting behavioural change especially among women resident

in rural areas as they are contributory to the nation's high maternal mortality figures. The concept of care during pregnancy must be well embraced by all women, and access to antenatal services which promote preventive measures should be promoted by the Government and relevant stakeholders.

- Health care providers should take effort and health stakeholders, especially the ministry of health and social welfare, to impact nurses and other health care providers with knowledge and skills (practice) on how to manage a woman with preeclampsia / Eclampsia properly to reduce maternal morbidity and mortality rate..
- Ending Eclampsia seeks to expand access to proven, underutilized interventions and commodities for the prevention, early detection, and treatment of pre-eclampsia and eclampsia and to strengthen global partnerships. The long-term cost-effectiveness of these recommendations overshadows their implementation costs. Implementation of these recommendations would hopefully contribute to reducing the incidence and prevalence of pre-eclampsia and eclampsia amongst Cameroonian women, especially those residing in rural areas.

In summary, this chapter has set the pace for us to comprehensively understand the anthropological interpreationof Eclampsia in the Yaounde II community, management strategies that has to do with management techniques by the different actors has also been presented in this chapter. The voices of the different participants and their interpretations of Eclampsia have all been heard and all their their opinions spelled out for detailed analysis in this chapter. The different treatment methods of Eclampsia and realted challenges or barriers have also given us the greenlight to understand and analyse Eclampsia in an anthropological point of view. The analyses of all the chapters have open up the way for us to draw conclusions and summarise the findings of this research.

CONCLUSION

Our research entitled “Perception of Eclampsia among pregnant women in Yaounde II, Center Region of Cameroon” *a contribution to medical Anthropology*. The problem stated was based on the perception and management of eclampsia in Yaounde II with the main research question, How is Eclampsia percieved among pregnant women in the Yaounde II municipality?, the main hypothesis which is “cultural beliefs, rituals, curses amongst others influences the perception of eclampsia among pregnant women in Yaounde and the main research objective to investigate the various perceptions of eclampsia among pregnant women in Yaounde. The main question, objective and hypothesis brings out the core of the research and its orientation as analysed in the chapters of the findings.

In an attempt to sufficiently diagnose the problem stated which is based on eclampsia and perception among pregnant women in Yaounde II, an appropriate methodology was used that involved the collection of qualitative data for content analysis. Data collection was carried in two phases: secondary and primary data. The secondary data was gotten from published and unpublished. Primary data was collected in the field during field surveys using a wide range of research techniques. These techniques included: observations, interviews, administration of questionaires and the used of focus group discussions. Three focus group discussions were held alongside some key informants who were involved in in-depth interviews. In our research, we recruited 68 informants. The recorded voices during interviews where transcribed and translated word verbatim to generate themes and subthemes for content analysis. These objectives of this research particularly had as main goal to evaluate how far perceptions and management of eclampsia in Yaounde II. Data on the extent to which the objectives of the study have been attained is presented in the three chapters of this research.

The verification of each hypothesis was based on the theory of perception in action that was drown from respondents’ views and qualified through the survey instrument administered. The notion that perception is a requisite property of animate action; that without perception a research would be unguided, and without taking an action on that perception, it would serve no purpose constituted the departure point for a series of verification and validations of the stated hypotheses. Knowledge is the foundation of a process in which attitude, norms and perceptions of possibilities to act are carefully monitored to clarify and decide between behavioural alternatives. To verify these hypotheses content base analyses of data were done in the field through direct observation, interviews and focus group discussions.

The objective of this research was to explore the perception of ecclampsia among pregnant inYaounde II which is a major threat to women's death at pregnancy as well as examined the management of Eclampsia and to identify barriers and proposed solution which could, improve the management of eclampsia in the Yaoundé II health area in a bid to mitigate eclampsia related outcomes.

This research revealed that of the 68 participants, 22(32.35%) had a good knowledge level in the management Eclampsia, 28 (41.18%) had an average or moderate knowledge level in the management of Eclampsia while 16(23.53%) had poor knowledge and only 2(2.94%) had very good knowledge in the management of Eclampsia. From this research, the relationship between selected variable and knowledge in managing Eclampsia was observed and found that age and professional qualification were not statistically significant associated with nurse's knowledge in managing Eclampsia but significant association was found between place of getting expertise in managing Eclampsia, on job training workshop and total year of experiences.

Also, the research is consistent to the study done by Plotkin et al. (2009) which revealed that 83% of the nurse scored highly on the knowledge of drug controlling convulsion (Magnesium sulphate). The analysis revealed that health workers with 6-0 years of working experience and those with 11 years and above, of working experience were more knowledgeable as they scored good points means (56%) and (55%) respectively. Statistical evidence shows that; there was a significant association between years of working experiences and knowledge level of managing woman with Eclampsia This is comparable to research done by Nepal society for obstetrics and gynecologist (2009) which indicated that nurses with <10 years of experience in obstetric care could better manage obstetric complications. From this research the relationship between selected variable and knowledge in managing eclampsia was observed and found that; age and professional qualification were not statistically significant associated with nurse's knowledge in managing eclampsia but significant association was found between place of getting expertise in managing eclampsia, on job training workshop and total year of experiences.

Most participants from this study were not knowledgeable on physical examination (observe color for cyanosis and need for oxygen, check for aspiration; lungs should always be auscultated after the convulsion has ended, check vital signs and fetal heart rate) needed after convulsion (84%). These results are comparable to those reported from the study done in Pakistan which found that. With regards to eclampsia, physical examination scores for nurses

and doctors were mainly 'poor' (100%). though management scores especially among doctors depicted a better trend (Fikree et al., 2003). Also, the research reveals there were statistically significant between the level of professional training (Bachelor of Science in nursing and above) and nurses skills towards management of Eclampsia, the reason could be that bachelor and master's program curricular has topic concerning the care of a woman with preeclampsia/eclampsia, so they had pre-knowledge as a result when they are employed they put theory into /skills practice, though there was a limited research on assessing factors associated with nurses skills on management of Eclampsia.

The current research illustrates that knowledge of pre-eclampsia and Eclampsia are limited amongst health workers there are gaps in knowledge regarding the etiology and treatment of Eclampsia similar to a research carried out in Nigeria Afemi et al, (2015). It also highlights the need for a review of maternal health policies in Cameroon with special attention to community roles, specifically the role of men, and the need for health care providers to be equipped with appropriate skills and relevant materials to provide community education and sensitization to improve maternal and perinatal health.

GENERAL CONCLUSION

Tthe data obtained through self-reporting questionnaire on knowledge in managing Eclampsia revealed the proportion of health workers who had good knowledge on managing Eclampsia was 32%, the result is similar to research done at Dar- es-Salaam in public health facilities by Maembe (2012) that found out that the overall proportion of nurses with knowledge in managing patient with pre-eclampsia/eclampsia was 35%. Similarly, a research conducted by Plotkin et al. (2012), this showed that 42% of Nurse-midwives were knowledgeable on managing Eclampsia. These findings imply that though Nurse-midwives care for eclamptic woman in the ward, they do with unsatisfactory knowledge.

Relating to our study, we found out that 59% had positive perceptions about eclampsia and 41% had poor perceptions of eclampsia .in the same light it was discovered that culture has a huge impact on the management of eclampsia as well as patients care seeking behaviors in this setting This research shows that there is a gap between health workers perceptions Eclampsia and the biomedical perspective. Sadly, relevant policies, like the Health Policy in Cameroon, do not take into account community perspectives in framing such policies. As such, these policies are generally disconnected from peoples' experiences, beliefs and local realities.

Findings form the current research indicated that culture has a great impact on the way mothers perceive eclampsia as well as the way health workers manage Eclampsia and pre-Eclampsia it stressed 3 major themes Causes & Predispositions, Remedies and Effects under which the main subthemes indicated were spiritual beliefs , misconceptions, prayers and it was also indicated that they were positive as well as negative impacts like misconceptions like curses and spells from co-wives coupled with positive impacts as herbal medicine sought to manage eclampsia and prayers to ease the effects of eclampsia our study is slightly in line with a similar study in Mozambique designed to examine community knowledge about preeclampsia, women also believed that it is caused by stress, worry and mistreatment from in-laws. In this Mozambican research, extreme suggestions such as snakes living inside the woman's body were fronted as possible explanations(Boene & Vilder, 2016).

The findings in this study identified the fact that the are some myths and misconceptions surrounding the understanding of eclampsia as well as its management in this health area some people attributed it to witchcraft while others said it was due to poor feeding or a stressful relation with spouse but the either used spiritual help or treated it with okohobong pump and patients were referred to higher facilities this study is discordant with a

study carried out In parts of Nigeria, were such women are even abandoned and neglected especially in rural areas where they are assumed to be possessed with an evil spirit.

The study found that more than half of respondents had poor skills in managing Eclampsia because of limited knowleged about the disease. This implies that most of the respondents had poor skills similar findings were also reported in a previous study in Ogun state Nigeria (Olaoye et al., 2019). Similarly, a study done in Addis Ababa, Ethiopia, reported that nurse had good skills towards management (Tadele et al., 2020); the reason for deference could be sample size (number of respondents were few) and geographical location

These findings imply Although health care providers demonstrated great awareness of pre-eclampsia and eclampsia and moderate knowledge for the management of these conditions, they were not able to apply the knowledge let alone the guidelines into real situations. that Nurse-midwives have low understanding of importance of monitoring which are crucial part of caring critically ill patient and the main aims of monitoring are to detect organ dysfunction and guide in restoration of oxygen delivery to the tissue. In a study to assessed SBA competence in five high maternal mortality settings as a basis for initiating quality improvement, there was a wide gap between current evidence-based standards and provider competence to manage selected obstetric and neonatal complications. The research was done in two phases; first phase included 166 purposively selected providers in Benin, Ecuador, Jamaica and Rwanda and in phase two 1358 providers from tertiary, district and primary health facilities in Nicaraguan.

The researchers reported that participants from both phases of the study did not recognize diastolic reading of blood pressure that defines severe pre-eclampsia and the right approach to management of this condition. The mean scores being knowledge and management of pre-eclampsia were 63.1% and 51.2% in phase one and two respectively. In the same study nonprofessional nurse midwives scored lower than the doctors and student doctors(Harvey et al , 2007). Similarly, in the present study, health care providers were aware and able to recognize patients with pre-eclampsia but were unable to manage them according to guidelines for evidence based practice. Women detected with mild hypertension were advised on rest and sent home. There is need to ensure skill competence for better results.

The current research illustrates that knowledge of pre-eclampsia and Eclampsia are limited amongst health workers there are gaps in knowledge regarding the etiology and treatment of Eclampsia. This research showed that culture had a huge impact on the way mothers perceive Eclampsia and as well as how health workers manage Eclampsia in the

Yaoundé II Health area , the major themes underscored here were: Causes, remedies and effects and the main subthemes was related to spiritual beliefs and misconceptions such as witch craft, poverty and curses.

Meanwhile it was also noted that the majority of health workers had moderate level of knowledge of the etiology of Eclampsia. Most health workers had positive perceptions concerning Eclampsia and its management Years of service was associated with health care provider knowledge of Eclampsia. The respondents in the research had poor management practices on the appropriate medication, route and dosage of medication for pre-Eclampsia. Barriers to Eclampsia management were indicated as accessibility to resources, accessibility to facility, competence and knowledge level of caregivers amongst others, these findings provide information that demonstrating the need for training on the presentations and clinical management of preeclampsia for health care workers regardless of years of practice.

Although Eclampsia remains one the main causes of maternal and fetal morbidity and mortality in developed countries, it is for this reason knowledge of managing Eclampsia among health workers is essential in reducing maternal morbidity and mortality. Nurse can play a major role in prevention of maternal death related to Eclampsia. It is therefore important to assess nurse knowledge and practice in managing Eclampsia and requires skilled personnel, well established guidelines and premises equipped with the necessary instruments

In conclusion, maternal mortality in Cameroon is relatively high. Eclampsia is one of its major causes; therefore, improving the diagnosis, treatment and prevention of pre-Eclampsia is critical. Current barriers impeding its diagnosis and treatment can be overcome with the use of low-cost technologies, standardized diagnostic protocols, training programs to foster multidisciplinary team approaches, and efforts to enhance local research capacity which, in turn, could significantly reduce maternal as well as infant mortality. Further research should be undertaken using a mixed approach to explore factors influencing nurses' competency and perceived barriers to managing preeclampsia/ Eclampsia in the Whole center region region.

This research has some limitations. It was conducted in just two hospitals in Yaoundé II: Yaounde Central Hospital and District Hospital of Cité-Verte. Health area as a result of limited resources, inaccessibility and time constraints. Thus, the findings can neither be generalized neither across the state nor across Cameroon. Similarly, this is a cross-sectional research and thus we cannot infer causality in the associations found in the research.

Observation like other methods has its own limitation in evaluation method, if persons who are being observed know they are being observed they may act unusual and present wrong actions, speech, thoughts and emotions as they may be nervous. However literature suggests that the change of behavior is usually temporary, where there is a tendency for the observed to become used to the presence of the observer, they continue to perform their activities according to their normal day to day practice. In this study the observer stayed for a while in the ward as a participant observer.

This research had few numbers of participants; therefore, findings may not be representative of the general population of health workers in Cameroon . This threatens the external validity of the findings hence another research on this area with large sample size is required. The study was conducted in just one region in Cameroon a result of limited funds. Thus, the findings cannot be generalized to all nurses in Cameroon. Some health workers were reluctant to be interviewed for fear that the information could be used against them.

I was faced with varying challenges including social acceptance of this topic, cultural/ religious sensitivity of indigenes, location of study, willingness of health workers to accept limited knowledge, availability of relevant literature/ past research work on this subject within Cameroon for review, conducting interviews with tapes amongst others (this was rejected furtively). The importance of this study overshadowed them all.

At most times, I wanted to quit, but the kind efforts of my supervisor through my ordeal motivated me. Support from friends and family were of great importance as well. Looking at the level of infrastructure and decadent social amenities at the study location, little wonder most qualified health workers would refuse to work in these places. Health care assistants are of great importance, as they are always around to deal with patients. The problem is, their levels of training cannot provide quality healthcare these patients deserve; hence improving their skills base should not be overlooked.

I feel fulfilled that I have raised an insight into the level of awareness of women and health workers knowledge about pre-eclampsia. This study has helped me develop skills in undertaking research, and reporting findings as well. It has equipped me with analytical and critical thinking skills. It has provided me with a fresh insight into the issue of pre-eclampsia and other related reproductive health issues plaguing Nigerian women. I only hope the recommendations from this study can be taken upon, and further research work on the issue of

pre-eclampsia in rural and urban Nigeria, as well as suitable cost-effective interventions to mitigate its effects can be conducted over time.

The data is remarkably diverse, providing rich and complex findings on the management of the complications of pregnancy, which was demonstrated by key participants. At the same time, it was possible to identify a number of common issues or concerns, which emerged from different data sources. The commonalities of issues in the management of pre-eclampsia and eclampsia among health workers at the health centre and at the referral hospital were a positive outcome because they demonstrated the extent to which different health workers at different levels had similar perceptions concerning the management eclampsia and eclampsia.

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As concerns our oral sources, we have the informants list indicating age, profession, date, gender and other information about their personality

Oral sources

Respondents	Occupation	Sex	Ages	Marital status	Place of interview/FGD
1	Medical Doctor	Male	42	Married	Yaounde Central hospital
2	Pregnant woman	Female	39	Married	Cite verte Hospital
3	Mbororo Woman	Female	32	Married	Yaounde Central hospital
4	Pregnant women	Female	37	Married	Nkomkana
5	Community leader	Male	49	Married	Briketterie
6	Pregnant woman	Female	23	Single	Huitième
7	Community Leader	Male	52	Married	Madagascar
8	Senior woman	Female	50	Widow	Madagascar
9	Community Leader	Male	61	Married	Mbankolo
10	Traditional Birth (1)	Male	46	Married	Briketerie
	Attendants(TBA)				
11	Nurse assistant	Female	35	Married	Yaounde Central Hospital
12	TBA	Female	32	Single	Cite verte
13	Nurse	Female	38	Married	Yaounde Central hospital
14	Medical Assistant	Female	31	Single	Yaounde Central hospital
15	Nurse-midwife	Female	36	Married	Yaounde Central hospital
16	Junior nurse	Female	25	Single	Yaounde Central hospital
17	Junior nurse	Female	29	Single	Cite verte hospital
18	Nurse assistant	Female	31	Single	Cite verte hospital
19	Senior nurse	Female	37	Married	Yaounde Central hospital
20	Junior nurse	Female	23	Single	Yaounde Central hospital
21	Midwife	Female	34	Single	Yaounde Central hospital
22	Medical Doctor	Male	31	Single	Yaounde Central hospital
25	Medical Doctor	Female	36	Married	Cite verte hospital
26	Traditional Birth (2) Attendants	Male	38	Married	Cite verte
27	Registered nurse	Female	27	Single	Yaounde Central hospital
28	Nurse assistant	Female	39	Married	Cite verte hospital
30	Nurse	Male	34	Single	Cite verte hospital
32	Senior woman	Female	53	Married	Mbankolo
34	New mother	Female	32	Married	Cite verte

35	Traditional Birth (3) Attendants	Male	43	Married	Mokolo
36	Community Leader	Male	40	Married	Mbankolo
37	Nurse assistant	Male	29	Single	Cite verte hospital
38	Nurse midwife	Female	34	Married	Cite verte hospital
39	Nurse	Female	36	Married	Yaounde Central hospital
40	Nurse	Male	44	Married	Cite verte hospital
43	Nurse midwife	Male	32	Single	Cite verte hospital

APPENDICES

APPENDIX I

THE UNIVERSITY OF YAOUNDE 1
****
FACULTY OF ARTS, LETTERS AND SOCIAL SCIENCES
****
DEPARTMENT OF ANTHROPOLOGY
****

UNIVERSITE DE YAOUNDE 1
****
FACULTE DES ARTS, LETTRES ET SCIENCES HUMAINES
****
DEPARTEMENT DE ANTHROPOLOGIE
****

Semi-structured interviews

N/B; All information gathered is strictly for academic purpose and will be subjected under confidentiality to serve the purpose it deserves.

Dear respondent (s), I am ANTIA Carene a Masters II student at the Department of Anthropology of the Faculty of Arts, Letters and Social Science of the University of Yaoundé II. I am doing research on evaluating perceptions in the management of Eclampsia in the Yaoundé II. The perception of Eclampsia in women's death at pregnancy which is A very common problem in this our country and in this region to be specific. I am going to give you information and invite you to be part of this research. I promise you information gotten from you will be treated with utmost confidentiality and anonymity. You have the right to ask questions where you don't understand decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research. Thanks for your keenness

Respondents serial code…….

In order to carry out our study, we are asking dear people for your kind help and contribution which will be of great use to us; that being the case, we thank you for answering all the following questions.

SECTION 1: SOCIO-DEMOGRAPHIC DATA

1. Age:……
2. Gender:……
3. Job status:……
4. Years of experience:……
5. Education level:……
6. Marital status:……

SECTION 2: EVALUATING THE INFLUENCE OF CULTURE ON ECLAMPSIA

7. How is eclampsia called in your area?
8. Who are the stake holders that manage eclampsia?
9. How is eclampsia managed in the Yaoundé II health area?
10. Can you identify alternative methods of care in your area when conventional ones don't work?

SECTION 3: EVALUATING POPULATION AND HEALTH WORKERS KNOWLEDGE LEVEL ON THE MANAGEMENT OF ECLAMPSIA

11. What is Eclampsia /Pre-eclampsia?.....
12. What population is affected by Pre-eclampsia?.....
13. What trimester of pregnancy is affected by Pre-eclampsia?.....
14. Blood Pressure considered to be hypertensive?.....
15. What is the Physiological change that can cause eclampsia?.....
16. Are you aware of the existence of WHO guidelines on the management of Pre-eclampsia?.....
17. What are the drugs used for the control of Blood pressure?.....
18. What is the dose of injection of Magnesium Sulphate given?.....
19. What are the signs of Magnesium Sulphate Toxicity?.....
20. What complication of Pre-eclampsia could the pregnant woman face?.....
21. Nutrients Required in Diet to Prevent Pre-eclampsia?.....
22. How can the fetus suffer from Pre-eclampsia?.....

SECTION 4 ASSESSING PERCEPTIONS OF POPULATION AND HEALTH WORKERS ON THE MANAGEMNET OF ECLAMPSIA

23. Eclampsia is not a serious of severe condition? A SA D SD
24. Young women are not susceptible to Pre-eclampsia.? A SA D SD
25. Tetanus toxoid vaccine reduces risk of onset of preeclampsia? A SA SD
26. Preeclampsia can be prevented? A SA D SD
27. Referral of women from PHC should be based on immediate diagnosis of preeclampsia? A SA D SD
28. Pre-eclampsia cannot be Managed? A SA D SD
29. It is the duty of only the pregnant women to prevent preeclampsia.? A SA D SD
30. It is the primary duty of the health care provider to prevent Preeclampsia? A SA D SD
31. Expecting mothers should not be educated on the risk factors of preeclampsia? A SA D SD
32. Up-to-date training will improve the knowledge and management practices of health care providers on pre-eclampsia? A SA D SD

SECTION 5: IDENTIFYING CHALLENGES IN THE MANAGEMENT OF ECLAMPSIA IN THE YAOUNDE II

FOCUS GROUP DISCUSSIONS (FGDs) WITH STAKEHOLDERS

33. What do you think about the disease Eclampsia?

_____
_____
_____
_____

34. How do you think the population perceives this disease of Eclampsia during pregnancy?

_____
_____
_____
_____

35. What do you think are the measures to prevent the disease in pregnant women in this area?

:_____
_____
_____

36. What are the challenges faced in the management of Eclampsiain this health area?

:_____
_____
_____

37. How is the management of patients with Eclampsia carried out?

:_____
_____
_____

38. What advice would you give pregnant women to avoid finding themselves in this situation?

:_____
_____
_____

Thanks for Your Participation

FGD and INDEPTH INTERVIEW GUIDE FOR UNDERSTANDING THE MANAGEMENT OF ECLAMPSIA

What is Eclampsia /Pre-eclampsia?

What population is affected by Pre-eclampsia?

What trimester of pregnancy is affected by Pre-eclampsia?

Blood Pressure considered to be hypertensive?

What is the Physiological change that can cause eclampsia?

How is eclampsia called in your area ?

Who are the stake holders that manage eclampsia?

How is eclampsia managed in the Yaoundé II health area ?

Can you identify alternative methods of care in your area when you can't access conventional ones?

What barriers do you face when managing Eclampsia?

How do you think they can be adjusted?

Checklist: knowledge on the Management of Eclampsia.

STEP/TASK OBSERVATIONS

Directions

Rate the performance of each step or task using the following rating scale:

1 = Performs the step or task completely and correctly.

0 = Unable to perform the step or task completely or correctly or the step/task was not observed.

N/A (not applicable) = Step was not needed.

Answer by correct or incorrect

immediate management

1. Urgently mobilizes available personnel.

2. Encourages the woman to lie on her side

3. Ensures the woman's airway is open

4. Observes color

5. If available, gives oxygen at 4–6 L per minute by mask or cannulae.

6. Checks pulse

7. Checks respirations

8. Checks temperature

9. Checks fetal heart

10. Checks the biceps or patellar reflexes

11. Auscultates the lung bases for rales

12. Starts an intravenous drip of normal saline or Ringer's lactate

13. If diastolic blood pressure remains above 110 mm Hg, gives antihypertensive drugs

14. Gives anti-convulsive drugs to prevent or treat convulsions / fits

15. Inserts an indwelling urinary catheter

16. Checks urine for proteinuria

17. Assesses clotting status with a bedside clotting test

18. If the woman begins having a convulsion, provides for care during the convulsion

19. Never leaves the woman alone

20. Checks for signs of labor

21. Records drug administration, interventions, and findings on the woman ‘s record

Monitor women with eclampsia - hourly

22. Maintains a strict fluid balance chart

23. Checks vital signs

24. Checks fetal heart rate

25. Checks urinary output

26. Checks patela reflexes

27. Observes color

28. Auscultates the lung bases

Checklist: Management of eclampsia

STEP/TASK OBSERVATIONS

29. If rales are heard, withholds fluids

30. Checks temperature every four hours

31. Checks for signs of labor

32. Records all findings on the woman‘s record

33. Shares findings with the woman

APPENDIX II

INFORMED CONSENT FORM

Name of Supervisor: Dr.Fonjong Lucy

Contact: 677871073

Name of student: ANTIA Carene

Contact: +237 670095509

Dear respondents, This information sheet is a required Consent Form for the study entitled evaluating health workers perceptions in the management of eclampsia in the Yaounde II health area ; A contribution to medical Anthropology.

This Informed Consent Form has two parts:

Information Sheet (to share information about the study with you)

Certificate of consent (for signatures if you choose to participate). You will be given a copy of the full Informed Consent Form.

PART I: INFORMATION SHEET

Introduction

I am **ANTIA Carenea** Masters II student at the Department of Anthropology of the Faculty of Arts, Letters and Social Science of the University of Yaoundé I. I am doing research on the perception of Eclampsia in women's death at pregnancy which is A very common problem in this our country and in this region to be specific. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research. Before you decide, you can talk to anyone you feel comfortable with about the research.

This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later, you can ask them to me or to my supervisor.

Purpose of the research

This research is to understand why Eclampsia is a threat to pregnant Women, and to find ways to fight against it.

We believe that you can help us by telling us what you know about Eclampsia as a threat to pregnant women. We want to determine how people perceive Eclampsia, to Evaluate cultural practices how people see it in your community, and the consequences of these practices

Type of Research Intervention

This research will involve your participation in a group discussion that will take about one and half hour, and a thirty minutes interview.

Participant Selection

You are being invited to take part in this research because we feel that your experience in the war zone, can contribute much to our understanding and knowledge on education within crisis.

Example of the question to elucidate understanding

1. Do you know why we are asking you to take part in this study?
2. Do you know what the study is about?

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate all the services, you receive will continue and nothing will change.

Procedures

We are asking you to help us learn more about eclampsia in your community. We are inviting you to take part in this research project. If you accept, you will be asked to participate in an interview with myself. During the interview, I will sit down with you in a comfortable place of your choice, if it is better for you, the interview can take place in a place of your preference. If you do not wish to answer any of the questions during the interview, you may say so and the interviewer will move on to the next question. No one else but the interviewer will be present unless you would like someone else to be there. The information recorded is confidential, and no one else except ANTIA Carene will have access to the information documented during your interview. The entire interview will be tape-recorded, but no-one will be identified by name on the tape. The tape will be kept safe with a password and encryption if hacked. The information recorded is confidential; the tapes will be destroyed after eight weeks of data collection.

Duration

The research takes place over 60 days in total. During that time, we will visit you two times for interviewing you at one-week interval and each interview will last for about thirty min each.

Examples of question to elucidate understanding: If you decide to take part in the study, do you know how much time will the interview take? Where will it take place? Do you know how much time will the discussion with other people take? If you agree to take part, do you know if you can stop participating? Do you know that you may not respond to the questions that you do not wish to respond to? Do you have any more questions?

Risks

We are asking you to share with us some very personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the interview if you do not wish to do so, and that is also fine. You do not have to give us any reason for not responding to any question, or for refusing to take part in the interview.

Benefits

There will be no direct benefit to you, but your participation is like to help us to understand more about Eclampsia, his cultural practices in your community, and to find ways out to eradicate Eclampsia.

Reimbursements

You will not be provided any incentive to take part in the research .However, we will acknowledge you in the final work for your time.

Examples of question to elucidate understanding: Can you tell me if you have understood correctly the benefits that you will have if you take part in the study? Do you have any other questions?

Confidentiality

The research being done in the educational resilience and others may draw attention and if you participate you may be asked questions, we will not be sharing information about you to anyone. The information that we will collect from this research project will be kept private. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and passkey. It will not be shared with or given to anyone except my research supervisor, who will have access to the information. You can ask me any more questions about any part of the research study if you wish to. Do you have any questions?

Part II: Certificate of Consent

I have been invited to participate in research about the perception of Eclampsia in women's death at pregnancy: A case study of Yaounde II Soa. I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.

Name of Participant

Signature of Participant

Date ……..

Case of some who cannot read nor write

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Name of witness _____

Signature

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