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SCHOOL OF MEDICINE AND HEALTH SCIENCES

DEPARTMENT OF NURSING

KNOWLEDGE AND PREVENTIVE PRACTICES TOWARDS PREGNANCY INDUCED HYPERTENSION BY PREGNANT WOMEN ATTENDING THE LEKMA HOSPITAL IN THE GREATER ACCRA REGION OF GHANA

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DECLARATION

We, the under-signed do hereby declare that except for other people's investigations which have been duly acknowledged, this work is the result of our own original research and that this research study, either in whole or part has not been presented elsewhere for another degree.

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DEDICATION

This work is dedicated to the Almighty God. We also dedicate this work to our families who has always helped and believed in us.

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Our sincere thanks go to the Almighty God for his grace and protections. We would like to express our deepest gratitude to our supervisor Dr. Mary Opare, for her excellent guidance, caring and patience. We would like to thank Management of LEKMA Hospital for their immense help during our data collection at the facility. We thank all pregnant women who volunteered to participate in the study. Our research would not have been possible without their helps. We would also like to thank our parents and our friends. They were always supporting us and encouraging us with their best wishes.

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ABSTRACT

Hypertension in pregnancy remains one of the leading causes of maternal deaths in Ghana and is associated with an increased lifetime risk of cardiovascular disease. Pregnancy-induced hypertension is particularly sinister in its early stages as a woman may be totally unaware of its presence. The purpose of this study was to assess the knowledge and preventive practices towards pregnancy-induced hypertension among pregnant women attending LEKMA Hospital in the Greater Accra region of Ghana.

The study was cross-sectional in design. A sample size of 100 women was decided on and data collected by convenience sampling technique using a structured questionnaire.

The results showed that many (61%) did not know what pregnancy-induced hypertension was. On the risk factors, majority (86%) indicated that alcohol consumption and (80%) indicated that lack of exercise could lead to pregnancy-induced hypertension. Most of the respondents (44%) indicated constant headache, 42% indicated palpitations and 18% indicated breathlessness as clinical manifestations of pregnancy-induced hypertension. On preventive measures, many (52%) lack consistency in antenatal visits. Majority (94%) indicated they avoided alcohol, (82%) avoided fatty foods and (81%) ate more fruits and vegetables.

In conclusion, there was knowledge deficit about pregnancy-induced hypertension, risk factors and clinical manifestations. However, practices like avoidance of fatty foods, alcohol with high intake of fruits and vegetables were performed preventive practices. Health care providers should implement the focused health education programs during antenatal visit.

CHAPTER ONE

BACKGROUND AND LITERATURE REVIEW

1.0 Introduction to the chapter

This is the first chapter of the study. It focuses on the background of the study, the problem statement, the purpose of the study, research objectives, research questions and significance of the study and the literature review.

1.1 Background of Study

Pregnancy-induced hypertension is defined as the elevation of the blood pressure to ≥140/90 mm Hg with or without proteinuria, which emerges after 20 weeks of gestation and normally resolves by 12 weeks postpartum (Watanabe, Naruse, Tanaka, Metoki & Suzuki, 2013). It increases the likelihood of progression into preeclampsia (Cnossen, van der Post, Mol, Khan, Meads & ter Riet, 2006). Previously, the definition included a rise in blood pressure from preconception or first trimester values of more than 25–30 mmHg systolic and/or 15 mmHg diastolic (Cnossen et al., 2006).

Pregnancy-induced hypertension is classified as mild or severe in some classification systems but the definition of mild preeclampsia is still conflicting (New York City State Department of Health, 2013). This may lead to confusion between mild preeclampsia and gestational hypertension, and for this reason the latest (New York City State Department of Health, 2013) classification does not stratify or classify preeclampsia (Cnossen et al., 2006). PIH is a systemic condition associated only with pregnancy, whose hallmarks are high maternal blood pressure, proteinuria and severe fluid retention. Other systemic manifestations include disseminated intravascular coagulation, haemolysis, elevated liver function test and rarely

seizures (Seely & Solomon, 2003). Pregnancy-induced hypertension is a leading cause of maternal and perinatal mortality and can also lead to long-term health problems like chronic hypertension, kidney failure, or nervous system disorders (Singh & Srivastava 2015).

Whiles pregnancy-induced hypertension is known to have a direct link with high maternal mortality and morbidity including risk of fetal perinatal death, preterm birth, and intrauterine growth restriction, it shows no symptoms making it difficult to predict in the early stages of pregnancy (Roberts, Ford, Algert, Antosen, Chalmers & Cnattingius, 2011). As a result, most cases are not detected early. Those that are detected are in severe eclampsia stage, which most of the time is difficult to treat or manage (Roberts et al., 2011). However, antenatal care visits by pregnant women have been found to reduce the risk of dying from Hypertension in pregnancy in pregnancy (Singh & Srivastava 2015).

Pregnancy-induced hypertension outcomes include premature delivery. According to the World Health Organization (WHO), of all the hypertensive disorders of pregnancy, preeclampsia was also found to have an adverse impact on maternal and neonatal health with no definite treatment except for the termination of pregnancy/ expulsion of the foetus (WHO, 2011). Preeclampsia affects 2-8% of all pregnancies worldwide causing about one-third of maternal deaths with over 6 million perinatal death (WHO, 2011).

Pregnancy-induced hypertension happens to be the commonest complication of pregnancy in sub-Saharan Africa with over 50% pregnant women being affected (Herrera, Herrra-Medina, Herrera-Escobar & Nieto-Diaz, 2014)). Of the 99% maternal deaths occurring in developing countries, especially Africa, pregnancy-induced hypertension was found to be a major cause of maternal mortality (WHO, 2011).

In Ghana, maternal mortality ratio remains excessively high and pregnancy-induced hypertension is responsible for about 9% of maternal deaths (Ghana Maternal Health Survey, 2009). There was an estimated 11,166 cases of pre-eclampsia in 2005 (Obed & Aniteye, 2006). The prevalence of the various types of pregnancy-induced hypertension include (50.0%), (38.0%), (6.3%) and (5.7%) representing gestational hypertension, preeclampsia, chronic hypertension and superimposed preeclampsia respectively in a study by Adu-Bonsaffoh, Ntumy, Obed and Seffah (2017). Though the country has achieved almost a universal coverage of antenatal care visits by pregnant women (97%), the country failed to achieve the Millennium Development Goal 5 which calls for a 75% reduction in the Maternal Mortality Rate of 1990 by 2015.

There is the need to develop a simple, low cost tool to identify and educate women who are more likely to develop pre-eclampsia before the 20th week of pregnancy. This educational tool could be used in rural settings, clinics, and maternity homes and also serve as a guide for early referral to prevent progression to eclampsia, and thus reduce maternal morbidity and mortality from this cause. Assessing pregnant women knowledge on PIH which is the focus of this study could form the basis of developing such a tool.

1.2 Problem Statement

When women have knowledge on pregnancy-induced hypertension, it will enable them to seek quality maternal health care services. They will go for early antenatal in a hospital during pregnancy leading to them being delivered by skilled attendants. .

However, the high incidence rate of pregnancy-induced hypertension can be attributed to low awareness, poverty, lack of antenatal care, late visit to hospitals, illiteracy, less sensitive

method for early detection of hypertensive complicated pregnancy. The diagnosis and early management of pre-eclampsia poses a challenge to obstetricians and gynaecologists (Singh & Srivastava 2015).

At the LEKMA Hospital was focus of the study, the researchers through their clinical training observed an alarming rate of hypertension among pregnant women who reported at the facility. This observation was confirmed by statistics from the records department where about 400 pregnant women are diagnosed with pre-eclampsia quarterly. In 2017, 357 pregnant women were diagnosed with pre-eclampsia out of which about 80% of them (285 pregnant women) underwent caesarean section with 14 of them resulting in fetal mortality (LEKMA Hospital Medical Records, 2018). Similar trend was observed in 2018 where 361 pregnant women were diagnosed with pre-eclampsia out of which about 88% (317 pregnant women) of them underwent caesarean section with 10 of them resulting in fetal mortality.

Despite this high incidence of hypertension, statistics from the hospital showed about 12% of women with cases reported to facility for antenatal care service after the 8th month which may result in fewer medical contacts.

This situation reduces the chance to treat and give preventive measures for certain diseases including hypertension and develop emergency plan with the expectant mother thereby putting the expectant mother and fetus as higher risk. Based on the aforementioned issues, this stud examined the knowledge and preventive practices towards pregnancy induced hypertension among pregnant women attending LEKMA Hospital.

1.3 Purpose of the Study

The purpose of the study was to assess the knowledge, attitude and preventive practices towards pregnancy induced hypertension among pregnant women attending LEKMA Hospital in the Greater Accra region of Ghana.

1.4 Objectives of the Study

This study seeks to achieve the following;

1. To determine the knowledge of pregnant women on pregnancy-induced hypertension.
2. To assess the preventive practices of the pregnant women towards pregnancy-induced hypertension.

1.5 Research Questions

1. What knowledge do pregnant women attending LEKMA Hospital have on pregnancy-induced hypertension?
2. What preventive practices do pregnant women attending LEKMA Hospital have towards pregnancy-induced hypertension?

1.6 Significance of the Study

Governments and health professionals of most African countries continue to decide on how to make health services and for that matter maternal health services more accessible to all categories of women. In Ghana, the institutional maternal mortality continues to be high. Several motherhood programmes have been launched aimed at improving women's health in general and especially, to reduce maternal mortality and morbidity and to contribute to

reducing infant morbidity and mortality. This study is therefore aimed at providing information that can be used to facilitate the realization of these goals. In addition, it would further inform stakeholders as to explanations and possible interventions for reducing pregnancy-induced hypertension among pregnant women or reducing the risk of them dying.

Furthermore, the authorities at the LEKMA would be better informed about the contextual and perceptual issues on pre-eclampsia among pregnant women in order to enhance their health education campaign within the catchment area of the hospital. This study also serves as reference to other studies on pregnancy-induced hypertension. The study also adds to literature which can be used by academia.

1.7 Operational Definition of Terms

Pregnancy-induced hypertension: Hypertension in pregnancy is a disorder that can occur during pregnancy and is characterized by high blood pressure (hypertension), and protein in the urine.

Knowledge: Awareness or familiarity gained by experience of a fact or situation.

Pregnant women: Pregnant women attending antenatal at LEKMA Hospital.

Practices: It refers to the habit of pregnant women that lead to the acquisition of this condition or its prevention.

1.8 LITERATURE REVIEW

Introduction

This chapter review literatures and published studies. It reviewed empirical studies relative to the knowledge on pregnancy-induced hypertension, attitude of the women towards pregnancy-induced hypertension and preventive practices of the women towards pregnancy-induced hypertension.

Knowledge on pregnancy-induced hypertension

Salim and Kuriakose (2017) conducted a descriptive study in a tertiary teaching centre on knowledge of gestational hypertension and knowledge regarding self-care measures of gestational hypertension among primigravid women with gestational hypertension in India. The study included 240 primigravid women with gestational hypertension. The results showed that majority (70.7%) of pregnant women had poor knowledge and only 4.2% had good knowledge regarding gestational hypertension. 36.4% of pregnant women had poor knowledge and 26.4% had good knowledge regarding its self-care measures. Significant association was noted between knowledge of gestational hypertension and age and education of pregnant women. There is significant association of knowledge of self-care measures of gestational hypertension with age, place of residence, educational status and use of mass media as a source of information. The study concluded that imparting health care information regarding gestational hypertension and its self-care measures can go a long way in reducing the adverse outcomes in pregnant women with gestational hypertension.

Also, Joseph, Nayak, Fernandes and Suvarna (2013) examined the effectiveness of antenatal care package on knowledge of pregnancy induced hypertension for antenatal mothers in

India. The research design was an evaluative approach using one group pretest post-test the experimental design 40 antenatal mothers were selected by purposive sampling. Their analysis showed that the pretest knowledge data showed that maximum number of mothers 26(65.5%) scored between the range of 11-20% (average).The mean knowledge score was 14.88 whereas the maximum possible score was 30.Among seven areas, the mean percentage knowledge in the area of basic factors of PIH was 43.75%, clinical features 41%, diagnosis 44%, management 57.5%, diet 50%, complication 50% and prevention 58%. The study concluded that there was significant association between pretest level of knowledge and age, educational status, occupation, monthly income, parity, gestational age, history of hypertension in previous pregnancy.

Safvan, Namitha, Neetha, Cyriac, Pramila and Silvester (2014) conducted a descriptive study on knowledge on prevention of pregnancy induced hypertension among antenatal mothers in Algeria. Of the 100 mothers sampled, their analysis showed that majority (60%) of the antenatal mothers had average knowledge on prevention of pregnancy induced hypertension. About 22% had poor knowledge. Only 18% had good knowledge. There were no antenatal mothers with very good and excellent grade of knowledge on prevention of pregnancy induced hypertension. There was no significant association between the knowledge score of antenatal mothers regarding prevention of pregnancy induced hypertension and selected demographic variables like age, religion, educational status, occupation, monthly income, gravida, period of gestation, and any bad obstetrical history. The study called for continues awareness on PIH among antenatal mothers.

Maputle, Khoza and Lebese (2017) investigated the knowledge of pregnant women towards Pregnancy-induced hypertension in Vhembe district, Limpopo province South Africa. A qualitative, exploratory approach was used. Population comprised of pregnant women who

were residing at one village in Vhembe district. Non-probability, purposive and snowball sampling method was used to sample ten pregnant women. Their results revealed knowledge deficit about Pregnancy-induced hypertension symptoms, prevention of complications and about the impact of Pregnancy-induced hypertension on the unborn baby. Maputle et al. (2017) recommended that health care providers should implement the focused health education programs during antenatal visit.

In Nigeria, Oyira (2009) investigated the knowledge, attitude and preventive practices towards pregnancy induced hypertension among pregnant women in General Hospital Calabar, cross river state, Nigeria. The research was made based on the following research question: What is the level of pregnant women's knowledge about pregnancy induced hypertension? What are the pregnant women's attitude and believes about pregnancy induced hypertension? The research instrument used in data collection was a questionnaire which was administered to 100 pregnant women. The findings showed that, about 82% of the women had formal lecture on pregnancy induced hypertension, hence have knowledge of pregnancy induced hypertension. Eighty percent of the women visit the hospital on noticing that they have swollen legs, 84% of the women believes that pregnancy induced hypertension could be prevented through regular antenatal care. Therefore, the study showed a positive correlation between adequate knowledge and positive attitude as the condition could be prevented.

Fadare, Akpor and Oziegbe (2016) conducted a descriptive study on knowledge and attitude of pregnant women towards management of PIH in Southwest Nigeria. Of the 200 respondents sampled purposively, majority (58.0%) believed that anybody can have pregnancy induced hypertension and (75.5%) relate the possible causes to eating too much salt, stress (57.5%) and over weight (49.5%). The study recommended that consideration be given to richer advocacy beyond creating awareness on PIH but also advocacy for women

and girl children to acquire formal education so as to better appreciate modern medical services.

In Ghana, Anowie and Darkwa (2015) conducted a descriptive cross-sectional study on the knowledge, attitudes and lifestyle practices of hypertensive patients in the cape Coast Metropolis-Ghana. Their findings revealed that of the 400 respondents, more than half of the participants (n=255; 63.8%) correctly explained that hypertension occurred when one's blood pressure moved higher than normal. Even with this knowledge, participants still believed that once it did not cause health problems in an individual, it was normal. As to whether or not obesity was a cause of hypertension, a significant percentage (45.8%) got it wrong as they responded in the negative. However, the majority had it correct. Similarly, 295 (73.8%) knew that stress could lead to hypertension. About 73% of the participants did not know that lack of physical activity could increase one's risk of acquiring hypertension as well as drinking too much alcohol (67.8%). In addition, only few of the participants (27.5%) knew that cardiovascular diseases could occur as a result of this condition or hypertension. In conclusion, Anowie and Darkwa (2015) stated that population-based prevention strategies, such as reduction in salt intake and integration of hypertension care into primary care need to be reviewed.

Asmah and Orkoh (2017) used logistics and double hurdle estimation approaches are employed together with univariate distributions (percentages and means) to analyze the socioeconomic correlates of the risk of hypertension and self-care knowledge among women aged 15–49 from the Ghana Demographic and Health Survey (GDHS) 2014. The results show that knowledge of hypertension, education, and ethnicity significantly influence women's risk of being hypertensive. In addition, women's own level of education and that of their partners, ethnicity, age, and wealth are important determinants of their knowledge of

hypertension. The study recommended that the Ministry of Health must collaborate with other civil society organizations and design policies aimed at educating hypertensive patients, their families, and people who are at high risk for hypertension giving due cognizance to access to information, ethnic and geographical diversity, attitudes, and practices.

Attitude of women towards pregnancy-induced hypertension

Mitwalli, Al Harthi, Mitwalli, Al Juwayed, Turaif and Mitwalli (2013) conducted a cross-sectional study on awareness, attitude, and distribution of high blood pressure among health professionals in Saudi Arabia. Their findings showed that many participants were not aware of recently recommended target value of blood pressure. Furthermore, 22.3% patients were irregular for their follow-up. Also, 12.2% patients were not adherent to the treatment. Isolated systolic hypertension was more common in men. A point of serious concern was that relatively young health professionals, who were not known to be hypertensive did not monitor their blood pressure. The study concluded that suboptimal awareness and lack of adherence to the treatment for blood pressure among health professionals is of serious concern, for increased chances of cardiovascular events.

Chotisiri, Yamarat and Taneepanichskul (2016) conducted a cross-sectional study was conducted at the outpatient clinic of the sub-district Health Promoting Hospital, one of the primary care sectors, between January and March 2015, and a total of 144 cases were recruited. The purpose of the study was to explore a baseline of hypertension knowledge, attitudes, and practices among older adults with hypertension at a sub-district Health Promoting Hospital in the Pathum Thani province of Thailand. Their findings revealed that a number of participants who had either positive or negative attitudes toward hypertension

were equal. Moreover, the overall score regarding participants' practice of hypertension was at a moderate level (70.1%). The study inclusion indicated that increasing patients' practices would be useful for promoting their healthy behaviors to achieve blood pressure control.

Tesema, Disasa, Kebamo and Kadi (2016) conducted a prospective cross sectional descriptive study design to determine the knowledge, attitudes and practices of hypertensive patients with respect to importance of lifestyle modification in the management of hypertension in Egypt. Of the 130 respondents who participated in the study, only 1.5% of them were smoking and large majority (94.6%) were having salt restriction. Majority (90.7%) of them reported that health care provider taught them about danger of too much salt. Conclusion: The results of this study indicates that although patients do receive advice on lifestyle modification, it was not enough and effective in changing patient behavior, knowledge and practice. Therefore, they recommended that clinicians should give adequate time to provide relevant information on the value of life style modification in the control of their blood pressure.

Fadare et al. (2016) in their study on knowledge and attitude of pregnant women towards management of PIH in Southwest Nigeria reported that of the 200 respondents majority of the participants (92.5%) believed that PIH is preventable. When asked on the course of action they will take if they experience any of the possible signs of PIH, there was high and consistent response that they will visit a hospital or clinic.

Aghoja, Okinedo and Odili (2017) conducted a cross-sectional study on knowledge, attitude and practice of hypertensive patients towards hypertension in a secondary health care facility in Delta State, Nigeria. Of the 330 hypertensive patients sampled, the overall practice of the respondents was good. Although, quite a number of them did not keep check of their blood pressure regularly, majority kept appointments with their physician. Despite the fact that most

respondents reported adherence to their prescribed medications, a majority of them had poorly controlled blood pressure. The study concluded that females demonstrated a better attitude towards hypertension, but males, better practice.

In Ghana, Owusu-Afriyie (2015) assessed the knowledge, attitudes and behaviours of hypertension patients at St. Michael Hospital, Pramso. A total number of 200 patients were involved. Respondents were recruited using a systematic random sampling technique. His findings showed that seventy two percent (n=144) knew the benefits of physical activity in hypertension control, 35% (n=70) were living a sedentary life style and, 42% (n=84) performed exercises below the recommended regimen. Eighty percent of the patients (n=159) indicated they stored their medicines at cool and dry places, away from light and high temperatures. His study called for appropriate life style modification and attitudes should be promoted in patients with hypertension in order to achieve optimal treatment outcomes.

Preventive practices of the women towards pregnancy-induced hypertension

Malahayati, Supriyadi and Sastramihardja (2016) investigated the knowledge and attitude towards prevention and management of hypertension. This was a descriptive study with cross–sectional approach conducted in Jatinangor sub-district in 2013.. One hundred twenty respondents aged 18–60 year-old were selected from population using stratified random sampling method. From the analysis, it was known that majority (60.83%) respondents had relatively positive attitude towards prevention of hypertension; 37.17% respondents had relatively negative attitude towards hypertension. This value was much bigger than attitude value of hypertension management; only 37.50% respondents were categorized as having a

relatively positive attitude. Sixty two percent respondents had a relatively negative. The study in conclusion suggested that it is better that the government together with all health care provider paying more attention in controlling hypertension by increasing people's knowledge and awareness towards the disease.

Bollampally, Chandershekhar, Kumar, Surakasula, Srikanth and Reddy (2016) conducted a prospective observational study on patient's knowledge, attitude and practice regarding hypertension. A total of 160 hypertensive patients with or without comorbid condition were included. The study found that the patients were not executing the practice regarding lifestyle and diet. Majority (83%) of patients are not doing any physical activity. This shows the poor practice towards hypertension. The study concluded that a clinical pharmacist can play major role in improving patient's knowledge and adherence by patient education, developing maintenance of diet and exercise improved the patients practice activities.

The study by Fadare et al. (2016) on knowledge and attitude of pregnant women towards management of PIH in Southwest Nigeria found that on perception of the participants on the relationship of PIH prevention with regular antenatal care, the majority (98%) of the participants agreed that regular antenatal care aids early detection of the disease.

In Ghana, the study by Anowie and Darkwa (2015) on knowledge, attitudes and lifestyle practices of hypertensive patients in the cape Coast Metropolis-Ghana found that about 73% of the participants did not know that lack of physical activity could increase one's risk of acquiring hypertension as well as drinking too much alcohol (67.8%). In addition, only few of the participants (27.5%) knew that cardiovascular diseases could occur as a result of this condition or hypertension.

Zieme (2015) conducted a cross-sectional quantitative study where hypertensive patients who regularly attended Specialist Hypertension OPD clinics at Ridge Regional Hospital and La General Hospital in the Accra Metropolis formed the study population. The study sought to explore their awareness and knowledge about self-monitoring, how they practice it and any barriers to the practice. Of the 354 respondents sampled, the proportion of respondents who were currently self-monitoring with their personal blood pressure apparatus was 31.9%, and less than 1% was practicing personal blood pressure correctly. The main barriers to the practice of self-monitoring identified were lack of awareness and lack of money to purchase a personal blood pressure apparatus. Awareness about self-monitoring among respondents was high. About a third of them were self-monitoring, but almost all of whom were practicing incorrectly. The study concluded that patients inability to practice were largely personal, but was also influenced by access to information/education.

CHAPTER TWO

RESEARCH METHODS

2.0 Introduction

This chapter provides detailed description of the method adopted for the research which includes the research design, population, sample and sampling method, research instruments, data collection procedure and the method of data analysis that was used to assess the knowledge and preventive practices towards pregnancy-induced hypertension among pregnant women attending LEKMA Hospital.

2.1 Research Design

A quantitative cross-sectional survey was conducted to assess the knowledge, attitude and preventive practices towards pregnancy induced hypertension among pregnant women attending LEKMA Hospital. Quantitative approach on the other hand emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through questionnaires and surveys, or by manipulating pre-existing statistical data using computational techniques (Polit, & Beck, 2012).

2.2 Research Setting

The study was carried out at the LEKMA Hospital. The LEKMA Hospital, situated at Teshie in Accra, is a Ministry of Health facility built by the Chinese Government as a China – Ghana Friendship Hospital. It is a 100-bed capacity hospital that has all the units of a General Hospital including specialist services, laboratory and radiological facilities. LEKMA Hospital

has in addition, a Malaria Research Centre, Herbal Medicine Unit and Antenatal Unit. It serves as the Municipal Hospital for the Ledzokuku-Krowor (Teshie / Nungua) area. The hospital's clinical staff is made up of a team of 22 Doctors of which 9 are specialist; over 200 nurses; pharmacist and paramedical staff. South- Gulf of Guinea from the Kpeshie Lagoon to Mukwe Lagoon near Regional Maritime Academy. The boundary continues along the Maritime road to Nungua Police station Barrier. It turns right to the Ashaiman road till the railway overhead bridge on the motorway and continues left to meet the stream that flows from AdjiriGanno and follows the stream southwards and ends at the starting point at the Kpeshie Lagoon.

2.4 Target Population

The population for this study involved all pregnant women attending antenatal clinic at the LEKMA Hospital.

Inclusion Criteria

1. Pregnant women who were attending antenatal clinic at the hospital were included in the study.
2. Pregnant women willing to participate in the study were included in the study.

Exclusion Criteria

1. Pregnant women who were about deliver were excluded from the study.

3. Pregnant women who were in-patients were excluded from the study.

4. Pregnant women diagnosed with complications or any illness were excluded from the study.

2.5 Sampling Method and Sample Size

According to LoBiondo-Wood & Haber (2010), sampling is a process of selecting a portion or subset of the designated population to represent the entire population. This sample is drawn from a sampling frame that represents a full list of members of a population from which the study respondents will be drawn. In this study, considering the population size of pregnant women attending LEKMA Hospital, a sample size of 100 women was decided on. Using the most conveniently available and willing pregnant women, as a means of data collection, a non-probability convenience sampling method was used to select a sample size of 100 pregnant women for the study. This sampling method allowed the use of the most readily accessible participants and it ensures voluntary participation.

2.6 Data Collection Tool

A structured questionnaire was given to participants. The first part addressed socio-demographic data on age, religion and level of education of each participant. Questions relating to the knowledge of women on pregnancy-induced hypertension were included in the second part. The final part examined the preventive practices of the women towards pregnancy-induced hypertension**.**

2.7 Data Collection Procedure

A letter of introduction from the Central University was sent to the Medical Superintendent at the LEKMA Hospital to seek permission for data collection. After obtaining permission to conduct the study, nurses on duty at the antenatal care unit were prevailed upon to assist the research team to administer the questionnaire to the pregnant women. After obtaining

permission from the, the antenatal clinic was visited on daily basis to collect data from the pregnant women. About 20 respondents were targeted each day. Respondents who could read and write were given the questionnaire to fill and those who could neither read nor write were assisted to complete the questionnaires. The questionnaire was taken back after completion by respondents and check for accuracy.

2.8 Validity and Reliability

Validity is the extent to which the study accurately reflects what it intends to measure (LoBiondo-Wood & Haber, 2010). If the research questionnaire is able to measure the parameters of the research topic then the questionnaire will be considered as a valid one. Validity of the study was established by ensuring that the questionnaire covers all the objectives of the study.

Also, according to LoBiondo-Wood and Haber (2010), reliability is the degree to which the research tool is able to generate/give similar responses over time and across situations. In order to ensure validity and reliability, the questionnaire was submitted to the supervisor for it to be reviewed and all other necessary corrections were done. Filled questionnaires were routinely checked when data was being collected to ensure that information being gathered was correct and accurate. Pre-testing of the questionnaires was done to eliminate ambiguity or sensitive words that ought not to be in the instrument.

- **Pretesting of tool**

The questionnaire was pretested at the La General Hospital to check for clarity, consistency and acceptability of the questions to respondents. Ten pregnant women at the La General

Hospital were chosen to participate in the study. Following this, the necessary corrections were made and questionnaires finalized for the actual field work.

2.9 Ethical considerations

In order to meet ethical requirements, a letter from Central University, requesting for permission to conduct this study was submitted to the medical director of the LEKMA Hospital. The purpose of the study was explained to the respondents for them to have a clear understanding of the study before they volunteered to participate. Respondents' participation was without any coercion. Respondents were informed that they have the choice to either participate or refuse and can discontinue participation at any time from the study if they so wished. Verbal consent was sought from the participants before being recruited to participate in the study. Confidentiality and anonymity were maintained by ensuring that respondents' identity and names were not endorsed on the questionnaire forms. More so, respondents were informed that there were no risks involved in the study and that information obtained will not in any way be linked to them. This is to safeguard the rights of the respondents to remain anonymous.

2.10 Limitations of study

The main limiting factor to this research was the time available for data collection due to other academic commitments and work. Also, the findings cannot be generalized to every health facility in Ghana because only LEKMA Hospital was used. The sample size of 100 also limits the generalization of the results.

CHAPTER THREE

STUDY FINDINGS AND DISCUSSIONS

3.0 Introduction

This section of the study details the results analyzed from responses from the respondents. It is presented largely descriptively in the form of tables and graphs and organized according to the objectives of the study.

3.1 Approach to data analysis

Data were analysed using Statistical Package for Social Sciences (SPSS) version 20.0. Descriptive measures such as frequency and proportion were used to describe the data and these were represented by tables and graphs. Tables were presented with frequencies and percentage.

3.2 Findings

Socio-Demographic Characteristics of Respondents in the Study

For this section, age, marital status, education, employment status and religion of the respondent are presented. From table 1 below, many of the respondents (59%) were aged 25-34 years, 22% were aged 18-24 years, 16% were aged 35-45 years and 3% were aged 46-55.

When it came to religion, many (59%) were Christians and 41% were Muslims. In terms of education, 32% had primary education, 26% had senior high school education, 18% had no education, 16% had junior high school education and 14% had tertiary education. Regarding

the occupation of respondents, 44% were traders, 27.3% were professionals, 13% were unemployed, 10% were students and 5% were artisans.

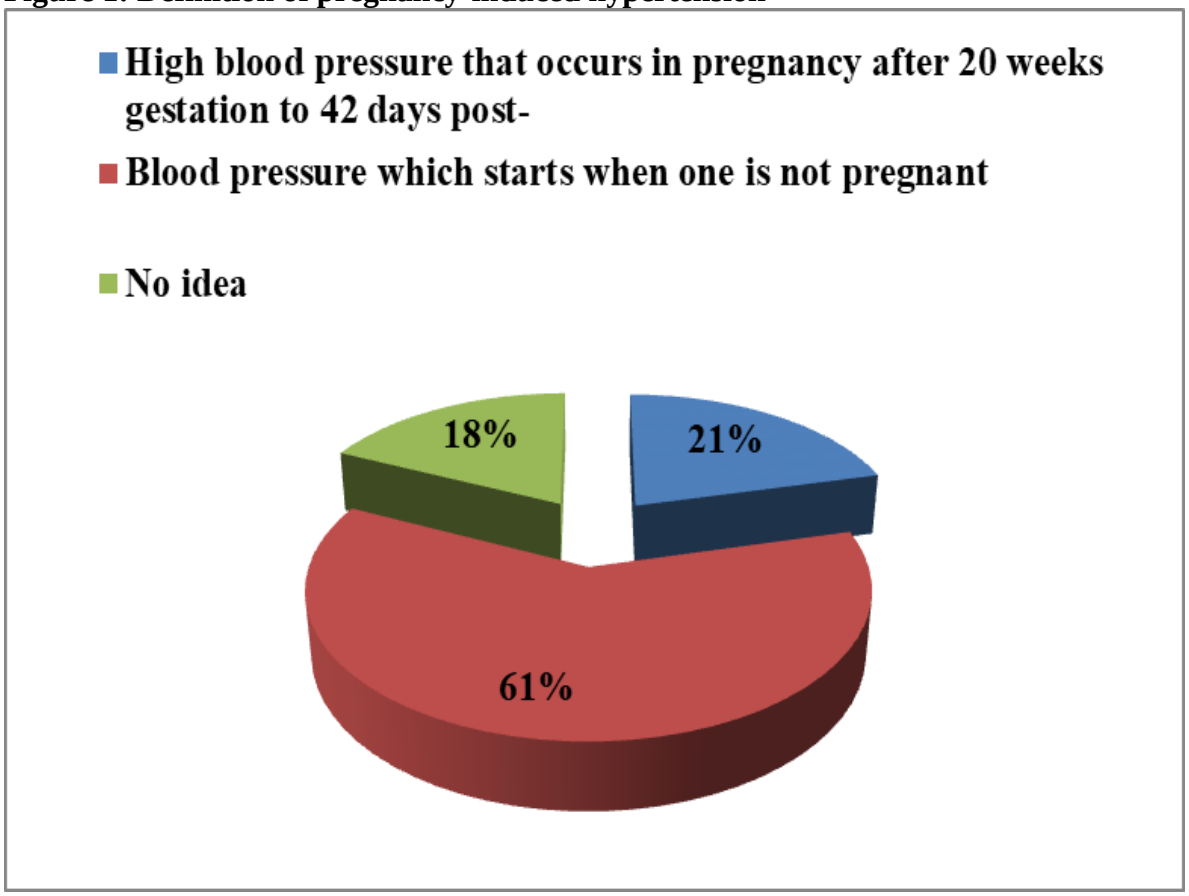
Table 1: Socio-demographic characteristics of Respondents

Characteristics	Frequency	Percentage
AGE(years)		
18-24	22	22%
25- 34	59	59%
35-45	16	16%
46-55	3	3%
56 years and above	-	-
Total	**100**	**100%**
RELIGION		
Christianity	59	59%
Muslim	41	41%
Traditionalist	-	-
Total	**100**	**100%**
EDUCATION LEVEL		
No education	18	18%
Primary level	32	32%
Junior high/JSS	16	16%
Senior high/SSS/Secondary	26	26%
Tertiary/Post-secondary	14	14%
Total	**100**	**100%**
OCCUPATION		
Artisan	5	5%
Trader	44	44%
Professional	27	27%
Student	10	10%
Unemployed	14	14%
Total	**100**	**100%**

Field Work, 2019

Knowledge of pregnant women on pregnancy-induced hypertension

Figure 1: Definition of pregnancy-induced hypertension



Field Work, 2019

Figure 1 above shows that majority (61%) indicated pregnancy-induced hypertension is blood pressure which starts when one is not pregnant, 21% indicated that pregnancy-induced hypertension is high blood pressure that occurs in pregnancy after 20 weeks gestation to 42 days post-delivery and 18% had no idea what pregnancy-induced hypertension mean.

Table 2: Knowledge on risk factors for pregnancy-induced hypertension

Variable	Frequency	Percentage
High salt diet		
Yes	72	72%
No	28	28%
Total	**100**	**100%**
High cholesterol diet		
Yes	22	22%
No	78	78%
Total	**100**	**100%**
Stressful situations		
Yes	34	34%
No	66	66%
Total	**100**	**100%**
Lack of exercises		
Yes	80	80%
No	20	20%
Total	**100**	**100%**
Lack of adequate rest		
Yes	44	44%
No	56	56%
Total	**100**	**100%**
Smoking cigarettes/snuff		
Yes	18	18%
No	82	82%
Total	**100**	**100%**
Drinking alcohol		
Yes	86	86%
No	14	14%
Total	**100**	**100%**

Field Work, 2019

Table 2 above depicts information on the knowledge of respondents on risk factors for pregnancy-induced hypertension. Respondents were asked to indicate the all the risk factors they were aware of. The analysis showed that the about two-third (86%) said the risk factor of pregnancy-induced hypertension was drinking alcohol. Again, 80% said the risk factor of pregnancy-induced hypertension was lack of exercise. Other risk factors identified by respondents were high salt diet (72%), lack of adequate rest (44%), stressful situations (34%), high cholesterol diet (22%) and smoking (18%).

Table 3: Knowledge on signs of pregnancy-induced hypertension

Variable	Frequency	Percentage
Oedema of feet		
Yes	14	14%
No	86	86%
Total	**100**	**100%**
Constant Headache		
Yes	44	44%
No	56	56%
Total	**100**	**100%**
Breathlessness		
Yes	18	18%
No	82	82%
Total	**100**	**100%**
Palpitations		
Yes	42	42%
No	58	58%
Total	**100**	**100%**
Don't know		
Yes	30	30%
No	70	70%
Total	**100**	**100%**

Field Work, 2019

Table 3 above shows response on signs of pregnancy-induced hypertension. Respondents were required to name all the symptoms they are aware of. The analysis showed that most of them (44%) indicated constant headache is a sign of pregnancy-induced hypertension, 42% indicated palpitations as sign of pregnancy-induced hypertension, 30% had no idea and 18% indicated breathlessness as sign of pregnancy-induced hypertension.

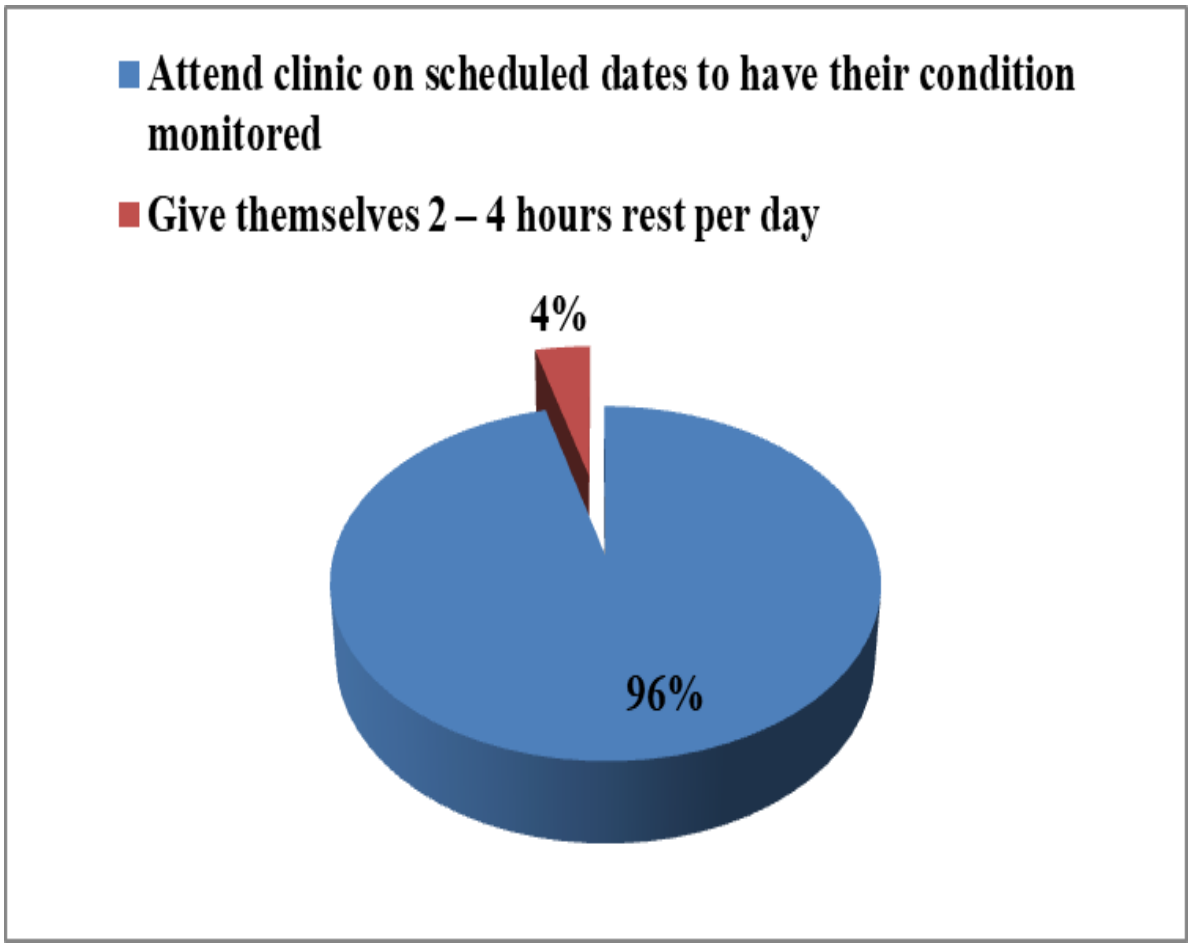
Table 4: Knowledge on other conditions that requires a woman with pregnancy-induced hypertension to take extra caution

Variable	Frequency	Percentage
Diabetes Mellitus		
Yes	22	22%
No	78	78%
Total	**100**	**100%**
Chronic Hypertension		
Yes	35	35%
No	65	65%
Total	**100**	**100%**
Multiple pregnancies (twin/triplets)		
Yes	47	47%
No	53	53%
Total	**100**	**100%**
Obesity		
¤ *Yes*	17	17%
No	83	83%
Total	**100**	**100%**
Don't know		
Yes	20	20%
No	80	80%
Total	**100**	**100%**

Field Work, 2019

Table 3 above highlights respondents' knowledge on conditions require a woman with pregnancy induced hypertension to take extra caution. The analysis revealed that just under half (47%) indicated that a woman with pregnancy induced hypertension should be careful with multiple pregnancies. Also, 35%, 22% and 17% indicated that a woman with pregnancy induced hypertension should be careful with chronic hypertension, diabetes mellitus and obesity respectively.

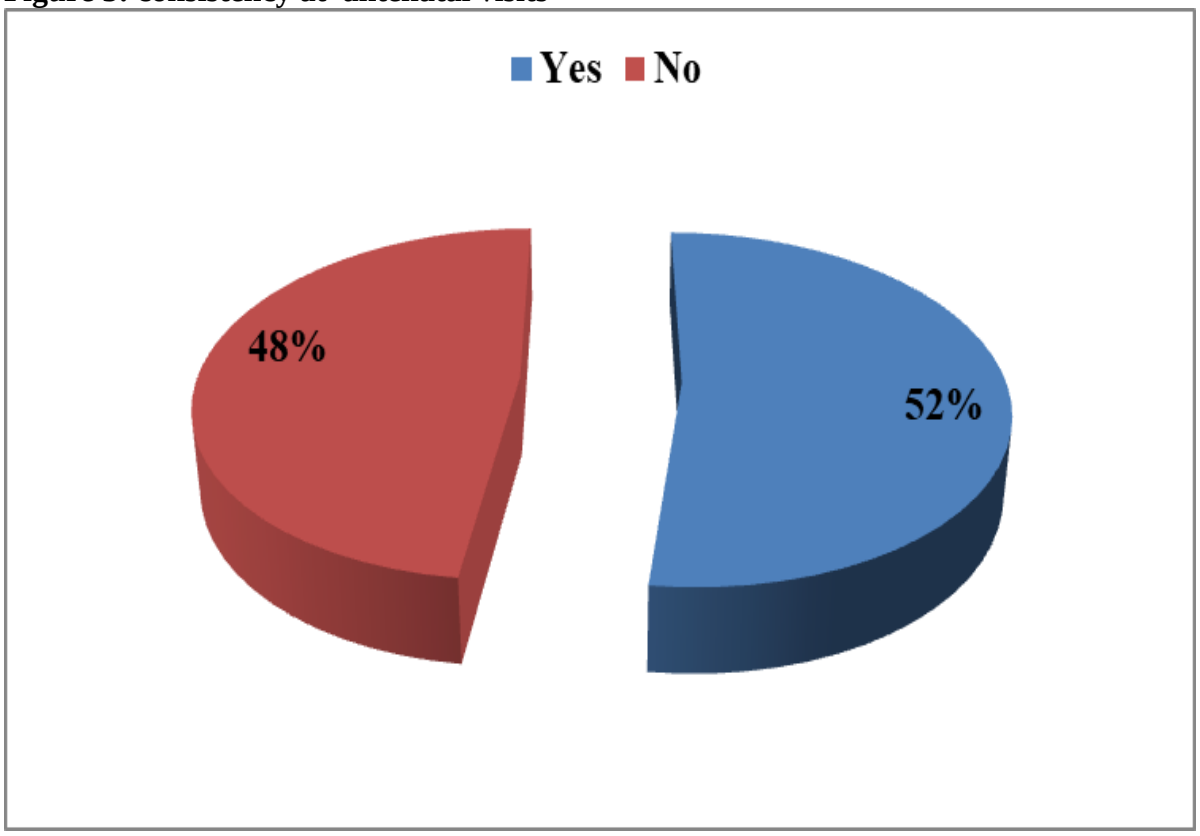
Figure 2: Action a woman with predisposing factors of pregnancy induced hypertension takes



Field Work, 2019

When respondents were asked what action a woman with predisposing factors of pregnancy induced hypertension do, almost all (96%) indicated that they should attend clinic on scheduled dates to have their condition monitored whereas 4% indicated they should give themselves 2 – 4 hours rest per day.

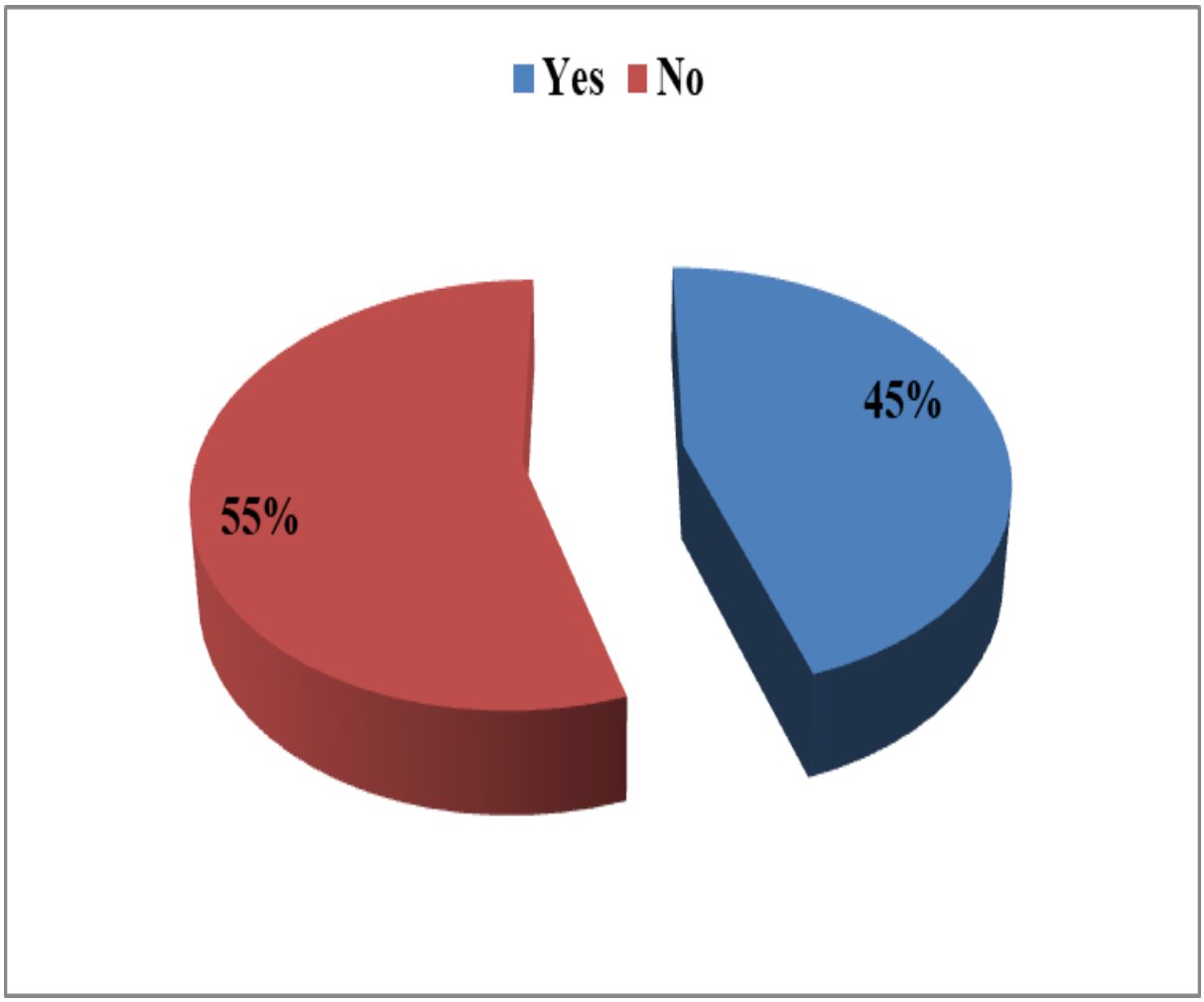
Figure 3: consistency at antenatal visits



Field Work, 2019

Figure 3 above shows that a little over half (52%) indicated that they have missed an antenatal schedule whereas 48% indicated that they have not missed a schedule.

Figure 4: Take sufficient rest



Field Work, 2019

Analysis as shown in figure 4 above shows that less than half (45%) take sufficient rest whereas majority (55%) do not take sufficient rest.

Table 4: What respondents do to prevent weight gain

Variable	Frequency	Percentage
Avoid fatty food		
Yes	90	90%
No	10	10%
Total	**100**	**100%**
Undertake regular exercise		
Yes	39	39%
No	61	61%
Total	**100**	**100%**
Avoid Alcohol		
Yes	93	93%
No	7	7%
Total	**100**	**100%**
Eat more fruits and vegetables		
Yes	77	77%
No	23	23%
Total	**100**	**100%**
Avoid Cigarettes		
Yes	100	100%
No	-	-
Total	**100**	**100%**

Field Work, 2019

Table 4 highlights analysis on some practice the respondents do to prevent weight gain. Of the 100 respondents, all of them indicated that they avoid cigarettes. Majority (93%), (90%) and (77%) further indicated that they avoid alcohol, avoid fatty food and eat more fruits and vegetables respectively was a way to prevent weight gain. The least mentioned ways of preventing malaria weight gain were undertake regular exercise (39%).

Table 5: What respondents do to prevent high blood pressure

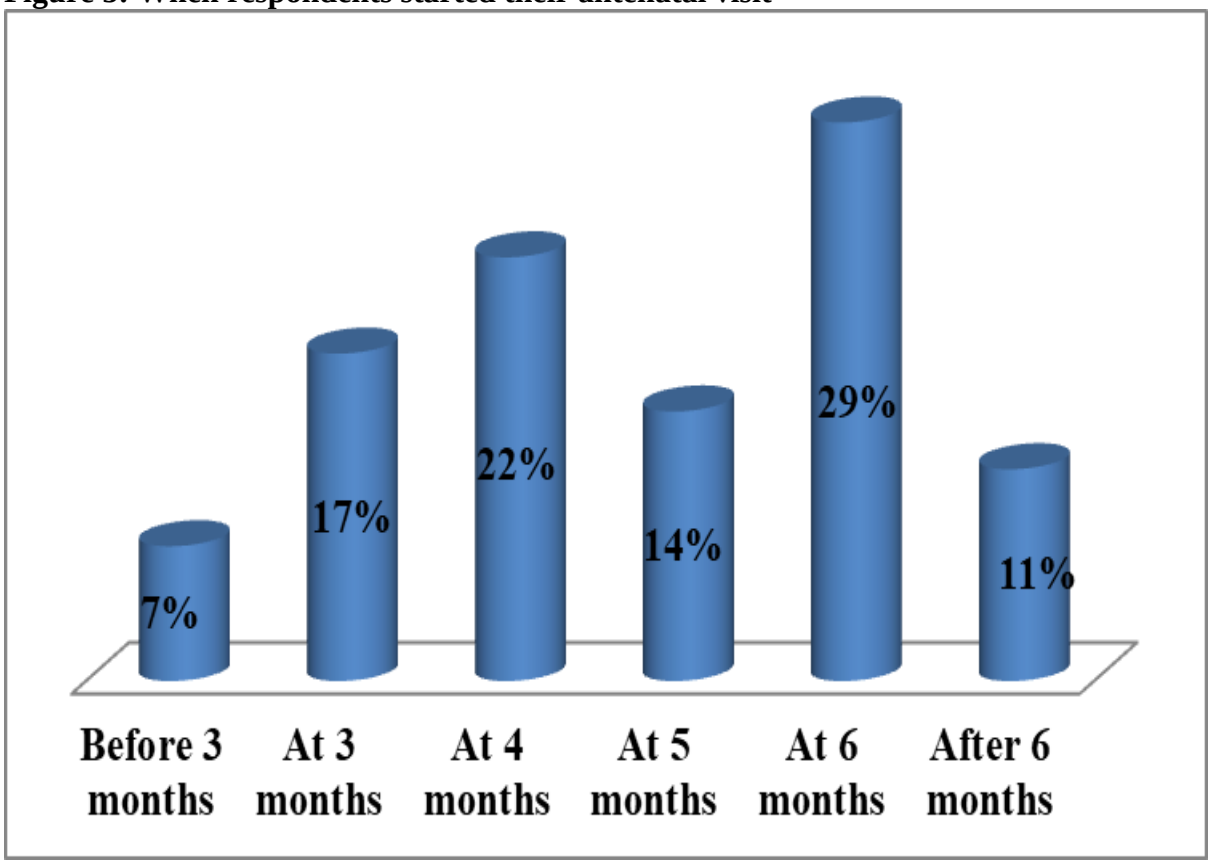
Variable	Frequency	Percentage
Avoid fatty food		
Yes	82	82%
No	28	28%
Total	**100**	**100%**
Undertake regular exercise		
Yes	39	39%
No	61	61%
Total	**100**	**100%**
Avoid Alcohol		
Yes	94	94%
No	6	6%
Total	**100**	**100%**
Eat more fruits and vegetables		
Yes	81	81%
No	19	19%
Total	**100**	**100%**
Avoid Cigarettes		
Yes	100	100%
No	-	-
Total	**100**	**100%**

Field Work, 2019

Table 4 depicts analysis on some practice the respondents do to prevent high blood pressure. Of the 100 respondents, all of them indicated that they avoid cigarettes. Majority (94%), (82%) and (81%) further indicated that they avoid alcohol, avoid fatty food and eat more fruits and vegetables respectively was a way to prevent high blood pressure. The least mentioned ways of preventing malaria weight gain were undertake regular exercise (39%).

When respondents were asked if they adhered to all medications given to them at the antenatal unit, all of them (100%) answered in the affirmative.

Figure 5: When respondents started their antenatal visit



Field Work, 2019

Figure 5 above depicts the times when respondents started their antenatal visit. The analysis shows that 29% started at 6 months, 22% started at 4 months, 17% started at 3 months, 14% started at 5 months, 11% started after 6 months and 7% started before 3 months.

3.3 Discussions

Knowledge of pregnant women on pregnancy-induced hypertension

This study found out that majority of the respondents could not define correctly pre-eclampsia in pregnancy. Only 18% defined correctly pregnancy-induced hypertension as high blood pressure that occurs in pregnancy after 20 weeks gestation to 42 days post-delivery. This outcome is inconsistent with finding by Anowie and Darkwa (2015) who found that more than half of the participants (63.8%) in the Cape Coast Metropolis correctly explained that hypertension occurred when one's blood pressure moved higher than normal. Another inconsistent with finding was reported by Suff, Jatoth, Khalil and O'Brien (2011) who reported majority (86%) of participants in UK were able to define correctly the blood pressure thresholds for the diagnosis of mild and severe hypertension. The differences in outcome between this current study and that of the studies mentioned above are due to variation in target population. Suff et al. (2011) in their study used obstetricians and midwives (health professionals) who are expected to have knowledge on pregnancy-induced hypertension than the sample women in this study.

On the risk factors of pregnancy-induced hypertension, majority of the respondents correctly identified drinking alcohol, lack of exercise and high salt diet. Less than half of them also identified lack of adequate rest, stressful situations, high cholesterol diet and smoking as a risk factor. This finding agrees with finding by Fadare et al. (2016) who found that majority (75.5%) of pregnant women in Nigeria knew that that possible causes of pregnancy-induced hypertension are eating too much salt, stress and overweight. Similar outcome was reported by Anowie and Darkwa (2015) who found that who found majority (73.8%) of participants knew that stress, lack of physical activity and too much alcohol intake could lead to hypertension.

The results further showed that less than half of the respondents could correctly identify the danger signs of pregnancy-induced hypertension. Respondents cited constant headache is a, palpitations and breathlessness as danger signs of pregnancy-induced hypertension. This outcome agrees with the finding by Salim and Kuriakose (2017) who found that majority (70.7%) of pregnant women in India had poor knowledge on signs of pregnancy-induced hypertension.

Regarding respondents' knowledge on conditions which require a woman with pregnancy induced hypertension to take extra caution, less than indicated multiple pregnancies, chronic hypertension, diabetes mellitus and obesity. This outcome agrees with by Maputle et al. (2017) who found that majority of pregnant women in South Africa had knowledge deficit about pregnancy-induced hypertension prevention of complications.

Preventive practices of the pregnant women towards pregnancy-induced hypertension

The results showed that majority (52%) of the respondents have missed an antenatal schedule. This outcome represents poor practice among majority of the respondents. It was therefore of no surprise when more than half of the respondents reported at from the 5 month onwards (i.e. closer to their second trimester). This outcome may imply lack of knowledge on the benefits on antenatal care. Antenatal care is critical to the improvement of maternal health. This situation reduces the chance to treat and give preventive measures for certain diseases and to develop a birth and emergency plan with the expectant mother thereby putting the expectant mother and fetus as higher risk. This finding is inconsistent with finding by Edie, Obinchemti, Tamufor, Njie, Njamen and Achidi (2015) who found that majority (99%) of pregnant women in Cameroon attended antenatal care at the required time.

Regarding some practices the respondents do to prevent weight gain and high blood pressure, all of them indicated that they avoid cigarettes. Majority also indicated that they avoid alcohol, avoid fatty food and eat more fruits and vegetables respectively were a way to prevent weight gain. These practices are good and important to prevent weigh gain and high blood pressure. This outcome agrees with finding by Malahayati et al. (2016) who found that majority (60.83%) of participants in Indonesia had relatively positive attitude towards prevention of hypertension. Another consistent outcome was reported by Tesema et al. (2016) who found that only 1.5% of participants in Egypt were smoking and large majority (94.6%) were having salt restriction.

The results again revealed that all the respondents adhered to all medications given to them at the antenatal unit. This also represents a good practice to prevent pregnancy induced hypertension. This outcome is consistent with finding by Mitwalli et al. (2013) who found that 86.7% participants in Saudi Arabia were adherent to the treatment.

3.4 Conclusion

This study assessed the knowledge, attitude and preventive practices towards pregnancy induced hypertension among pregnant women attending LEKMA Hospital in the Greater Accra region of Ghana. It has been useful in identifying the knowledge of pregnant women on pregnancy-induced hypertension and preventive practices of the pregnant women towards pregnancy-induced hypertension. The findings revealed average knowledge of pregnancy-induced hypertension among the respondents. The results further showed that despite good practices towards the prevention of weight gain and high blood pressure, majority of the respondents missed the antenatal schedules.

3.4 Recommendations

Based on the findings of the study, the following are recommended:

1. Women within child bearing age should be educated on reproductive health issues. Educating women improves their health and that of their children.
2. The Ministry of Health and the Ghana Health Service should continue their education on pregnancy induced hypertension. Health workers and general public should all be part of the target group in order to increase the awareness about it.
3. Health education should be provided at antenatal care at all material times so pregnant women who do not rely unqualified persons for maternal health information.
4. Health professionals should use the mass media as important avenue for dissemination of maternal health issues since a lot of people rely on the media for information on health.
5. Community health workers should be strengthened to reach women at all levels of the society in order to disseminate information on the importance of antenatal care.

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APPENDIX

CENTRAL UNIVERSITY

SCHOOL OF APPLIED SCIENCES

QUESTIONNAIRE FOR RESPONDENTS

Dear Respondent,

We are final year students of the Department of Nursing, Central University. As part of our academic work (requirement for graduation), we are conducting a research on the topic; **"Knowledge, attitude and preventive practices towards pregnancy induced hypertension among pregnant women attending LEKMA Hospital in the Greater Accra region of Ghana**",

We would therefore be happy if you could participate in the study. Your participation is voluntary. You are allowed to withdraw at any time if you so with without any reprimand, penalty or loss of any health benefit entitled to you. All information obtained from you will be treated privately and confidentially. Codes numbers will be used on the forms. You are free to ask the researchers any questions or seek clarification about the study if you wish.

Statement of Consent

I have read the information above, or it has been read to me. I consent voluntarily to be a participant in this study

Signature or Thumb print of Participant: ……..

Date: ……..

Thank you for time and responses

QUESTIONNAIRE

Select the appropriate answer by ticking the box provided beside the question.

SECTION A. DEMOGRAPHIC DATA

1. Age of respondent.

I. 18-24 [ ] II. 25- 34 years [ ] III. 35-45 years [ ] IV. 46-55years [ ]

V.56 years and above [ ]

2. Religion

I. Christian [ ] II. Islam [ ] III. Traditional [ ]

IV. Other, specify……

3. Educational background

I. No formal education [ ] II. Primary level [ ]

III. Junior high/JSS [ ] IV. Senior high/SSS/Secondary [ ]

V.Tertiary/Post-secondary [ ]

4. Occupation?

I. Formal employment [ ] II. Informal Employment [ ] III. Student [ ]

IV. Unemployed [ ]

SECTION B: KNOWLEDGE OF WOMEN ON PREGNANCY-INDUCED HYPERTENSION

5. What do you understand by pregnancy induced hypertension?

I. High blood pressure that occurs in pregnancy after 20 weeks gestation to 42 days post-delivery[ ]

II. Blood pressure which starts when one is not pregnant [ ]

III. No idea

6. NB: Tick as many as applicable

Which of these factors may contribute to pregnancy induced hypertension?

I. High salt diet [ ]

II. High cholesterol diet [ ]

III. Stressful situations [ ]

IV. Lack of exercises [ ]

V. Lack of adequate rest [ ]

VI. Smoking cigarettes/snuff [ ]

VII. Drinking alcohol [ ]

VII. Don't know

7. NB: Tick as many as applicable

What the signs of pregnancy induced hypertension?

I. Oedema of feet [ ]

II. Constant Headache [ ]

III. Breathlessness [ ]

IV. Palpitations [ ]

V. Don't know

8. NB: Tick as many as applicable

Which of the following conditions require a woman with pregnancy induced hypertension to take extra caution?

I. Diabetes Mellitus [ ]

II. Chronic Hypertension [ ]

III. Multiple pregnancies (twin/triplets) [ ]

IV. Obesity [ ]

V. Don't know

9. NB: Tick as many as applicable

What should a woman with predisposing factors of pregnancy induced hypertension do?

I. Nothing [ ]

II. Attend clinic on scheduled dates to have their condition monitored [ ]

III. Give themselves 2 – 4 hours rest per day [ ]

IV. Don't know

SECTION C: PREVENTIVE PRACTICES OF THE WOMEN TOWARDS PREGNANCY-INDUCED HYPERTENSION

10. Have you ever missed your any of your schedule antenatal day?

I. Yes [ ] II. No [ ]

11. Do take sufficient rest?

I. Yes [ ] II. No [ ]

12. NB: Tick as many as applicable

What do you do to prevent weight gain?

I. Avoid fatty food [ ]

II. Undertake regular exercise [ ]

III. Avoid Alcohol [ ]

IV. Eat more fruits and vegetables [ ]

V. Avoid Cigarettes [ ]

VI. Other (specify)……..

13. NB: Tick as many as applicable

What do you do to prevent high blood pressure?

I. Avoid fatty food [ ]

II. Undertake regular exercise [ ]

III. Avoid Alcohol [ ]

IV. Eat more fruits and vegetables [ ]

V. Avoid Cigarettes [ ]

VI. Other (specify)……..

15. Do you adhere to all medications given to you at the antenatal unit?

I. Yes [ ] II. No [ ]

16. When did you start your antenatal visit?

I. Before 3 months [ ]

II. At 3 months [ ]

III. At 4 months [ ]

IV. At 5 months [ ]

V. At 6 months [ ]

VI. After 6 months [ ]