KNOWLEDGE AND ATTITUDE OF PREGNANT WOMEN ON THE CAUSES AND PREVENTION OF PRE-ECLAMPSIA AT OLABISI ONABANJO UNIVERSITY TEACHING HOSPITAL, SAGAMU, OGUN STATE, NIGERIA

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#### Abstract

Pre-eclampsia is one of the common complications of pregnancy and continues to be a leading cause of death and disability globally. Despite the effort of the government and other developmental agencies to reduce maternal death rates globally. Therefore, this study assessed the knowledge and attitude of pregnant women attending antenatal clinic on the causes and prevention of pre-eclampsia in Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State. The study utilized a descriptive survey. Participants that were involved in the study were 242 pregnant women attending antenatal clinic using convenience sampling techniques. Data was collected using a structured questionnaire. Data obtained from the respondents were analyzed using Statistical Packages for Social Sciences (SPSS v.21). The result revealed that majority of the respondents (50.5%) were between the ages of 25-29 years, more than half of the respondents (57.5%) had high level of knowledge towards pre-eclampsia while few (42.5%) had low level of knowledge towards pre-eclampsia. Less than half of the respondents (41.5%) obtained knowledge from the hospital and 4.5% from newspaper. This showed that majority of the respondents knew about preeclampsia. Majority of the respondents believed that any symptom felt during pregnancy should be reported; headache (58%), swollen legs (62%), lower or upper abdominal pain (75%) and rapid weight gain (66%) and this revealed a positive attitude towards pre-eclampsia. Majority (75%) of the pregnant women believed that there is a known cause of pre-eclampsia. The study revealed that majority (80%) believed that pre-eclampsia is preventable, through regular antenatal clinic (92.5%), avoiding stress (90.5%), avoiding excess salt intake (84.5%) and having adequate rest (88%), while few (20%) believed preeclampsia is not preventable. In conclusion, majority of the respondents had good knowledge and attitude towards the prevention of pre-eclampsia. Awareness should be created among antenatal mothers on their obstetric health status through antenatal health talk, newspaper, radio, social media, conferences, workshop by the community, local government, state government and federal government.

Keywords: Knowledge, Attitude, Prevention, Pre-Eclampsia, Antenatal Clinic.

## INTRODUCTION

Pregnancy is defined as the period during which a woman carries a developing fetus, normally in the uterus. It lasts for approximately 266 days, from conception until the baby is born, or 280 days from the first day of the last menstrual period (Oxford dictionary of nursing, 2017). Pregnancy is the time of physical and psychological preparation for birth and parenthood (Lowdermilk, 2013).

However, about 60-80% of all maternal deaths are due to five major complicationsnamely, post-partum hemorrhage, puerperal sepsis, hypertension disorder in pregnancy, unsafe abortion and obstructed labour (Say et al., 2014). Hypertensive disorder in pregnancy contributes greatly to maternal mortality and morbidity amongst pregnant women in the world. Pre-eclampsia is one of the common complication of pregnancy and continues to be a leading cause of death and disability globally (WHO, UNICEF, UNFPA, 2014).

Pre-eclampsia is a multisystem disorder characterized by the onset of gestational hypertension (140/90mmHg or more, measured in two separate readings taken at least 6 hours apart) and the presence of protein in the urine; proteinuria (defined as reading greater than 300mg in a 24hour urine collection; 1+ or more on dipstick testing or a protein: creatinine ratio  $\geq$ 30mg/mol on a random sample) occurring usually after 20 weeks of gestation (Duley et al, 2009).

Sutapa and Gagandeep, 2014 defined pre-eclampsia as a new onset hypertension (blood pressure  $\geq$  140/90 mmHg) developing after 20 weeks of gestation, during labour or in the first 24 hours post-partum a condition that typically starts after 20<sup>th</sup> week of pregnancy associated with proteinuria (urinary albumin protein  $\geq$  300mg/24hr).

Despite active research and knowledge of the risk factors such as past history of preeclampsia, pregestational diabetes, multiple gestation, nulliparity, family history of preeclampsia, body mass index > 30 before pregnancy, pre-existing hypertension and extremes of maternal age (<20 and  $\geq$  40 years), the cause of pre-eclampsia is still largely unknown but the pathogenesis is partially understood as related to disturbances in placentation at the beginning of pregnancy, followed by generalized inflammation and progressive endothelial damage (Marshall & Raynor, 2014).

WHO estimates that 14% of all maternal deaths result from the hypertensive disorders of pregnancy; it is also associated with a high risk of newborn death (WHO, UNICEF, UNFPA, 2014).

Globally, over 500,000 women die annually from complications arising from pregnancy, delivery and pueperium. About 55,000 women die in Nigeria and this account for 10% of the world total maternal and mortality rate and the developing countries account for about 99% of the total death (Ogunsina, 2015).

The severe forms of pre-eclampsia are often associated with complications such as hemolysis, elevated liver enzymes and low platelet count syndrome, placenta abruption, and eclampsia which are life-threatening for mother and fetus (Minire, Mirton, Imri, Lauren & Aferdita, 2013). In Nigeria, the prevalence of pregnancy-induced hypertension is reported to be 17%, and the prevalence of pre-eclampsia estimated as 6% (Singh, et al., 2014). Hence, this makes pre-eclampsia a cause for concern to Public Health and antenatal mothers particularly.

Previous studies revealed that obstetric emergencies such as pre-eclampsia often arise as a result of poor knowledge, inadequate information on appropriate time to seek help and sometimes on where to seek help. It has been suggested that nearly one-half of preeclampsia may be prevented with good knowledge (Olayinka et al., 2014). However, antenatal mothers with pre-eclampsia should acquire the essential knowledge about complications and follow-up care through awareness campaigns, conferences and workshops.

Beliefs and negative attitude may also be related to the issues of pregnancy induce hypertension. Maternal deaths could be prevented if women were able to have adequate knowledge and positive attitude towards attending antenatal clinic (Satpathy et al., 2016).

Satpathy et al., (2016) conducted surveys on the knowledge, attitude and belief towards pregnancy-induced hypertension and it was reported that 82% women were lacking knowledge of pregnancy-induced hypertension.

Majority of the women would seek medical care on developing symptoms of pregnancyinduced hypertension. Fadare et al., (2016), carried out a study to find out the knowledge and attitude of pregnant women towards the management of pregnancy-induced hypertension, which showed that, about 82% of the women had knowledge of pregnancy induced hypertension and majority of the participants believed that pregnancy-induced hypertension is preventable. The study showed a positive correlation between adequate knowledge and positive attitude as the condition could be prevented.

Additionally, tt is very clear that despite the effort of government and other developmental agency to reduce maternal deaths rate in Nigeria, yet the burden of maternal morbidity and mortality is still on the increase having one of the highest maternal mortality rate ranging from 496 to 560 per 100,000 live births (Nigeria Demographic and Health Survey, 2013), as well as a high prevalence of pre-eclampsia of 6% (Singh et al., 2014).

The rate of severe pre-eclampsia-eclampsia and the number of maternal deaths from hypertension in pregnancy to have fallen steadily over recent years in some developing countries, in places where maternal mortality is high, most of these deaths are still associated with pre-eclampsia and eclampsia having a maternal mortality rate as high as 15% in developing countries.

Not surprisingly, the rate of pre-eclampsia and eclampsia is higher in the developing countries because of absent prenatal care and lack of access to proper hospital care (Ghulmiyyah & Sibai, 2012).

Olayinka et al., 2014, suggested that nearly one-half of the serious outcomes that occur as a result of pre-eclampsia among antenatal mothers are due to lack of knowledge about pre-eclampsia. This serves as a major cause of concern for public health especially antenatal mothers.

Nevertheless, hypertensive disorder in pregnancy remains a major contributor to maternal and fetal mortality and morbidity. Pregnancy-induced hypertension is a leading cause of maternal and perinatal mortality and can lead to long-term health problems like chronic hypertension, kidney failure or nervous system disorders (Singh & Srivastara, 2015).

Most women experience serious barriers to services or even if they do reach them, the services themselves lack adequate quality on the part of the health personnel. Health personnel is now widely sort for as the one of the most vital intervention to maternal mortality reduction owing to pregnancy induced hypertension (Eze et al., 2018).

Knowledge is an essential element to enable antenatal mothers to be aware of their obstetric health status through antenatal health talk, conferences and workshops a good number of them will visit the hospitals immediately with prompt attention; this will improve the women's attitude toward antenatal clinics and preventive measures of pre-eclampsia (Satpathy et al., 2016).

Therefore, this study wass designed to investigate the level of knowledge and attitude of pregnant women attending antenatal clinic on the causes and prevention of preeclampsia in Olabisi Onabanjo University teaching hospital, Sagamu, Ogun State, Nigeria.

## **Research Questions**

- 1. What is the level of knowledge of the pregnant women on pre-eclampsia?
- 2. What are the pregnant womens' attitude towards pre-eclampsia?
- 3. What are the possible causes of pre-eclampsia as identified by the pregnant women?
- 4. Do pregnant women make conscious effort or take preventive measures against pre-eclampsia?

## MATERIALS AND METHODS

**Research Design:** This study is a quantitative research that adopted the use of a descriptive survey method of data collection to assess the knowledge and attitude of pregnant women attending antenatal clinic on the causes and prevention of pre-eclampsia in Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State.

**Population:** The target population for this study consisted of pregnant women attending the antenatal clinic at OOUTH. It included the pregnant women that attend the antenatal clinic on the specific antenatal days at the hospital.

According to records, the total number of pregnant women attending the antenatal clinic for a month at Olabisi Onabanjo University Teaching Hospital is 612. For the purpose of this research, the target population (pregnant women) were selected from the antenatal clinic at obstetrics and gynaecology unit.

**Sample and Sampling Technique:** Taro Yamane's formula (1967) was used to determine the sample size of 242 from the 612 population of pregnant women at the antenatal clinic at Olabisi Onabanjo University Teaching Hospital. Convenience non-probability sampling technique was adopted to select 242 participants.

**Instrument:** Data were collected from the participants with the use of a self-developed questionnaire. The questionnaire comprised of five sections which included Section A: Socio-Demographic data, Section B: Knowledge of pre-eclampsia among the pregnant women, Section C: Attitude of the pregnant women towards pre-eclampsia, Section D: Possible causes of pre-eclampsia among pregnant women and Section E: Prevention of pre-eclampsia among pregnant women.

**Method of Data Collection:** The researcher obtained a letter of permission from the School of Nursing, Babcock University which was used to gain consent and permission from the Head of Nursing Services at OOUTH to distribute the questionnaires and carryout the observation, in order to enhance cooperation with the intended participants. Subsequently, the researcher went to the antenatal clinic.

Prior to administration of the questionnaire, the purpose of the research was explained to the participants and the questionnaire explained for clarity and to promote good cooperation. Consent was obtained from the participants. Finally, the questionnaires were administered by the researcher to the selected participants at the antenatal clinic and retrieved upon completion. These questionnaires were checked for completeness and consistency upon collection.

**Method of Data Analysis:** The data collected was analyzed using the statistical packaging for social sciences (SPSS) version 27. Descriptive statistics was used to analyze research questions using frequency, percentage mean and standard deviation. Hypotheses were tested using inferential statistics of chi-square at 0.05 level of significance.

**Ethical Consideration:** Before the commencement of this research study, ethical approval was obtained from the Babcock University Health Research Ethical Committee (BUHREC) to regulate the procedures that will be carried out.

The researcher gained the consent of the respondents for the conduction of the research work. The purpose of the study was clearly stated at the top of the questionnaires. The respondents were required to answer with sincerity of heart because any information collected from the questionnaires were be handled with utmost respect and confidentiality.

## RESULTS

Ν	Variable	Frequency		
1	Have you heard about pre-	Yes	134(56.5%)	
	eclampsia before	No	103(43.5%)	
2	If yes, pre-eclampsia is	No response	97(40.5%)	
		High sugar level in blood	12(5.0%)	
		Condition not associated with pregnancy	4(1.5%)	
		Condition of high blood	126(53.0%)	
		pressure in pregnancy reading >140/90mmHg		
2	Pre-eclampsia is life threatening	Yes	164(69%)	
3		No	73(31%)	
4	If yes, it is harmful to	No response	68(28.5%)	
		The pregnant woman only	38(16.5%)	
		The unborn child only	5(2.0%)	
		Both the pregnant woman and the unborn child	126(53.0%)	
5	Have you had any teaching on pre- eclampsia	Yes	128(54%)	
5		No	109(46%)	
	If yes, where did the teaching take place	Hospital	98(41.5%)	
6		Village gathering	6(2.5%	
		Radio	1(0.5%)	
		Newspaper	11(4.5%)	
		Church	2(1.0%)	
		Mosque	1(0.5%)	
		No response	117(49.5%)	

# Table 1: Respondents knowledge on pre-eclampsia

Table 1 reveals the knowledge of the respondents towards pre-eclampsia. This study shows that majority 134(56.5%) of the respondents have heard about pre-eclampsia while few 103(43.5%) had not heard about it.

Out of the knowledgeable respondents 126(53%) indicated that pre-eclampsia is a condition of high blood pressure in pregnancy reading >140/90mmHg. In addition, majority 164(69%) of the pregnant women knew that pre-eclampsia is life threatening and harmful to both the pregnant woman and the unborn child 126(53%).

Moreover, more than half 128(54%) of the pregnant women agreed that they had learnt about pre-eclampsia. Majority were taught in hospital 98(41.5%), and through newspaper 11(4.5%). Therefore, this study reveals that majority of the respondent knew about pre-eclampsia, and the knowledge were received from the hospital and newspaper.

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What would you do if you develop the following symptoms in pregnancy?	Visit the hospital	Rest at home	Do nothing
Severe headache	138(58%)	96(40.5%)	4(1.5%)
Swollen legs	147(62%)	88(35%)	8(3%)
Lower or upper abdominal pain	178(75%)	55(23%)	5(2%)
Rapid weight gain	156(66%)	47(20%)	33(14%)
Blurred vision	193(81.5%)	38(16%)	6(2.5%)
Nausea and vomiting	159(67%)	66(28%)	12(5%)
Excessive protein in urine	205(86.5%)	20(8.5%)	12(5%)
Shortness of breath	222(93.5%)	10(4%)	6(2.5%)
High blood pressure during pregnancy	209(88%)	20(8.5%)	8(3.5%)

# Table 2: Pregnant women's attitude towards pre-eclampsia

Table 2 shows the attitude of the respondents towards symptoms that could occur during pregnancy. This finding reveals that when most pregnant women felt the following symptoms, such as headache (58%), swollen legs (62%), lower or upper abdominal pain (75%), and rapid weight gain (66%) they visited the hospital. etc. Therefore, most of the respondents believed that any symptoms felt during pregnancy should be reported to the hospital.

Do you think there is a known cause	Yes	178(75%)				
of pre-eclampsia	No	59(25%)				
If yes, rate the following as possible causes						
Possible causes	SA	Α	UD	SD	D	
High-salt diet	71(30%)	95(40%)	26(11%)	7(3%)	38(16%)	
High calorie diet	57(24%)	107(45.5%)	23(9.5%)	12(5%)	38(16%)	
Stress	95(40%)	94(39.5%)	15(6.5%)	14(6%)	19(8%)	
Lack of exercise	68(28.5%)	91(38.5%)	25(10.5%)	28(12%)	25(10.5%)	
Multiple pregnancies	71(30%)	75(31.5%)	36(15%)	19(8%)	36(15%)	
History of pre-eclampsia in the family	79(33.5%)	73(31%)	37(15.5%)	24(10%)	24(10%)	
First time pregnancy	60(25.5%)	83(35%)	47(20%)	19(8%)	27(11.5%)	
Over weight	59(25%)	91(38.5%)	33(14%)	28(12%)	25(10.5%)	
Evil spirits	40(17%)	45(19%)	39(16.5%)	36(15%)	77(32.5%)	

#### Table 3: Possible causes of pre-eclampsia among pregnant women

Table 4.2.3 reveals possible causes of pre-eclampsia among pregnant women. It showed that 75% of the respondents believed that there is a known cause of pre-eclampsia, out of which majority 70% of the pregnant women agreed that high-salt diet, high-calorie diet 69.5%, stress 79.5%, lack of exercise 67%, multiple pregnancies 61.5%, history of pre-clampsia in the family 61.5%, first time pregnancy 60.5%, over weight 63.5% can cause pre-eclampsia but majority 47.5% agreed that evil spirits cannot cause pre-eclampsia.

Therefore, this study shows that high-calorie, high-salt diet, lack of exercise, overweight, first-time pregnancy are possible factors contributing to the cause of pre-eclampsia but evil spirit cannot cause pre-eclampsia.

Do You Think Pre-Eclampsia Is	Yes	189(80%)			
Preventable	No	47(20%)			
If yes, rate the following statement					
Statements	SA	Α	UD	SD	D
Regular antenatal clinic	160(67.5%)	59(25%)	13(5.5%)	1(0.5%)	2(1.5%)
Avoiding stress	134(56.5%)	81(34%)	13(5.5%)	8(3.5%)	1(0.5%)
Avoiding excess salt intake	116(49%)	84(35.5%)	17(7%)	4(1.5%)	17(7%)
Adequate rest	127(53.5%)	82(34.5%)	17(7%)	4(1.5%)	8(3.5%)

## Table 4: Prevention of pre-eclampsia among pregnant women

Table 4 shows the prevention of pre-eclampsia among pregnant women. It reveals that majority 80% of the pregnant women believed that pre-eclampsia is preventable. Through regular antenatal clinic 92.5%, avoiding stress 90.5%, avoiding excess salt intake 84.5%, and having adequate rest 88% are effective preventive measures against pre-eclampsia.

# **DISCUSSION OF FINDINGS**

This findings revealed that most of the respondents had high level of knowledge, while few of pregnant women had low level of knowledge towards pre-eclampsia. This corresponds with a study conducted by Fadare, Akpor & Oziegbe (2016) on the knowledge and attitude of pregnant women towards the management of pregnancyinduced hypertension, which showed that, about 82% of the women had knowledge of pregnancy- induced hypertension and majority of the participants believed that pregnancy-induced hypertension is preventable but contrary to a survey conducted by Satpathy, Rani, Tripathi, Poojita & Kulshreshta (2016) on the knowledge, attitude and belief towards pregnancy-induced hypertension, it was reported that 82% women were lacking knowledge of pregnancy-induced hypertension.

This study revealed that any symptoms such as headache (58%), swollen legs (62%), lower or upper abdominal pain (75%), rapid weight gain (66%) etc. felt by a pregnant woman should be reported to the hospital.

This result associates with a survey conducted by Satpathy, Rani, Tripathi, Poojita & Kulshreshta, (2016) on the knowledge, attitude and belief towards pregnancy induced hypertension among pregnant women attending Sir Sunderlal Hospital, BHU, Varnasi was conducted and the result indicated that majority of the women would seek medical care on developing symptoms of pregnancy-induced hypertension. Majority (90%) of the respondents would visit the hospital when they notice swollen legs, 95% if they develop constant headache, 87% if they develop upper abdominal pain, 98% if they developed blurring of vision.

Similar to the above finding, Eze, Barasa, Adams, Rabiu, Ezekiel, Sulaiman & Ponsiano, (2018) study on the attitude of pregnant women on pre-eclampsia, a study in Tanzania on the determination, knowledge and prevalence of pregnancy-induced hypertension/ eclampsia among women of child-bearing age at a district hospital showed that majority

(64%) had positive attitude towards pre-eclampsia prevention, minority 22% had negative attitude towards pre-eclampsia prevention while 14% had no response.

This study showed that 75% respondents believed that there is a known cause of preeclampsia, this study showed that 70% of the pregnant women agreed that high-salt diet, high-calorie diet 69.5%, stress 79.5%, lack of exercise 67%, multiple pregnancies 61.5%, history of pre-clampsia in the family 61.5%, first time pregnancy 60.5%, over weight 63.5% can cause pre-eclampsia but majority 47.5% agreed that evil spirits cannot cause pre-eclampsia.

This correlates with a study conducted by Okhae & Arulogun (2015) on the knowledge of pre-eclampsia among pregnant women attending Adeoyo maternity hospital, Ibadan North Local Government Area, Oyo State, Nigeria, the contributing factors that could worsen hypertension in pregnancy were assessed and 62.4% of the respondents knew that high salt diet can induce hypertension in pregnancy, while 21.8% did not know.

About 36.5% knew that high cholesterol diet can induce hypertension in pregnancy while majority 42.9% did not know that high cholesterol is a predisposing factor to pre-eclampsia, 32.4% knew that multiple gestation can induce hypertension in pregnancy while 35.9% did not know. Also, 42.9% of the respondents knew that drinking alcohol is a contributing factor to pre-eclampsia while 45.3% did not know.

This finding revealed that majority 80% of the pregnant women agreed that pre-eclampsia is preventable. Through regular antenatal clinic 92.5%, avoiding stress 90.5%, avoiding excess salt intake 84.5%, and having adequate rest 88%. This corroborates with a study conducted by Fadare, Akpor & Oziegbe (2016) on the knowledge and attitude of pregnant women towards management of pregnancy-induced hypertension in Southwest, Nigeria.

It revealed that majority of the participants (92.5%) believed that pregnancy induced hypertension is preventable. Majority of the participants strongly agreed that avoiding stress (56%) and regular antenatal care (53.5%) are effective preventive measures against pregnancy induced hypertension and also that regular antenatal care aids prevention of pregnancy induced hypertension

## CONCLUSION

Globally, Pre-eclampsia is one of the most common complication of pregnancy and continues to be a leading cause of death and disability. This finding revealed a good knowledge of the pregnant women towards pre-eclampsia and showed some possible causes of pre-eclampsia and preventive measures in managing the conditions.

It also showed that pregnant women should report to the hospital when any unusual symptoms are observed to maintain an appropriate antenatal and hospital care by the health workers.

### RECOMMENDATION

- 1. More awareness should be encouraged among antenatal mothers on their obstetric health status through antenatal health talk, radio, newspaper, conferences, workshop by the community leaders, local government, state government and federal government.
- 2. More articles should be published on-line to add more advise, change orientation on cultural belief of the pregnant women.
- 3. Means to reduce cost of treatment should be sought for.
- 4. Family should ensure adequate prenatal and antenatal care
- 5. Hospital should be the first option of a pregnant woman when unusual symptoms are observed.

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