

## Knowledge and awareness of Menopause Among Female Elementary School Teachers in Osun State, Nigeria

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**Abstract:** Menopause is a natural part of a woman's life, it is the phase when a woman no longer experience menstruation when her body begins to produce progressively lesser progesterone and estrogen and eventually her menstrual cycles cease. The study assessed awareness and knowledge of menopause and establish relationship between menarche, menopause, lifestyle modification and non communicable diseases with the view of encouraging positive healthy behavior. The study adopted a descriptive cross sectional design. Sample size was calculated using Leslie-Fisher's formula. Self-administered, structured questionnaires which were designed, piloted, and validated were used to collect data from 306 female teachers. Results were analyzed by Statistical Package for social sciences (SPSS) version 20 and P value was set as 0.05. Findings revealed that majority of the respondents (75.2%) perceived menopause as a time when women stops menstruation totally. The results also showed that (60.5%) of the respondents agreed that early menarche will cause early menopause while (52.9%) agreed that physical exercise reduces symptoms of menopause and prevents non communicable diseases. Concerning association of menopause to myths, half of the respondents (50%) believed that they should abstain from sexual intercourse during menopause owing to the fact that it can lead to storage of sperm in them by (33.3%). Multiple Regression analysis revealed that the age, marital status, educational status and knowledge about menopause are significantly related to onset of menopause with the p value of 0.035 which is < 0.05. This study concluded that female elementary school teachers were aware of menopause but have inadequate knowledge about nutrition and regular physical exercise during this phase of life.

**Key Words:** Awareness, Knowledge, Menopause, Nutritional Status, Teachers.

### I. Introduction

Menopause is the permanent cessation of menstruation resulting from the loss of follicular activity of the ovaries which is recognized to have occurred after 12 consecutive months of amenorrhea, for which there is no other obvious pathological or physiological cause. The term menopause originated from the Latin word *menos* meaning "month" and the Greek word *pausis* meaning "to cease" Blake [1].

Sievert[2] also described menopause as the physiological cessation of menstruation for twelve calendar months. She further that as a period of a woman's life, is marked by changes in endocrine secretion, which marks the end of her menstrual cycle and fertile years. This means that an average woman will spend one-third of her life in menopause. That is an individual experience, which rarely passes without symptoms.

Although menopause is a universal phenomenon, there is a considerable variation among women regarding the age of attaining menopause and the manifestation of menopausal signs and symptoms. Worldwide, the estimates for the median age at menopause range from 45 to 55 years with the average age of onset of about 50 years. It is usually different for every woman, rocky time with fluctuating hormones which leads to various emotional and physiological symptoms.

McLellan, Gallacher, Fraser, & McQuillian, [3] reported that physiological changes are associated with menopausal symptoms; these in turn are thought to increase the risk of various chronic diseases including heart diseases and osteoporosis. It is an established fact that a well-balanced diet rich in micronutrients, phytochemical, and antioxidants are important for good health and to combat some of the complications of menopause to certain extent; however, the experience of menopause is unique and personal for every woman.

In Nigeria with a total female population of approximately 59.5 million, about 25 % (14.88 million) are already in their pre, peri and postmenopausal period with a large proportion gainfully employed and still contributing to the economic development of the country Nigeria National Population Commission [4].

A number of symptoms are experienced by women during the climacteric transition. These include; hot flashes/flushes; night sweats; vaginal dryness, contraction with shallower folds; thinning of public, axillary and head hair; inability to sleep, mood swings. Other changes are decreased cervical size, uterine cavity and tubes; smaller clitoris and the breasts becoming less full and firm. Also, memory problems, dry, thin skin and decreased collagen levels, more abdominal fats, cystitis, fatigue, nervousness, urinary disturbances such as increased frequency and emotional outburst like shedding of tears and anger (Sembulingam [5] ; McLellan, Gallacher, Fraser,

& McQuillian [3], ; Meza, Mercado & Barraza [6] & Smeltzer [7]. Some women reported forgetfulness, feelings of panic, weight gain, irritability and dyspareunia (discomfort during intercourse) Nisar & Sohoo [8]; Lund, [9]. There is also increased vaginal pH predisposing the women to bacterial infections and atrophic vaginitis Smeltzer, [7]. Various studies equally revealed that, many women experience minimal distress during the transition period. Some women experience a decreased quality of life which is due to these distressful symptoms (Bromberger et al, [10]).

Important morbidity issues associated with the transition include; osteoporosis and fractures due to decreased estrogen levels which ordinarily help to build and maintain bones and increased risk of cardiovascular disease (McLellan, Gallacher, Fraser, & McQuillian, [3]; Saw, Ricci, Starovoytov, Fox, & Buller [11]).

Ossewaarde et al [12] reported that menopause can have an impact on the overall quality of life of women as one of the main causes of osteoporosis and cardiovascular diseases. Besides these diseases, obesity and high BMI contributes to morbidity and mortality, leading to some forms of cancer and chronic diseases, such as osteoarthritis, liver and kidney diseases, sleep apnea, and depression Subak et al [13]. Women entering menopause unprepared to cope with changes of this period of life and with insufficient knowledge of dietary habits can lead to oversupply or lack of nutrients. An unbalanced diet, low physical activity and emotional stress can intensify the symptoms of menopause. Menopausal symptoms may vary in their strength; some women have no problems while others suffer during this period of life. In addition, limitation of foods high in saturated fat and nitrates, avoiding red meat, coffee, chocolate and alcohol and the use of prescribed drugs like vitamins E, D, and the B complex, calcium gluconate or carbonate and magnesium have been found helpful Smeltzer, [7]; Meza, Mercado & Barraza, [6]; Woods et al [14]; McLellan, Gallacher, Fraser, & McQuillian, [3]; Walsh, Hunter & Livingstone, [15].

Another important form of management in women with several symptoms and health disorders is the Hormonal Replacement Therapy (HRT) though it may not be suitable for all women. The main aims of the HRT are to; reduce the symptoms associated with menopausal experiences, prevent the disorders arising from the estrogen depletion and avoid causing disorders that may be common with the therapy such as endometrial and breast cancer Evans et al [16]; Walsh, Hunter & Livingstone, [15]; Semltzer [7].

The knowledge and awareness of physiological and psychological changes during menopause is essential for women because of the need to modify lifestyle to reduce the risk of non communicable diseases like cardiovascular disease, bone and cognitive disorders and overweight

It is upon this background that this study assessed awareness and knowledge of menopause and its symptoms among female teacher, assessed the relationship between menarche and menopausal age, assessed their knowledge about lifestyle modification and established the relationship between menopause and non communicable diseases with the intention of encouraging positive healthy behavior that will have greater impact on their quality of life and future health.

## **II. Methodology**

**2.1 Study Setting:** The research was conducted in Osogbo. Osogbo is the capital of Osun state and it was founded in early 18<sup>th</sup> century by Yoruba hunter and became the capital of Osun state in August 1991 following the creation of the state. It is located 9km north east of Ibadan and it covers an area of about 140square km and lies at height of 366 above the sea level. The population is about 288343 according to year 2006 population census. Osogbo has two local governments (Osogbo and Olorunda) with their headquarters in Osogbo. Osogbo local govt has 15 political wards with 44 public elementary schools and these schools have 400 teachers. The local government is bounded in the north by Olorunda LGA, Egbedore LGA in the south and by Atakunmosa, Obokun and Boriye LGAs in the west. It's headquarter is located at Oke-Baale. The local inspectorate of education's office is located at Oja-Oba in Osogbo.

**2.2 Study Population:** The study population comprised of all female teachers within 30-60years in public elementary schools in Osogbo.

Inclusion Criterion is being a female teacher in elementary schools in Osogbo within 30-60years as at the time of the study while the exclusion Criteria are being a male school teachers, female teachers that are less than 30 years in elementary schools and those that were absent due to illness as at the time of collecting data.

**2.3 Study Design:** This study is a descriptive cross sectional research. The design was adopted to collect data from elementary school teachers about their awareness and knowledge of menopause and assessment of nutritional status.

**2.4 Sample Size Determination:** The sample size was determined using Leslie-Fisher's Formula. The formula is for calculating sample size in a cross sectional study design, to study attribute in a population and selecting a sample for study. The formula is stated thus.

$$N = \frac{Z^2 P(1-P)}{d^2}$$

n= is the sample size

z= is the standard normal variance=1.96  
 p=prevalence of Menopause=25% (0.25) Kubani (2011)  
 d=normal deviation=0.05  

$$n = \frac{1.96^2 \times 0.25(1-0.25)}{0.05^2}$$
 n=288.12

The sample size was approximately 288 respondents. However, adding 10% non-response rate, the eventual sample size was 316.8 which was approximated to 320.

**2.5 Sampling Technique:** Multistage sampling technique was used for this study. First stage was the use of simple random sampling to select one local govt from the three L.G.As in Osogbo (Osogbo, Olorunda & Egbedore). Then, one elementary school was randomly selected in each of the fifteen political wards in Osogbo LGA while the last stage was the use of purposive sampling method to select the female teachers that fall in the age range of 30-60 years as the respondents.

**2.6 Research Instrument:** Data were collected through the use of se structured questionnaire that consists of five sections: **Section A:** Socio-demographic data of the respondents, **Section B:** Knowledge of the respondents on menopause and its symptoms, **Section C:** Evaluation of relationship between menarche and menopausal age, **Section D:** Assessment of relationship between menopause and non communicable diseases and **Section E:** Knowledge about lifestyle modification.

**2.7 Validity and Reliability of the instrument:** To determine the validity of the research work, questionnaire was constructed and presented to the scholars in the field of Nursing, Community health and Gynaecology to establish face and content validity. Pilot study was carried out in another local govt using 25 respondents with a Cronbach coefficient value of -0.691.

**2.8 Ethical consideration:** Ethical approval was taken from the ethical committee of the Osun state ministry of health. Each respondent was informed verbally on the aims and significance of the study, their voluntary participation, anonymity and confidentiality guaranteed. Informed consent was taken from the respondents before commencement of data collection

**2.9 Data Collection:** Eight weeks was used to collect the data from all the respondents. Data was collected during the staff meeting and school break time so as not to disrupt the class work. A total number of 306 questionnaires were administered directly by the researcher and his assistants to the respondents which were collected back immediately. They were checked for correctness and completeness before leaving the field.

**2.10 Data Analysis:** Statistical Product and Service Solution (SPSS) version 20 was used to analyze the generated data from the questionnaires. The data were analyzed using descriptive and inferential statistics to present in a concise and understandable form of information gathered from the study. Pearson correlation and multiple regression were used to test the relationship between the hypotheses and value of 0.05 was considered significant for the hypotheses.

### III. Figures and Tables

#### Results

**Table: 1** Socio-Demographic Data of the Respondents

Variable	Frequency N=306	Percentage %
<b>Age</b>		
30-40	42	13.7
41-50	84	27.5
51-60	180	58.8
<b>Marital status</b>		
Married	236	77.1
Separated	38	12.5
Divorced	19	6.2
Widowed	13	4.2
<b>Ethnicity</b>		
Yoruba	293	95.8
Igbo	13	4.2
<b>Religion</b>		
Christian	201	65.7
Islam	105	34.3
<b>Educational status</b>		
Grade 2	67	22.0
NCE	119	38.9
B.Ed	113	36.9
PGd	7	2.2
<b>Length of Service</b>		
1-10	35	11.4

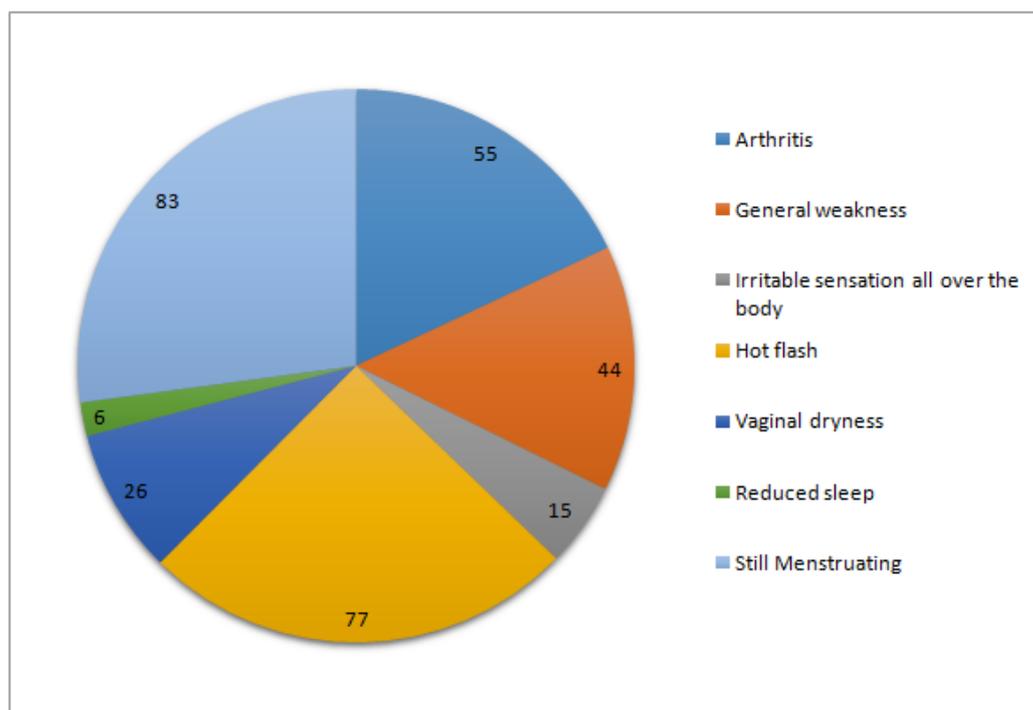
11-20	105	34.3
21-30	138	45.1
31 and above	28	9.2
Total	306	100

Table 1 showed the social demographic distribution of the respondents. More than half (58.8%) of the respondents are between the ages of 51-60 and 77.1% were married, almost all (95.8%) of the respondents were Yoruba, 65.7% were Christians while 38.9% were NCE holder and 45.1% have teachings experience between 21-30 years.

**Table: 2** Knowledge and Causes of Menopause as Perceived by the Respondents

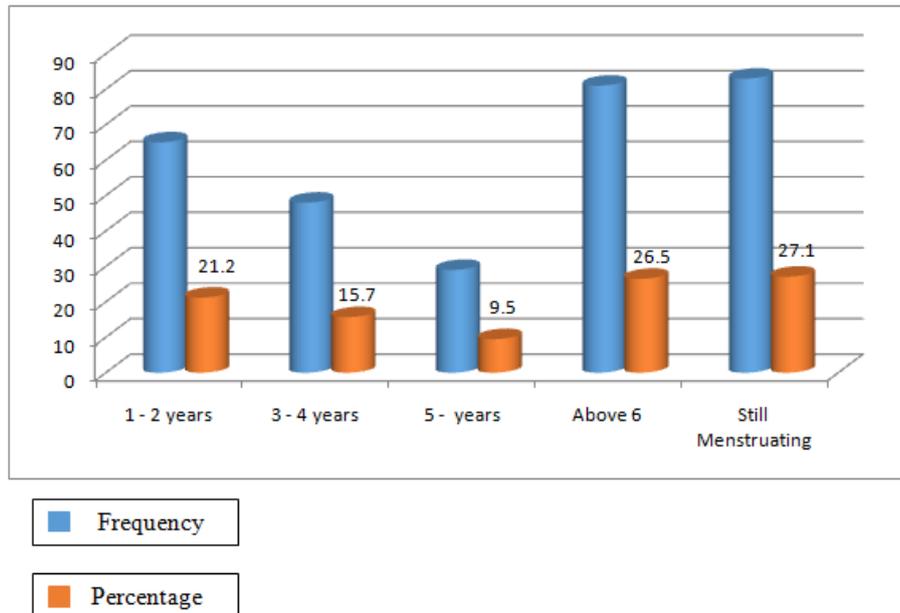
N=306		
Variable	Frequency n	Percentage %
<b>Knowledge of Menopause</b>		
Time when women stops menstruation totally	230	75.2
When there is cessation of menses	76	24.8
<b>Relationship between Menopause and fertility</b>		
There is no child birth again	45	14.7
Menopause is when one will not ovulate again	183	59.8
When a woman get to menopause she can no longer get pregnant again	78	25.5
<b>Causes of Menopause</b>		
Ageing and seizure of reproductive eggs	161	52.6
Normal body change	103	33.7
It is natural	39	12.7
Family planning	3	1.0
Total	306	100

Table 2 revealed the respondents response on knowledge and causes of menopause. Majority 75.2% of the respondents defined menopause as a time when a women stop menstruation totally, 59.8% half of the respondents said that after menopause one will not ovulate again, 52.6% said ageing and seizure of reproductive eggs are the causes of menopause.



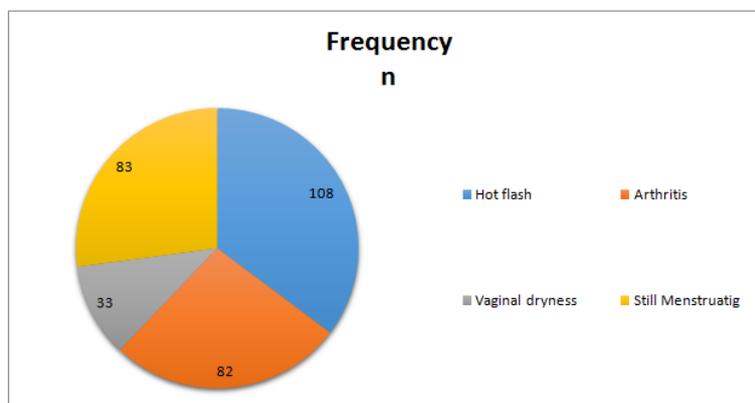
**Figure 1:** Signs and Symptoms of Menopause as perceived by the respondents

Figure 1 revealed that 83 (27 %) are still menstruating, while 223 (73 %) were in menopausal stage. Out of those in menopausal stage 77 (25 %) had hot flash, 55 (18 %) had arthritis, 44 (14 %) had general weakness, 26 (9 %) vaginal dryness, 15 (5 %) had irritable sensation while 6 (2 %) had reduced sleep.



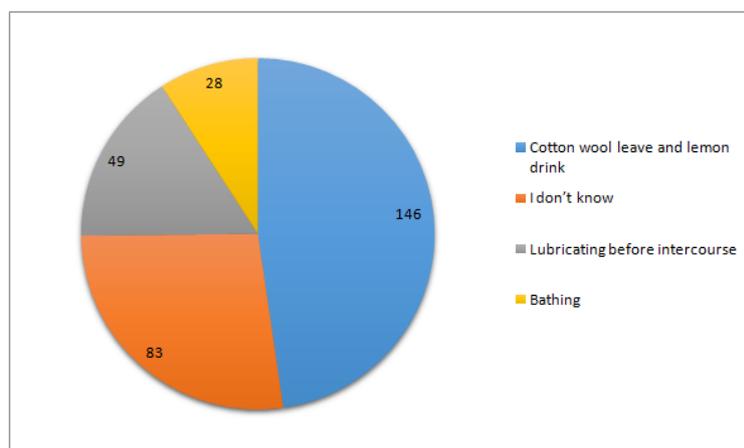
**Figure 2:** Duration of symptoms of menopause as perceived by the respondents

Figure 2 revealed that the highest duration for menopausal symptoms is above 6 years as perceived by 81 (26.5 %) of the respondents



**Figure 3:** Most Disturbing Signs of menopause

Figure 3 revealed that 108 (35 %) had hot flush, 83 (27 %) were still menstruating, 82 (27 %) had arthritis, while 33 (11 %) had vaginal dryness.



**Figure 4** Traditional means of treating menopause

Figure 4 revealed that 146 (48 %) use cotton wool leave and lemon drink to relieve menopausal symptoms, 83 (27 %) did not know how to treat menopause, 49 (16 %) use lubricant before intercourse, while 28 (9 %) bath to relieve symptoms.

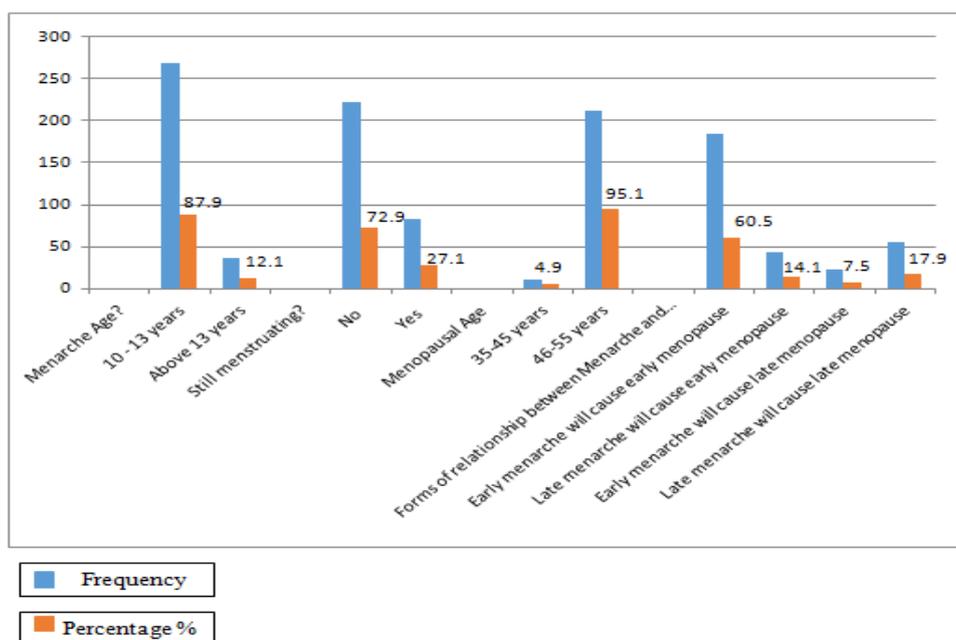


Figure 5: Relationship between menarche and menopausal age as perceived by the respondents

Figure 5 revealed that majority 269 (87.9 %) started their menstruation between 10 – 13 years, 37 (12.1 %) started their menstruation at age above 13 years, 223 (72.9 %) of the respondents have stopped menstruating, 83 (27.1) of the respondents are still menstruating, 11 (4.9) stopped menstruating at age 34 – 45, 212 (95.1) stopped menstruating at age 46 – 55 years, 185 (60.5) of the respondents opined that early menarche will cause early menopause.

Table 4: Causes of Early and Late Menopause as Perceived by the Respondents

Variable	Frequency N=306	Percentage %
<b>Causes of early menopause</b>		
Starting menstruation early/ heredity problem	32	10.5
Lack of sexual intercourse/stress	109	35.6
Early child birth and poor nutrition	75	24.5
Family planning drugs	73	23.9
Occurs naturally	17	5.5
<b>Causes of late menopause</b>		
Regular sexual intercourse	51	16.7
Good balance diet/health	147	48.0
Nature	21	6.9
Starting menstruation late/late marriage	87	28.4
Total	306	100

Table 4 shows that 35.6% of the respondents said that lack of sexual intercourse/stress are the causes of early menopause while 48.0% revealed that balanced diet can cause late menopause.

Table 5: What women should not do, and myths associated with Menopause as Perceived by the Respondents

Variables	Frequency N=306	Percentage %
<b>What women should not do during menopause</b>		
Abstain from sex	153	50.0
Avoid unhealthy behavior like eating junks	24	7.8
Avoid forceful returns of menses	38	12.4
Avoid stress	23	7.6
No idea	68	22.2
<b>(Why?) Common myths</b>		
Menopause is a disease	18	5.9
Sexual intercourse with menopausal women can cause infection in men	14	4.6

Peri menopausal women cannot get pregnant	32	10.5
Menopause causes decline in sexual activities	35	11.4
Sexual intercourse with menopausal women can lead to storage of sperm in them.	102	33.3
Menopause is caused by witchcraft	12	3.9
Menopause causes weight gain	31	10.1
Hot flashes is the first sign of menopause	62	20.3
Total	306	100

Table 5 shows that 50.0% of the respondents abstained from sex and 33.3% of the respondents revealed that having sexual intercourse during menopause will leads to storage of sperm in such women.

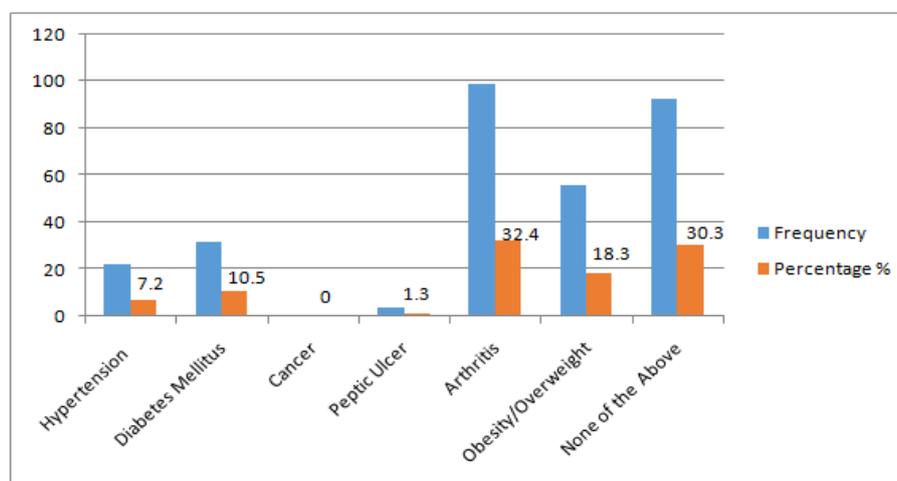


Figure: 5 Prevalence of non-communicable diseases among respondents

Figure 5 revealed that 22 (7.2 %) of the respondents had Hypertension, 32 (10.5 %) were Diabetic, none of the respondents has Cancer, 4 (1.3 %) had Peptic Ulcer, 99 (32.4 %) had Arthritis, 56 (18.3 %) were obese while 93 (30.3 %) did not have any non-communicable diseases.

Table 6: Lifestyle Modification as Reported by Respondents

Variable	Frequency N=306	Percentage %
<b>Foods to be reduced during menopause</b>		
Coke, bread, rice and meat pie	186	60.8
Eba and pounded yam	21	6.8
Fatty food (butter, cheese)	12	3.9
Fried food and sugary food	31	10.0
Reduce sugar and tea	56	18.3
<b>Foods to be increased during menopause</b>		
Beans, vegetable, soya and fish	232	75.8
Fruits, vegetables and water	34	11.1
Whole grain and high fibre	40	13.1
<b>Physical exercise and Menopause</b>		
It enhances good blood circulation in the body	71	23.2
It reduces symptoms of menopause	162	52.9
It reduces weight and allows deep sleep and keep fit	52	17.0
It reduces arthritis and week bone	21	6.9
Total	306	100

Table 6 shows that majority 186 (60.8%) revealed that rice, coke, bread and meat pie should be reduced during menopause, 232 (75.8) were of the opinion that beans, vegetable soya and fish should be increased during menopause while 162 (52.9%) opined that physical exercise reduces symptoms of menopause.

Table 6: Pearson Correlation Analysis on the Relationship between menopause and non-communicable diseases.

Variable	N	Mean	SD	Df	r <sup>cal</sup>	sig <sup>val</sup>	P <sup>val</sup> ≤ 0.05
Menopause	306	39.56	13.96	381	0.631	0.01	<0.05
Non-communicable diseases	306	11.51	7.62				

Table 6 shows the Pearson’s correlation coefficient statistics used to test the relationship between menopause and Non-communicable diseases. The Pearson correlation coefficient derived a value of 0.631 a degree of freedom of 304 and a significant value of 0.01. The sig. value is lesser than our critical value of 0.05. Thus, there is relationship between menopause and non-communicable

**Table7:** Pearson Correlation Analysis on the Relationship between menarche and menopausal age.

Variables	N	Mean	SD	Df	r <sup>cal</sup>	sig <sup>val</sup>	P <sup>val</sup> ≤ 0.05
Menarche age	306	8.54	2.41				
				381	0.523	0.03	<0.05
Menopausal age	306	39.56	13.96				

Table7 shows the Pearson’s correlation coefficient statistics used to test the relationship between menarche and menopause. The Pearson correlation coefficient derived a value of 0.523 a degree of freedom of 304 and a significant value of 0.03. The sig. value is lesser than our critical value of 0.05. Thus, there is relationship between menarche and menopause.

**Table 8** Multiple Regression Analysis on Socio-Demographic and selected Variables on Menopause

Model Summary					
R	R Square (R <sup>2</sup> )	Adjusted R <sup>2</sup>	Std. Error of the Estimate		
0.187	.035	0.020	13.0121		
F Statistics=6.285 P value= 0.035					

Model (Predictor independent variable)	Unstandardized coefficients		Standardized Coefficients	T	Sig	Remarks
	Beta (□)	Std error	Beta (□)			
Constant	50.333	0.813		61.895	0.000	
Age	0.880	2.502	-0.018	4.352	0.025	S
Marital status	4.927	2.371	-0.109	2.078	0.038	S
Ethnicity	6.018	3.090	-0.102	0.948	0.435	NS
Religion	1.569	2.027	-0.041	-.774	0.439	NS
Educational status	3.308	2.947	0.059	8.123	0.026	S
Years of experience	2.061	1.732	-0.61	-1.190	0.235	NS
Knowledge	6.340	4.870	-0.78	-1.380	0.001	S
Nutritional status	5.861	3.91	1.84	2.01	0.030	S

Table 8 above demonstrates the result produced by multiple regression analysis on the data collected from 306 respondents through the use questionnaires. From the model summary R 18.0% is the correlation between the dependent variable (menopause) and the independent variable (socio-demographic variables. age, marital status, ethnicity, religion, educational status and years of experience) knowledge of menopause and nutritional status. While R<sup>2</sup> 35.0% is the variation that was explained by the independent variable. According to the standard, if the p-value is < 0.05 it is significant. In this study the above given table demonstrates the p-value of 0.035 which is <0.05 thus, the model of the research is statistically significant. So the independent variable of the study has significant relationship with the dependent.

#### IV. Discussion

Majority 180(58.8) of the respondents were between the ages of 51 and 60 and this is contrary to findings of Jack-Ide, Emelifeonwu & Adika,[17] when they found out from their study in Niger Delta that the women age range was from 40 years and above 55 years and 236(77.1%) were married while Jack-Ide et al (2014) found only 56.7% were married in their study, this difference may be due to their culture and huge marriage right among women in their state.201(65.7%) were found to be Christians and this is very close to their findings where 63.3% were also Christians.

Also, majority 230(75.2%) of the respondents was able to define menopause correctly and this was supported by Sembulingam, [5]. However, the paradigm within which a woman considers menopause influences the way she views it. More than half of the respondents 183(59.8) agreed that women will not ovulate again after menopause and this is supported by World Health Organization Scientific Group [18]

Hot flash was reported by 108 (35 %) as the most common symptom among various signs and symptoms and this findings is in agreement with Ossewaarde et al [12] that the most common symptoms of menopause are sweating, heart palpitation, mood swing, hot flash etc.

Majority 269(87.9%) of the respondents started their menstruation between 10-13 years, this is in agreement with Ortega, [19] when they concluded that the age of menarche was between <11 and >12 years.

The finding from this study revealed that 223(72.9%) of the participants have stop menstruating and majority of them 212(95.1%) reached menopause at the age range of 46-55 years with mean age of 51.2 and this validates the findings of Kim-Anh et al [20] when they found the mean age at menopause for all women to be 51 years. In another study by Ceylan and Özerdoğan [21] the average age of menopausal onset was reported to be 54 in Europe, 51.4 in North America, 48.6 in Latin America

Also, from the study 185(60.5%) of the respondents opined that there is relationship between menarche and menopausal age with the belief that early menarche will bring about early menopause and this corroborates the finding of Reynolds and Obermeyer [22].

Half (50.0%) of the respondents abstain from sex and 33.3% opined that having sexual intercourse during menopause will lead to storage of sperm in them. This findings validates the documentation of Ojofeitimi [23] where he stated that one of the common myths of menopause was that menopausal women should not have sexual intercourse to prevent their abdomen from becoming big.

Majority 159(52.0%) agreed that healthy diet rich in fibre, phyto chemicals, anti-oxidants and micro nutrients, delays menopause, this is in support of the finding of Mark [24] when he concluded that increase intake of phytoestrogens, organic foods, a high-fiber diet, omega-3 fatty acids, flax seeds and balance glucose metabolism through a low glycemic load, high micronutrient index, phytochemical and antioxidants helps to restore hormonal balance thereby delaying the onset of menopause and prevent chronic non communicable disease.

Majority of the respondents suffer from one chronic disease or the other with the highest of them 99(32.4%) suffering of arthritis.

Little above (52.9%) were of the opinion that physical exercise reduces symptoms of menopause and this validates the position of Ojofeitimi [23] when he maintained that exercise do not only strengthens your muscle and bones ,they also reduce your risk of heart attacks, help you lose excess body fat, improve your hormone levels add healthful life expectancy.

Pearson's correlation coefficient statistics used to test the relationship between menopause and Non-communicable diseases. The pearson correlation coefficient derived a value of 0.631 a degree of freedom of 304 and a significant value of 0.01. The sig. value is lesser than our critical value of 0.05. Thus, there is relationship between menopause and non-communicable and this supports Gaur & Iyer [25] when they concluded that significantly higher prevalence of NCDs and its risks were seen among post- menopausal women in terms of presence of diabetes, hypertension, high body fat content, higher mean abdominal obesity and waist stature ratio, without any adjustment for age, in the present study. The effect of menopause on prevalence of metabolic syndrome (MS) was assessed by Pandey et al [26] on 498 urban females and found that post-menopausal women had significantly high prevalence of metabolic syndrome but the significance was lost after adjusting for age.

The pearson correlation coefficient derived a value of 0.523 a degree of freedom of 304 and a significant value of 0.03. The sig. value is lesser than our critical value of 0.05. Thus, there is relationship between onset of menstruation and menopause but this is contrary to VanNoord et al [27] when she found no relationship between age at menarche and age at natural menopause. The total percentage of variance in age at natural menopause explained by multiple regression

**There is no significant relationship between socio demographic variables** (age, marital status, ethnicity, religion, educational status and years of experiences) and menopause, data collected on socio-demographic characteristics of the respondents and menopause were subjected to multiple regression analysis.

From the model summary R 10.0% is the correlation between the dependent variable (menopause) and the independent variable (socio-demographic variables. age, marital status, ethnicity, religion, educational status and years of experience). While R<sup>2</sup> 10.0% is the variation that was explained by the independent variable. Further analysis showed; age ( $\beta = 0.054$ ,  $t = 0.766$ ,  $P > 0.05$ ), marital status ( $\beta = 0.047$ ,  $t = 0.803$ ,  $P > 0.05$ ), ethnicity ( $\beta = 0.020$ ,  $t = 0.341$ ,  $P > 0.05$ ), religion ( $\beta = 0.001$ ,  $t = 0.016$ ,  $P > 0.05$ ), educational status ( $\beta = 0.074$ ,  $t = 1.244$ ,  $P > 0.05$ ), while years of experience ( $\beta = 0.041$ ,  $t = 0.590$ ,  $P > 0.05$ ). The probability of (F-statistic = 0.506, P value = 0.804) this shows the significance of the research. According to the standard, if the p-value is < 0.05 it is significant. In this study the above given table demonstrates the p-value of 0.804 which is > 0.05 thus, the model of the research is not statistically significant. So the independent variable of the study of Ethnicity, Religion and Year of Experience has significant relationship with the dependant variable.

These findings validates the position of Lim et al [28] when they stated that variables like age, marital status, occupational status, educational status, alcohol consumption, post-menopausal duration jointly made significant contributions in predicting menopause symptoms.

## V. Conclusion

Menopause is the end of menstruation. Pre menopause, Menopause and Post menopause are periods characterized with fluctuations of hormones which lead to development of certain changes in women.

This study concluded that many women are knowledgeable about menopause as the end of reproductive stage. Results equally showed that there are many myths associated with the period. It also concluded that there is relationship between menarche and menopause and it also established the relationship between menopause, life style modification and chronic non communicable diseases. From these findings it can be concluded that menopausal women need more knowledge about menopause and its management, partners' support, as well as self-confidence to live a healthy life and enjoy sexual life which will subsequently prolong their lives.

## VI. Recommendation

Menopause is a phase that every woman would pass through, awareness should be created about signs and symptoms associated with it so as to prepare them for the challenges ahead and ultimately have a good quality life "As a general rule, the most successful man in life is the man who has the best information" Park (2007). Therefore, based on the findings from this study, these are recommended: There is need to educate premenopausal and peri-menopausal women about adequate diet, vital importance of regular light exercise and lifestyle modification in order for them to be able to cope with the challenges associated with menopause.

There is need to educate and clarify the myths associated with this crucial phase of life in other for them to face the challenges squarely, to relieve symptoms, enjoy sexual life and at the long run prolong life.

Furthermore, there is need for regular medical check- up which should include blood sugar level and bone density check as well as blood pressure monitoring.

In addition, health related programmes on comprehensive sexuality education to include menopause should be promoted by government and non government agencies because women approaching menopause usually need time and knowledge not medicine. Public health practitioners need to embark on sensitization programme for pre, peri and post-menopausal women as this will help them to have reduced menopausal symptoms and risk for chronic non communicable diseases. Further research on menopause should be encouraged.

## References

- [1]. Blake, J. (2006). Menopause. Evidence-based practice. *Best practice & research Clinical obstetrics & gynaecology*, 20(6), 799-839.
- [2]. Sievert, L. L. (2015). Menopause (evolution). *The International Encyclopedia of Human Sexuality*.
- [3]. McLellan, A. R., Gallacher, S. J., Fraser, M., & McQuillan, C. (2003). The fracture liaison service: success of a program for the evaluation and management of patients with osteoporotic fracture. *Osteoporosis international*, 14(12), 1028-1034.
- [4]. Nigeria National Population Commission (2006) Population Distribution By Age and Sex: 2006 Census Priority Tables ... retrieved from <http://www.population.gov.ng/.../141-population-distribution-by-age-and-sex-2006-census-...>
- [5]. Sembulingam K. (2012) Identification and treatment of osteoporosis in fractures. *Current rheumatology reports* Sembulingam P. Essentials of medical physiology. JP Medical Ltd; 2012 Sep 30.
- [6]. Meza, D. L. M., Mercado, C. R., & Barraza, C. A. (2015). Efecto de lasisoflavonas de la soja en la saludósea de adultos y niños. *SaludUninorte*, 31(1), 138-152.
- [7]. Smeltzer, S. C. (2006). Preventive health screening for breast and cervical cancer and osteoporosis in women with physical disabilities. *Family & community health*, 29(1), 35S-43S.
- [8]. Nisar, N., & Soho, N. A. (2009). Frequency of menopausal symptoms and their impact on the quality of life of women: a hospital based survey. *JPMA*, 59(752).
- [9]. Lund, K. J. (2008). Menopause and the menopausal transition. *Medical Clinics of North America*, 92(5), 1253-1271.
- [10]. Bromberger, J. T., Matthews, K. A., Schott, L. L., Brockwell, S., Avis, N. E., Kravitz, H. M. ... & Randolph, J. F. (2007). Depressive symptoms during the menopausal transition: the Study of Women's Health across the Nation (SWAN). *Journal of affective disorders*, 103(1), 267-272.
- [11]. Saw, J., Ricci, D., Starovoytov, A., Fox, R., & Buller, C. E. (2013). Spontaneous coronary artery dissection. Prevalence of predisposing conditions including fibromuscular dysplasia in a tertiary center cohort. *JACC. Cardiovascular interventions*, 6(1), 44-52.
- [12]. Ossewaarde, M. E., Bots, M. L., Verbeek, A. L., Peeters, P. H., van der Graaf, Y., Grobbee, D. E., & van der Schouw, Y. T. (2005). Age at menopause, cause-specific mortality and total life expectancy. *Epidemiology*, 16(4), 556-562.
- [13]. Subak, L. L., Wing, R., West, D. S., Franklin, F., Vittinghoff, E., Creasman, J. M. ... & Macer, J. (2009). Weight loss to treat urinary incontinence in overweight and obese women. *New England Journal of Medicine*, 360(5), 481-490.
- [14]. Woods, A. B., Page, G. G., O'Campo, P., Pugh, L. C., Ford, D., & Campbell, J. C. (2005). The mediation effect of posttraumatic stress disorder symptoms on the relationship of intimate partner violence and IFN- $\gamma$  levels. *American journal of community psychology*, 36
- [15]. Walsh, M. C., Hunter, G. R., & Livingstone, M. B (2006). Sarcopenia in premenopausal and postmenopausal women with osteopenia, osteoporosis and normal bone mineral density. *Osteoporosis International*, 17(1), 61-67.
- [16]. Evans, M. L., Pritts, E., Vittinghoff, E., McClish, K., Morgan, K. S., & Jaffe, R. B. (2005). Management of postmenopausal hot flashes with venlafaxine hydrochloride. a randomized, controlled trial. *Obstetrics & Gynecology*, 105(1), 161-166.
- [17]. Emelifeonwu E.A, Adika A.V Jack-Ide, I.O. (2014). Psychological effects and experiences of menopausal women in a rural community in Niger Delta region of Nigeria. *International Journal of Nursing and Midwifery*. 2014 Oct 31; 6(6):74-9.
- [18]. World Health Organization. (1996). Research on the menopause in the 1990s: report of a WHO scientific group.
- [19]. Ortega, R. M. (2006). Importance of functional foods in the Mediterranean diet. *Public health nutrition*, 9(8A), 1136-1140.
- [20]. Kim-Anh Do, Susan A. Treloar, NirmalaPandeya, David Purdie, Adele C. Green, Andrew C (1998). Heath and Nicholas G. Martin. Dec 1998 v70 i6 p1073 (1) Predictive factors of age at menopause in a large Australian twin study.
- [21]. Ceylan O. and NebahatÖzdoğan B. (2015) Journal of Turkish Society of Obstetrics and Gynaecology 2015; 1.43-9.

- [22]. Reynolds R.F & Obermeyer C.M. (2003) Correlates of the age at natural menopause in Morocco. *Ann Hum Biol* 2003; 30. 97-108.
- [23]. Ojofeitimi (2015) Understanding Andropausal and Menopausal challenges. Nonesuch house publishers.
- [24]. Mark A. H. (2007). The Life Cycles of Women. Restoring Balance (*Journal of Alternative Therapies in Health and Medicine*; 13(3).10-16.)
- [25]. Gaur P. & Iyer U. (2013). Non-Invasive Risk Factors of Non-Communicable Diseases in Pre And Postmenopausal Women of Vadodara: A Pilot Study. *International Journal of Applied Biology and P....* 2013.
- [26]. Pandey S, Srinivas M, Agashe S, Joshi J, Galvankar P, Prakasam CP, Vaidya R. Menopause and metabolic syndrome: A study of 498 urban women from western India. *Journal of mid-life health*. 2010 Jul 1; 1(2):63.
- [27]. VanNoord, P. A, Dubas, J. S, Dorland M., Boersma, H., & Velde, E. (1997). Age at natural menopause in a population-based screening cohort: the role of menarche, fecundity, and lifestyle factors. *Fertility and sterility*, 68(1), 95-102.DOI. 10.4274/tjod.79836
- [28]. Lim H.S, Kim T.H, Lee H.H, Park Y.H, Kim J.M, Lee B.R. (2013) Hypertension and age at onset of natural menopause in Korean postmenopausal women: Results from the Korea National Health and Nutrition Examination Survey (2008–2013). *Maturitas*. 2013 Aug 31; 90:17-23.