

Research article

# AGE- RELATEDNESS OF HYPERTENSION IN FEMALES TREATED IN MEDICAL OUTPATIENT CLINIC IN UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL RIVERS STATE

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## Abstract

This is a retrospective study of age-relatedness of hypertension in females treated in medical outpatient clinics in University of Port Harcourt Teaching Hospital Rivers State. Firstly, the population of the total number of female patients admitted to the hospital during the period of study was identified using a purposive sampling technique. The case file of 864 females aged between 19-90 years who visited the medical outpatient clinic between 2010 and 2011 were selected for the study. Four research questions were formulated to guide the study. A checklist was used to document the ages of the subjects, time of first diagnosis of hypertension among others. Data collected was analyzed with descriptive statistics of percentages. Results showed that the prevalence of female with hypertension during the period of study was 4.37, of the 864 subjects studied, majority 386(44.7%) were within ages 50 to 59 years, 247 (317%) within ages 60 to 69 years; 118 (13.7% within ages 40 to 49 years; 10 (1.2%) within ages 80-90 years and none for ages 90 to 99. The latter is not surprising because it has to do with the issue of life expectancy in Nigeria which is 50 years. The age of first diagnosis for most subjects, 495 (56.9%) was 40-49 years; closely followed by ages 50-59 years which was 230 (26.6%) ages 30-39 with 78 (9.0%) ages 60-69 with 16 (1.9%); ages 80-89 years

with 8(0.9%); ages 70 to 79 years with 6(0.76%) and none for ages 90-99 years in decreasing order. Based on the findings, it was recommended that public health education and regular home visits for Blood pressure checks among others should be increased. This will promote greater awareness of the disease and increase individuals' involvement in their own health care. **Copyright © AJHSR, all rights reserved.**

**Key words:** Age-relatedness, Hypertension, females.

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## Introduction

Hypertension had over the years become a global public health challenge for women. Death and disability from cardiovascular diseases may be ranked as the number one cause of global burden of diseases by 2020<sup>1</sup>.

Furthermore, it is stated that at the age of 35, a woman has a one-third risk of developing raised blood pressure but fares better in her prognosis than a man of same age. However, by age 65, this gap evens out, with women running the same risk as men.

With age, there is an increase in blood pressure in the general population. Hypertension is a term applied to that sustained increase in arterial blood pressure. It is a condition characterized by sustained and elevated level of systolic and diastolic pressures. In specific terms, hypertension can be defined as systolic blood pressure greater than 140mmHg over sustained period based on the average of two or more contacts with the health care provider, after an initial screening.

Classification of blood pressure for adults aged 18 years or older as follows:

- Normal-systolic blood pressure is lower than 120mmHg; diastolic blood pressure is lower than 80mmHg.
- Pre hypertension –Systolic blood pressure is 120- 139 mmHg; diastolic is 80-90 mmHg.
- Stage I- Systolic blood pressure is 140-159 mmHg diastolic 90-99 mmHg.
- State II systolic blood pressure is equal to more than 160; diastolic is equal to or more than 100.<sup>2</sup>

This classification is based on the average of 2 or more readings taken at each or more visits after initial screening. Normal blood pressure with respect to cardiovascular risk is less than 120/80mmHg. Hypertension can also be classified as essential (primary) or secondary<sup>3</sup>. Essential hypertension is a rise in blood pressure from an unidentified cause<sup>4</sup>; it is seen in 90% to 95% of cases. Secondary hypertension is a rise in blood pressure related to identifiable causes and accounts for 5% to 10% of hypertension of cases.

Age significantly increases the prevalence of secondary forms of hypertension. Approximately 50 million people have hypertension that requires monitoring, treatment or both, the condition is usually detected in people aged 30 to

50 years. However, it is now being found with increasing frequency in African- American teenage girls, especially those who are obese<sup>5</sup>.

Hypertension is particularly important in women because, it is a modifiable risk factor that is extremely prevalent in older women<sup>6</sup>. It is sometimes called the “silent killer” because people who have it are often symptom free. In a national survey conducted from 2003 to 2004 in America, 24% of people who had blood pressure exceeding 140/90 mmHg were unaware of their elevated blood pressure<sup>7</sup>. Once identified, elevated blood pressure should be monitored at regular intervals because hypertension is a lifelong condition, which if prolonged and uncontrolled damages vital organs of the body.

Hypertension has been designated a leading risk factor of heart disease and stroke. Its contribution to excess morbidity, mortality, direct and indirect health care cost in American has been reported of the 50 million (2 in 5) people with hypertension in America, 14.8% are not on medication; 26.2% are on medication but the blood pressure remains uncontrolled; 27.4% have their blood pressure controlled; 31.6% are unaware that they have hypertension<sup>8</sup>.

Hypertension had claimed many lives and constituted some serious medical complications particularly in unrecognized cases with delayed diagnosis. About 13.5% of all deaths are attributed to blood pressure related diseases. It has also been reported that women with hypertension experience a risk of developing chronic heart disease 3.5 times more than women with normal blood pressure<sup>9</sup>.

Age therefore plays a major role in the development of hypertension. Blacks of all ages are more likely than whites to have hypertension because of the existence of some peculiar psychosocial predisposing factors; and it is more prevalent between ages 55 and 64 years. Within this age group, the prevalence of hypertension among blacks is twice that of the whites<sup>10</sup>. There is a significant increase in hypertension during middle adult age<sup>11</sup>. Age-related increase in blood pressure in women is greater after the age of 62 years<sup>12</sup>. Starting around age 55, women are more likely to develop high systolic blood pressure, and high systolic blood pressure is high blood pressure<sup>8</sup>. Prevalence and severity of hypertension increases with advancing age in women who have stage 2<sup>6</sup>. After the fifth decade of life, the incidence of hypertension increases more rapidly in women than in men. There is a significantly higher blood pressure in postmenopausal versus premenopausal women<sup>13</sup>. Post menopausal women have higher blood pressure than premenopausal women<sup>12</sup>. The menopause – related increase in blood pressure has been attributed to a variety of factors including estrogen withdrawal, weight gain and over production of pituitary hormones<sup>14</sup>. There is a fourfold higher prevalence of hypertension in postmenopausal women than in premenopausal women<sup>13</sup>.

The likelihood of having hypertension therefore increases with age. It is estimated that more than 50% of people 65 and older have hypertension. A study conducted on prevalence of hypertension by age group for women in US revealed that 2.2% of women between ages 20-34 years developed hypertension; 12.6% for 35-44 women aged between 45 to 54 years; 36.2% for the aged between 55-64 years and 15.44% for ages 60-74 years, 89.2% for 75 years and older<sup>15</sup>.

Most women will develop hypertension in their life time and women who develop hypertension at younger age are at a higher risk of adverse cardiovascular events. A study of women aged 45 years or older and were initially free of cardiovascular disease showed that one third of women who were normotensive developed hypertension during the 10 years follow-up. Half of the women with high-normal blood pressure (130/85mmHg to 138/89mmHg) developed hypertension within 5 years and two thirds progressed to hypertension within 10 years<sup>9</sup>. The fact that most women stand the risk to develop hypertension with increasing age calls for serious “food for thought” especially as most women go about their daily activities without giving a thought to regular health checkup. This is not the case of only women living in urban areas with its attendant stress but also those in the rural areas.

The curiosity to carry out this study was borne out of the observed increase in number of female patients of all ages seen in the Medical Outpatients Clinic (MOP) for various health problems but found to be hypertensive only on routine vital sign monitor. The study therefore aimed at determining the age-relatedness of hypertension in female patients treated in the MOP of the UPTH between 2010 and 2011.

The result of the study will not only highlight the implication of age on hypertension development among female patients but will also reveal other predisposing factors to hypertension. It will also be an index for health education plan and implementation for female patients in other units outside the medical outpatient. It will also get female patients informed about the illness and get them involved in their own health care in both urban and rural areas.

## **Material and Methods**

A descriptive retrospective design was used to study the age-relatedness of hypertension among female patients treated in Medical Outpatient Clinic of the University of Port Harcourt Teaching Hospital, Rivers State between June 2010 and December 2011. Permission was obtained from the Institutional Ethics Committee through the Chief Nursing Officer in-charge of Nursing Services Administration to access the case files of the 864 subjects selected for the study. The case files were obtained from Records Department and reviewed using a checklist to document the ages of the subjects, the age at which occurrence of hypertension was highest and the time of first diagnosis of hypertension in the subjects studied.

Data collected were analyzed using descriptive statistics of percentages and results presented in tables and graphic forms.

## Results

**Table 1:** Prevalence of hypertension among female patients treated between June 2010 and December, 2011 (n=864).

<b>Year</b>	<b>No of female admitted</b>	<b>No of case seen in MOP</b>	<b>Prevalence rate of Hypertension</b>
2010	1080	320 (3%)	1.08
2011	3290	544 (63%)	3.29
<b>Total</b>	<b>4270</b>	<b>864</b>	<b>4.37</b>

Table 1 showed that in 2010, 1080 female patients were admitted reflecting a prevalence rate of 1.08 while in 2011, 3290 patients were admitted reflecting a prevalence rate of 3.29. Total prevalence rate during period of study was 4.37.

**Table 2:** Distribution of females with hypertension by Age (n=864)

<b>Age in Year</b>	<b>Frequency</b>	<b>Percentage</b>
18 – 29	8	0.9
30 – 39	20	2.3
40 – 49	118	13.7
50 – 59	386	44.7
60 – 69	274	31.7
70 – 79	48	5.6
80 – 89	10	1.2
90 – 99	-	-
<b>Total</b>	<b>864</b>	<b>100%</b>

Table 2 showed that majority of females with hypertension 386(44.7%) fall within the age group of 50-59, closely followed by age group 60-69 with 31.7% and thirdly age group 40-49 with 13.7%. In descending order, others are ages 70-79 (5.6%), 30-39 (2.3%); 80-89 (1.2%) and 18-29 (0.9%).

**Table 3:** Distribution of female with hypertension by age of first diagnosis (n = 864).

Age in Year	Frequency	Percentage
18 – 29	34	3.9
30 – 39	78	9.0
40 – 49	492	56.9
50 – 59	230	26.6
60 – 69	16	1.9
70 – 79	6	0.7
80 – 89	8	0.9
90 – 99	-	-
<b>Total</b>	<b>864</b>	<b>100%</b>

Table 3 showed that majority of cases of females with hypertension 492 (56.9%) were first diagnosed within the age group of 40-49 years; followed by age group of 50-59 years with 230 (26.6%); age group of 30-39 with 78(9.0%); age 18-29 with 34(3.9%); age group of 60-69 with 16(1.9%); 80-89 with 8(0.9%); 70-79 with 6(0.7%) and 90-99 with 0% in order of descent.

## Discussion

Findings from this study revealed that the prevalence of hypertension in females in University of Port Harcourt Teaching Hospital Rivers State between June 2010 and December, 2011 was 4.37 in specific terms, the prevalence of hypertension June 2009 to December, 2010 was 1.08 and January to December, 2011 was 3.29. This reflects an increase in number of females with hypertension admitted in University of Port Harcourt Teaching Hospital Rivers State in subsequent year. This result is in consonance with other reports which observed that, prevalence of hypertension is increasing worldwide, yet the awareness, treatment and control rates remain poor<sup>16</sup>. Besides, the progressive increase with age may be because its existence in some people is for sometime unnoticed. Most people only discover that their blood pressure is high during routine check up for an unrelated complaint.

The study also revealed that in terms of age-relatedness, majority of females with hypertension 386 (44.7%) fall within the age group of 50-59 closely followed by age group of 60-69 with 274 (31.7%) of cases and then 30-39 with 118(13.7%) of cases. The age group with the least number of females with hypertension is 18-29 with 8(0.9%). The number recorded for other age group is insignificant based on the fact that the life expectancy of an average Nigerian does not exceed 60 years. The fact that there are recorded cases of females with hypertension with first diagnosis between ages 60-89 years is a plus to health maintenance in Nigeria. It clearly reflects the fact that public education so far given is improving the detection rate of hypertension and some degree of response to health care.

The age-relatedness of hypertension in females which is obvious in the findings of this study is in consonance with the report in the 3<sup>rd</sup> Korea National Health and Nutrition Examination Survey. The latter, reported that the risk of hypertension increases as people get older and that there is a positive correlation between age and blood pressure if all variable such as BMI are adjusted<sup>17</sup>. It is also supported by findings the observation that, the likelihood of having hypertension increases with age; estimating that more than 50% of people aged 65 years and above have hypertension<sup>18</sup>. From their report, the least occurrence of hypertension, 3.1% is found in women aged 20-34 years and the highest in order of sequence is over 75 years (84.9%); 65-74 (73.4%); 55-64 (59.7%); 35-44 (18.6%). This report is also in line with that, the older people have higher rate of hypertension because of the structural changes that occur with aging<sup>19</sup>. The dramatic increase of hypertension in females from 8(0.90%) for ages 18-29 to 386 (44.7%) for ages 50-59 (with life-expectancy of less than 60 years) is in line with other reports which emphasized the fact that hypertension in women increase with age, with higher prevalence in postmenopausal than premenopausal woman<sup>13</sup>. These findings simply signify a greater need for women regardless of their residential location, social status and age to be awake and pay more attention to blood pressure checks from early age and even more in later years to ensure early diagnosis and treatment of this “silent killer” – hypertension.

The study has also revealed that most females with hypertension, 492 (56.9%) are first diagnosed of the disease within ages 40-49 years. This goes to show the fact that most people in Nigeria especially women do not make efforts to be responsible for their own health. They therefore live with hypertension without being aware of it, more so as it may exist for sometimes without any symptoms. Most people are unaware of the fact that they have hypertension<sup>20</sup>. The discovery is sometimes made during visit to a health care facility for routine check up for unrelated complaints, which may even be a complication resulting from the disease; “or during prenatal visit in pregnancy”<sup>21</sup>. With this fact revealed, the health care providers, especially nurses must ensure that they go all out to enlighten the masses on this fact. Hypertension and its serious and debilitating complications do not understand the language of “I do not know” or “I did not know”. This calls for regular and routine blood pressure monitor for every member of each family, healthy or ill.

Finally, the dos and don'ts of hypertension must be known and complied with as measures of prevention. In this way, hypertension can be nipped in the bud before it sets in.

## Conclusion

Age-relatedness of hypertension in females have been confirmed in this study. Hypertension in females was highest 386 (4.7%), within ages 50-59 which coincide with menopause for most women in Nigeria. This is followed by 274 (31.1%) cases within 60-69 years which is the postmenopausal age and thirdly 118(13.75%) within ages 30-39year, the premenopausal age. By implication, the likelihood of hypertension in premenopausal and postmenopausal women is high and must be anticipated. Therefore both non-modifiable and modifiable factors that trigger hypertension must be brought to check.

Since it has been discovered that hypertension occurs in children and teenage girls especially those with obesity, mothers must include their teenage girls in their plans for regular and routine blood pressure checks and ensure that lifestyles that may predispose to hypertension are modified and discouraged. Lifestyle modification and compliance to prescribed treatment regimen with early detection of the disease are remedies that will reduce the occurrence of hypertension in women and/or reduce its prevalence to the barest minimum regardless of age.

## Recommendations

Hypertension is a preventable disease regardless of related causative factors. The fact that it is preventable calls for proactive measures on the part of both health care providers especially nurse and the patients to nip the disease in the bud to prevent its occurrence. Such measures should include:

1. Public health enlightenment campaign by health workers on the disease and the preventive strategies
2. Community health services which include home visits, visits to public places to check blood pressure of people and educate them on lifestyle modification.
3. Encourage homes to have a blood pressure apparatus and utilize it to check the blood pressure of individual family member at scheduled periods.

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