

Prevalence Of Hypertension Among Adults In Selected Two Communities In Delta State Nigeria.

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Abstract. This is an explorative survey carried out to find out the prevalence of hypertension among adults age 40 and above of two communities in Ika South Local Government Area of Delta State. Five Hundred and Twenty Five (525) respondents were selected based on availability and convenience. These respondents were drawn from two communities namely: Alihame and Ekuku-Agbor. Data was collected using structured interview, stethoscope, sphygmomanometer and record from outpatient department in the health centers of the two communities. Findings show that the mean age and weight of respondents are 46 years and 64.4kg respectively. Forty-five percent (45%) respondents reported increase in systolic blood pressure: thirty-three percent (33%) had increase in diastolic blood pressure, while about twenty-two percent (22%) had increase in both systolic and diastolic blood pressure. There is twice the chance that a woman will be hypertensive than a man. Increase in blood pressure is highest between 41 and 60 years of age. The prevalence of hypertension is about fifty-eight percent (58%). The research questions; can age, gender, weight, life style, race and stress affect blood pressure was answered to indicate that age, stress, weight, life style, race can affect blood pressure but no significant effect of gender on blood pressure. It therefore follows that prevalence of hypertension in this Local Government is high. It was recommended that public enlightenment programme be organized to educate the people of this Local Government about the rate and the management of high blood pressure and also that government should make anti-hypertensive drugs readily available in primary health center.

Keywords: Hypertension, Prevalence, Structured interview, Stethoscope, Sphygmomanometer, Alihame and Ekuku-Agbor, diastolic and systolic blood pressure.

1 INTRODUCTION

Hypertension is the commonest non-communicable disease and a major risk factor for cardiovascular disease in the world. It is an important public health challenge in both economically developing and developed countries and account for the first and third leading causes of death in the world. Data from the third National Health Nutrition Examination Survey, 2012 (NHANESIII) suggest approximately 75% of those with hypertension, are unaware of their condition and among those with hypertension, treatment is infrequent and inadequate. Although substantial evidence indicates a significant increase in awareness of hypertension over the past three decades, control rates are remarkably low, particularly among blacks and in the developing countries.

Hypertension or high blood pressure is a medical condition in which the restricted arterial blood vessels increase the resistance to blood flow causing an increase in blood pressure against vessel walls. It is an important indicator of the health of the circulatory system (Redmond, 2008).

Hypertension can also be defined as persistent elevation of blood pressure that exceed 140mmHg systolic and or 90mmHg diastolic (<140/90mmHg) (Weinberger, 2005).

From the research of World Health Organization (WHO) as at 2011 the estimated total number of adult with hypertension in 2009 was 998 million. Of these 333 million were estimated to be economically developed countries and 655 million in economically developing countries. According to their further research, by 2025, the number of people with hypertension will increase by about 65% to a total of 1.57 billion as the proportion of elderly people will increase significantly. Other reasons are continuing population increase and changes in lifestyles which include diet rich in sugar and high-fat processed foods and sedentary behavior, mediated by telephones, computers and cars.

Since the proportion of hypertensive people will increase dramatically worldwide, the detection, treatment and control of this condition should be a top priority.

The prevalence of hypertensive people may be secondary to other diseases but 95% of patients have essential hypertension which is of unknown origin. It is observed that having a positive family history of hypertension increase the likelihood that an individual will develop hypertension. Hypertension is four times more common in blacks than the whites and accelerates more rapidly as it is often more severe and with higher mortality rate in black patients.

Developing countries undergoing epidemiological transition face the double burden of communicable and non communicable diseases. Of the latter, hypertension is one of the most important treatable cause of mortality and morbidity. Although safe and effective drugs are available, the management of hypertension is still far from optimal especially in the developing countries.

1.1 Statement of the Problem

Results of numerous studies implicated elevated blood pressure and complications arising from it as a major cause of death and disability. This is basically by contributing to renal and cardiovascular diseases (Weinberger 2005). A quarter of all adults in the world have hypertension and this condition accounts for about 33% of death in the world.

Staffon (2006) opined that the relationship between hypertension and the risk of cardiovascular disease is continuous and consistent and that the higher the blood pressure, the greater the chances of heart attack, heart failure, stroke and kidney diseases. Following the discussion so far, it is therefore important to bring to limelight the prevalence of hypertension in these communities with a view to eradicating and enlightening the reader on the need to seek prompt medical attention when necessary.

1.2 Objectives of the Study

The overall objective of this study is to carry out detailed research on the prevalence of hypertension among adults aged 40 and above in Alihame and Ekuku Agbor communities in Ika South Local Government of Delta State. This study therefore is required:

1. To determine the association between age and blood pressure.
2. To determine the relationship between blood pressure and gender.
3. To expose the relationship between blood pressure and weight.
4. To determine the relationship between blood pressure and lifestyle changes.

1.3 Significance of Study

The findings from this study will not only add to existing knowledge about the subject matter but also will be a source of literature for other related studies.

It will also provide useful information to Ika South Local Government and Delta State that could be crucial in planning health programme and intervention.

1.4 Scope of the Study

The scope of the study ranges and covers the prevalence of hypertension among adults age 40 years and above in Alihame and Ekuku Agbor Communities in Ika South Local Government Area of Delta State.

1.5 Operational Definition Of Terms

The purpose of explanation of terminologies used in this research work is to ensure proper comprehension and full knowledge of subject matter while minimizing complexities, ambiguities and abstractions.

The major concepts used in this study are therefore defined as follows:

1. Gender: This is the classification of the world based on sex, masculine, feminine and neutral manner of existence and rank in creation. In this study though, gender should be understood to mean human sex differentiation.
2. Prevalence: Number of person who have specific disease or condition within a defined population at specific time.
3. Sphygmomanometer: An instrument used for measuring arterial blood pressure.
4. Stethoscope: An instrument used for listening body sound especially of the heart and lungs.
5. Vessel: A tube carrying body fluid for example blood.
6. Cardiovascular: This relates to the circulation system that is the heart and the blood vessels.
7. Systolic: a period of contraction of the heart.
8. Diastolic: A period when the heart relaxes between contractions.
9. Blood pressure: The pressure of the blood against the walls of the main arteries.

2 LITERATURE REVIEW

The relevance of literature review is to examine other related works written by difference scholars on the subjects (prevalence of hypertension among adults age between 40 years and above)

Prevalence of hypertension varies considerably based on demographic, cultural, and demographic nutritional and genetic factors (Weinberger, 2005). Weinberger asserted that the prevalence among the African American is as high as 40%. Hypertension can occur at any age though but usually seen in people 40 years and above (Sam & Getha, 2006).

The prevalence in the Sudan was estimated at 7.5% (Elzubier, 2006). Therefore, the study should be discussed under the following headings as follows.

2.1 What is Hypertension?

The modern history of hypertension begins with the understanding of the cardiovascular system with the work of physician William Harvey (1578-1657) who described the circulation of blood in his book "De Motcordi". The English clergyman Stephen Herles made the first published measurement of blood pressure in 1733.

Description of hypertension as a disease came among others from Thomas Young in 1808 and especially Richard Bright in 1836.

The first report of elevated blood pressure in a person without evidence of kidney disease was made by Frederick Akber Mohamed 1849-1884 (Carretro & Oparil 2011). However, hypertension is an interesting entity of its own. It remain silent being generally a symptomatic

during its clinical course and form target organ damage hence WHO (World Health Organization) has named it The silent killer.

Hypertension is a condition that arises when the blood pressure is abnormally high above 140/90mmHg. Hypertension occurs when the body's smaller blood vessels (The arterioles) narrow causing the blood to exert excessive pressure against the vessel walls and forcing the heart to work harder to maintain the normal pressure of 120/80mmHg Weinberger (2008).

Blood pressure is actually a measure of two pressures, the systolic and the diastolic. The systolic pressure which is indicated as the higher pressure and the first number recorded, is the force that the blood exert on the artery walls as the heart contract to pump blood to the peripheral organs and tissues. The diastolic pressure that is the lower pressure and the second number recorded is the residual pressure exerted on the arteries as the heart relaxes in between beats (World Health Organization).

According to Whelton (2011), the increase peripheral resistance in established hypertension is mainly attributable to structural narrowing of small arteries, although a reduction in the number of density of capillaries may also contribute.

Vaidya & Forman (2007). Hypertension is also associated with decrease peripheral venous compliance which may increase venous return, increase cardiac preload and ultimately cause diastolic dysfunction.

Subsequently, the National Institute of Health also sponsored other population studies, which additionally showed that African Americans had a higher burden of hypertension and its complications.

2.2 Types/Forms Of Hypertension

Dickinson M, Nicolson J. (2010) opined that there are two major forms of hypertension. These are:

Primary/Essential Hypertension

The concept of essential hypertension (hypertonic essential) was introduced in 1925 by the physiologist Otto Frank to describe elevated blood pressure for which no cause could be found. Primary hypertension is the most common type of hypertension affecting 95% of hypertensive patients; it tends to be familiar and is likely to be the consequences of an interaction between environmental and genetic factors. Prevalence of essential hypertension increase with age, individuals with relatively high blood pressure at younger age has increased risk for subsequent development of hypertension. Hypertension can increase the risk of cerebral, cardiac and renal events according to Dickson et al (2010).

Secondary Hypertension

Secondary hypertension (or less commonly, than essential hypertension) is a type of hypertension which by definition is caused by an identifiable, underlying secondary cause. It is much less common than the other type essential hypertension affecting only about 5% of hypertensive patients. It has many different causes including endocrine diseases, kidney diseases and tumors. It also can be a side effect of many medications (Dickson et al 2010). In the case of secondary hypertension correction of the underlying cause may cure the hypertension.

2.3 Causes/Risk Factors of Hypertension

Carretero and Oparil (2011). Said that the exact causes of hypertension are usually unknown and that, there are several factors that have been highly associated with the condition and they

include: smoking, obesity, diabetes, alcoholism, sedentary lifestyles, lack of physical exercise, high level of salt intake (sodium sensitiveness) insufficient calcium, potassium and magnesium consumption, vitamin D deficiency, stress, ageing, medicine as birth controls pill. Genetics, (a positive family history of hypertension), chronic kidney disease and adrenal and thyroid problems or tumors. In buttressing this point he added that the statistics in the USA include that African Americans have higher incidence of hypertension than other ethnicities.

According to Gibson, P. (2009) it is observed though that having a positive family history of hypertension increases the likelihood that an individual will develop hypertension.

More than 50 genes have been examined in association studies with hypertension and the number is constantly growing. Angiotensinogen (AGT) has been studied relentlessly by Kin K (2011). The shows that increase in Angiotensin increases blood pressure and hence could cause hypertension. Twins have been included in the study of hypertension; supporting data has also emerged from animals study as well as clinical studies in human population. Majority of these studies support the concept that inheritance is probably multi-factorial or that a number of different genetic defects, each has an elevated blood pressure as one of its phenotypic expressions. However, the genetic influence upon hypertension is still not fully understood at the moment.

2.4 Variation In Blood Pressure

Normal blood pressure has circadian rhythm, higher values in the day when one is awake and involved in activities lower values at night during sleep. Individual are observed to have about a 10-20% drop in blood pressure nocturnally and those without such drops are particularly at risk of cardiovascular complications. A sharp increase in blood pressure has been observed during early hours of the morning while awaking up from sleep (Chobanian P. 2004). Most clinical decisions have been based on office blood pressure measurements and this is prone to white coat hypertension – a phenomenon characterized by a transient rise in blood pressure primarily in the hospital or health center environment (Chobanian P. 2004).

Therefore normal blood pressure measurement may eliminate this apparent bias.

2.5 Classification Of Blood Pressure

According to 7th report of Joint National Committee on the prevention, detection, evaluation and treatment of high blood pressure in the USA (Chobanian 2003), blood pressure in adult over 18 years is classified as indicated in the table below.

2.6 Classification Of Blood Pressure

Blood Pressure Classification	Systolic Blood Pressure (mmHg)	Diastolic Blood Pressure (mmHg)
Normal	<120	<80
Pre-hypertension	120 – 139	80 – 89
Stage 1 hypertension	140 – 159	90 – 99
Stage 2 hypertension	>160	>100

(Chobanian, 2014).

2.7 Complications Of Hypertension

This result directly from the increase pressure and could become immediate cause of hypertension related death. Hypertension sufferers can develop complications involving the cardiovascular renal and ocular systems.

Cardiovascular complication: Sustained elevation of blood pressure result in an over-burdened heart. Furthermore, hypertension promotes the development of atherosclerosis in the coronary artery supplying the heart to narrow or complete occlusion leading to myocardial/ischemia or infection and sometimes death (Keplan 2005, Riaz 2007).

Renal Complication: Hypertension leads to renal damage by promoting obstructive atherosclerotic plaque in the arteries supplying the kidneys. The vascular damage results in progressive deterioration of renal function and eventually renal failure (keplan 2005, Sharma and Korflis 2007).

Cerebrovascular Complication: High blood pressure promotes the development of atherosclerotic plaques in the vasculature, narrowing or complete occlusion of such vessels produces ischemic stroke. Furthermore, hypertension aids the development of aneurysm, the rupture of vessels which result in hemorrhagic stroke (Keplan 2005).

Ocular Complication: Uncontrolled hypertension damages the tiny ocular vessel supply, resulting in retinopathy which could lead to blindness (Keplan 2005).

2.8 Management/Treatment Of Hypertension

Hypertension is a lifetime management geared towards the treatment of systolic and diastolic blood pressure until they are less than 140/90mmHg in order to achieve a reduction in cardiovascular, cerebrovascular, renal and ocular complications.

Effective treatment of hypertension falls under two major categories viz;

- a. **Non-Drug Therapy:** These will includes the relief of stress, dietary modification (restricted intake of salt, sugar, cholesterol and highly processed foods and saturated fat, sufficient intake of potassium, magnesium, calcium and vitamin C). Regular exercise, smoking cessation and reduced intake of alcohol and caffeine. Modification in lifestyle behavior.
- b. **Drug Therapy:** Mild to moderate hypertension may be controlled by a single drugs regimen while severe cases often require a combination of two or more drugs. Diuretics are a common medication, these agents lower blood pressure primarily by reducing body fluids thereby reducing peripheral resistance to blood flow.

Beta-adrenergic blockers block the effect of epinephrine (adrenaline) thus easing the heart's pumping action and widening blood vessels.

Vasodilators act by relaxing smooth muscles in the walls of the blood Vessels allowing small arteries to dilate and thereby decreasing total peripheral resistance.

Angiotensin-Converting enzymes (ACE) inhibitors inhibit the generation of a potent vasoconstriction agent (Angiotensin II) and involve the synthesis of vasodilatory prostaglandins while retarding the degradation of potent vasodilator bradykinin.

Angiotensin receptor antagonists are similar to ACE inhibitors in utility and tolerability but instead of blocking the production of angiotensin ii, they completely inhibit its binding to angiotensin ii receptors sites. (William, L.W 2014). Calcium channel blockers promote peripheral vasodilatation and reduce vascular resistance (Dr. Olayemi S.O 2009).

Anti hypertensive agent (Drugs)

Beta Blockers: Include Atenolol, Bisprolol, Bexalolol and Metoprolol

ACE inhibitors: Include Enalapril, Captopril, Fosinopril, Ramipril, Lisinopril etc.

Angiotensin II receptor Blocker (ARB) include Losartan, Valsartan etc.

Vasodilators: include Hydralazine, Minoxidil and Diazoide

Calcium channels Blockers include Isradipine, Nifedipine, Felodipine and Amlodipine. Diuretics include Frusemide, Ethacrynic, Bumetamide, Brinadine etc. (Encyclopedia Britannica 2012).

2.9 Diagnosis

Hypertension is rarely accompanied by any symptoms and its identification is usually through screening, or when seeking health care for an unrelated problem. A proportion of people with high blood pressure report headaches, (particularly at the back of the head and in the morning) light headedness, vertigo, tinnitus (buzzing or hissing in the ear) altered vision, fainting episodes, dizziness, chest pains, palpitation, nausea, fatigue and confusion.

Mancia (2009) opined that hypertension may be diagnosed by a health professional who measures blood pressure with a device called a sphygmomanometer, then the systolic and the diastolic number will be recorded and compared to a chart of values in the classification of blood pressure and if the blood pressure reaches and exceeds 140/90mmHg, the person will be considered to have hypertension after the check has been conducted over a stipulated interval of timing (6 hours apart from first check).

A high blood pressure measurement however, may be spurious or the result of stress at the time of check. In order to perform a more thorough diagnosis, physicians usually conduct a physical examination and ask for the medical history of the patient and family. Doctors and health professionals will need to know if you have any of the risk factors for hypertension, such as smoking, high cholesterol level, or even diabetes. If hypertension seems reasonable, test such as Electro Cardiograms (ECG) and Echocardiograms will be used in order to measure electrical activity of the heart and assess the physical structure of the heart. Additional blood test will also be required to identify possible causes of the secondary hypertension and to measure renal function, electrolytes level, sugar levels, and cholesterol level.

2.10 Empirical Review

Across the WHO region, the prevalence of raised blood pressure was highest in Africa where it was 46% for both sexes combined. Both men and women have high rate of raised blood pressure in Africa Region with prevalence rate over 40%, the lowest prevalence raised blood pressure was in the WHO region of the American at 35% for both sexes. Men in this region had higher prevalence than women 39% for men and 32% for women. In all WHO regions, men have slightly higher prevalence than women (Emmanuel, A 2013).

Worldwide raised blood pressure is estimated to cause 7.5 million deaths about 12.8% of the total of all deaths. This condition accounts for 57 million disabilities adjusted life years (DALYs) or 3.7% of total DALYs (World Health Organization 2013). Hypertension is a major risk factor for coronary heart disease and ischemia as well as Hemorrhagic stroke. Blood pressure level have been shown to be positively and continuously related to the risk for major heart problems (Kaplan 2005).

In some age groups the risk of cardiovascular disease doubles for each increment of 20/10mmHg of blood pressure starting as low as 115/75mmHg. For systolic and diastolic respectively.

In addition to coronary diseases and stroke, complications of raised blood pressure include heart failure peripheral vascular disease, renal impairment, retinal hemorrhage and visual impairment, (Keplan 2005).

Globally, the overall prevalence of hypertension in adults age 25 and over was around 40% in 2008. The population of the world with high blood pressure or uncontrolled hypertension fell moderately between 1980 and 2008. However, due to population growth and

ageing, the number of people with uncontrolled high blood pressure rose from 600 million in 1980 to nearly 1 billion in 2008 (World Health Organization).

2.11 Theoretical Framework

The theoretical framework suitable for this research work is the health promotion model conceptualized by Pender & Render (1987). This model explained the occurrence of behavior directed towards increasing the level of wellness. The health promotion model is a synthesis of findings from studies on factors related to health promoting behaviors and the model attempt to explain why individual engage in health actions.

Pender model is appropriate for continued investigation because being derived from social learning theory; it stressed the importance of cognitive mediating processes in behavior regulation.

Determinants of health promotion model are: cognitive perceptual factors, modifying factors and variables affecting the likelihood of the action.

Health Promotion Model

**Cognitive
Perceptual
Factors**

**Modifying
Factors**

**Variables
affecting the
likelihood of Action**

From the above, the effectiveness of health promotion depends on these three factors which are: cognitive perceptual factor, modifying factor and variables affecting the likelihood of the action.

However, from the above illustration, this research is geared towards identifying the percentage of the people who suffered from hypertension within the specified age (40 years and above) in Alihame and Ekuku Agbor communities in Ika South Local Government Area of Delta State. With the determination of the group affected, proper efforts will be made to ensure that adequate health promotion measures are adopted in order to increase the level of wellness in the society.

In summary, hypertension is generally increasing its trend in Nigeria; researchers are not ignorant of this menace. With the implementation of the above control method, the growing wings of the disease will be plucked off before it goes out of control.

3 METHODOLOGY

The design and method adopted in this research will be discussed under the followings headings.

3.1 Research Design

An explorative survey design was adopted in this research work because it involves the investigation of factors responsible for the prevalence of hypertension.

3.2 Study Setting

The settings for this study are Alihame and Ekuku Agbor communities. Alihame is located at Ika South Local Government of Delta State; it is bounded in the North by Aliokpu in the east and South by Agbor-Obi and by warri express Road to the West. The people there are predominantly framers and petty traders. Major ethnic group there is Ika and they practice

traditional and Christian Religion and have one Modern Health care centre and also a college of education.

Ekuku-Agbor on the other hand is bounded to the North by Obidigbo and Isumpe in the East by Ute-Erumu and Egbuduakah to the south by Ndemili and to the West by Abavo. The community has five quarters and people there are predominantly farmers and petty trader. Major ethnic group there is Ika and they practice traditional and Christian religion and have one modern health care centre.

3.3 Target Population

The group of people involved in this survey are all adults male and female in these two communities; totally approximately about 3,500.

3.4 Sampling Techniques/Sampling Size

The screening was carried out in two communities randomly selected from Ika South Local Government. They are Alihame and Ekuku-Agbor communities. The respondents for this survey were selected using availability and convenience sampling technique. A total of 525 respondents were randomly recruited for this survey as follows; Alihame 238 and Ekuku-Agbor 277

3.5 Instrument for Data Collection

Weighing scale, Stethoscope, sphygmomanometer, structured interviews as well as questionnaire were used.

3.6 Validity/Reliability of Instrument

The reliability of the instrument was done using test-retest method 40 adults were randomly selected from a neighboring community. Pretest was done and retested, again after two weeks of first administration. The reliability coefficient of the instrument was 0.8 face and validity was carried out by experts in the field of study. Questionnaire was structured and given to my supervisor to modify; modifications were made to make it a valid instrument for data collection.

3.7 Method of Data Collection

Data was collected through structured interview, questionnaire, the use of weighing scale, stethoscope and sphygmomanometer and also data records of outpatient in the two health centre of both communities, both digital and analogue sphygmomanometers were used to minimize error due to parallax. This checking was performed by me and some of my colleagues.

3.8 Method Of Data Analysis

Data collected was analyzed using descriptive statistics such as frequency tables and percentage.

4 DATA ANALYSIS

This chapter has to do with presentation and analysis of data collected and gathered during the research work. The results of the analysis were based on the response by the respondents arranged and presented in frequencies and percentages.

Table 1: Socio Demographic Data of Respondents

ITEM	NO OF RESPONDENTS	PERCENTAGE
Gender	Frequency	%
Male	178	33.9
Female	347	66.1
TOTAL	525	100
Age		
40	112	21.3
40 and above	413	78.7
TOTAL	525	100
Educational status		
primary	88	16.8
Secondary	170	32.4
Tertiary	73	13.9
No formal educational	194	36.9
TOTAL	525	100
Marital status		
Married	347	66.1
Divorced	0	0
Widow/widower	63	12.0
Single	115	21.9
TOTAL	525	100

Table 1 shows the socio demographic data of the respondents. More female 66.1% participated than males 33.9% in this survey. Four hundred and thirteen (413) respondents representing 78.7% of respondents are above 40 years. The average age of respondents is 46 years.

Table 1 also shows that 36.9% had no formal education only 32.4% had secondary education while 13.9% had tertiary education. This table also shows that 66.1% of respondents are married, 21.9% are single and 12.0% are widows and widowers

Table 2: weight of respondents, against systolic and diastolic blood pressure

ITEM	FREQUENCY	PERCENTAGE
Weight		
41 – 60kg	261	41.1
61 – 100kg	309	58.9
TOTAL	525	100
Systolic blood pressure in mmHg		
≤ 120	156	29.7
120 – 139	133	25.3
144 – 159	157	29.9
> 160	79	15.1
TOTAL	525	100
Diastolic blood pressure in MmHg		
<80	264	50.3
80 – 89	88	16.8
90 – 99	90	17.1
>100	83	15.8
TOTAL	525	100

The table above indicates that 41.1% of the respondents are between 41-60kg body weights while 58.9% are above 60 kilogram body weight. The mean weight of respondents is 64kg. It also reveals the blood pressure of respondents. 29.7% have a systolic blood pressure of less than or equal to 120mmHg, 25.3% have a systolic blood pressure of 120 – 139 mmHg 29.9% have a systolic pressure of 144-159mmHg and 75% have a systolic pressure of the above 160mmHg.

It also shows that diastolic blood pressure of 50.3% is less than or equal to 80mmHg, 16.8% have a diastolic pressure of 80 – 89mmHg. 19.1% have a diastolic pressure of 90 – 99mmHg and 15.8% have a diastolic pressure of greater than 100mmHg. It reveals that weight is a major contributor to high blood pressure showing that 312 respondents are above 60kg body weight.

Table 3: Age against systolic and diastolic blood pressure of respondents

Item	<120	120-139	140-159	>160	Total
Gender	44	49	61	24	178
Male	112	84	96	55	347
TOTAL	156	133	157	79	525
Age (years)					
<40	22	24	35	31	112
40 & above	34	109	112	48	413
TOTAL	156	133	157	79	525
Diastolic blood pressure in MmHg					
<80	246	50.3			
80-89	88	16.8			
90-99	90	17.1			
>100	83	100			

The above table shows relationship between age and blood pressure. It shows that 413 respondents are above 40 years and as such age is greatly linked to hypertension.

Table 4: Prevalence of hypertension among adult age 40 and above in Ekuku agbor and Alihame from January – September 2014 EKUKU Agbor Health Centre Outpatient Record Department

Item	Jan-Mar	April-Jun	July-Sep
Gender			
Male	14	8	25
Female	36	12	5
Total	50	20	30
Percentage	14.3	5.7	8.6
Alihame health Centre outpatient record dept			
Male	11	28	4
Female	9	22	26

Prevalence rate:
$$\frac{\text{No of current cases at specific times} \times 1000}{\text{No of population at risk}}$$

The table above shows the prevalence of hypertension among adults age 40 and above from Jan – Sept 2014, in Ekuku Agbor and Alihame communities respectively, April –Jun recorded 5.7% and 14.3% while July – Sept recorded 8.6 % respectively. Therefore prevalence from Jan – Sept is the sum total occurring at of specific time bringing it at 28.6% respectively.

5 DISCUSSION OF FINDINGS

These chapters focus on the discussion of analyzed results in relation to the set objectives as depicted in the tables in previous chapter, the relationship with other studies/ literature review, implication to nursing summary and further study on the subject matter.

The discussion of findings on the prevalence of hypertension, among adult age 40 and above in Ekuku Agbor and Alihame communities.

The results obtained in this survey revealed that more females 66.9% participated than males 33.1% are less than 60kg body weight while 58.9% are above 60kg body weight.

Objective 1

To determine the association between age and blood pressure.

Tables 3 and 4 show that 413 respondents that are above 40 years had increased blood pressure as against 112 who are 40 years and below. This number implies that about 7 out of every 10 adults in these two communities age are likely to be hypertension.

This is in line with Sam & Geetha (2006) which asserted that hypertension is usually seen in people above 40 years.

It is also consist with Pauls (2004) assertion that majority adult develop hypertension in the sixth decade. It also agrees with potter and Perry (2005) that age influence blood pressure.

Objectives II

To determine the relationship between blood pressure and gender table 3 reveals that 347 females participated in this survey than male 178. Prevalence cannot be said to be higher in female as ratio between both genders is not proportional and this cannot uphold redmonds assertion where he reported that more men are hypertension than woman.

Objectives III

To expose the relationship between blood pressure and weight.

Tables 3 reveals that 58.9% of respondents that are hypertensive are above 60kg body weight against 32.1% under 60kg body weights (world heath organization)

Implication To Nursing

Some of the implications of this study to nursing are as follows

The knowledge acquired through this research will help nurses to identify the age group, mostly at risk of hypertension and the best approach in handing them.

The prevalence of hypertension and the consequence of the life and future of adults sufferer as a propelling force for nursing to give information and education to the society against hypertension.

The community nurse should always carry out home visitations as a follow up tool.

Summary

This survey is carried out to determine the prevalence of hypertension in Ekuku Agbor and Alihame communities of Ika South Local Government Area.

This topic was introduced and literatures were reviewed by using text books, journal and data of patients attending the health centers in both communities. A total number of 525 respondents were randomly recruited. All data gathered and analyzed revealed that 3-5 out of 10 adults are likely to be hypertensive, 45% have systolic hypertension.

These may be chance that a woman will be hypertensive than a man though not clearly outlined in the research as the ratio of gender participation in this study is not proportional. 7 out 10 adults above 40 years are very likely to be hypertensive. Hypertension prevalence is highest between 41 and 60 years and the estimate overall prevalence of high blood pressure in

these two communities is 45%. However, age and weight relate significantly with blood pressure.

Conclusion

In conclusion, the research discovered a high level of prevalence of hypertension among the respondents. It also discovered that ages 40-60 are at higher risk.

Recommendations

Based on the findings of his research work and the devastating effort of hypertension, the following recommendation will help the government health institution, family and individuals in reducing the scour of hypertension in the society.

1. Public enlightenment to be organized to educate the people about the danger signs of hypertension, its prevention and management.
2. Further studies should be carried out to ascertain the factors responsible for high prevalence of hypertension in adults and appropriate measures to control this health challenge.
3. Regular home visitation and health education of those living with hypertension by community based health professional/personnel for proper and on time management.

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