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Influence of Socio-economic Factors in the Distribution of Arterial Hypertension in Ohafia Lga, Abia State, Southeast Nigeria

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Abstract

Hypertension can described as a non-communicable disease that can lead to further complications like stroke and heart disease. This study was carried out to determine the influence of socio-economic factors in the distribution of arterial hypertension in Ohafia LGA, Abia State, Southeast Nigeria. The study employed a cross sectional research design to obtain information on the association of the socio-economic factors with hypertension using questionnaire after being examined of their blood pressure level. The data were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. A total of 1244 participants gathered from various communities in Abia State, Southeast Nigeria were involved in this study. A prevalence rate of 29.66% was observed from the study. The age distribution of hypertensive subjects showed that subjects above 60 years had the highest frequency of hypertension making up 13.67% of the general population. The gender distribution of hypertensive subjects showed that 187(15.03%) were males and 182(14.63%) were females. Results obtained on the occupation of hypertensive subjects showed that 126(10.13%) were civil servants, 110(8.84%) were farmers, 36(2.89%) were traders, 40(3.22%) were artisans and 25(2.01%) were unemployed. On the education of the hypertensive subjects, 138(11.09%) obtained only Primary Education, 69(5.55%) stopped at Secondary Education, 86(6.91%) acquired Tertiary Education while 74(5.95%) had no formal education. The income distribution of hypertensive subjects showed that 252(20.25%) earned below the ₦18,000 while 97 (7.80%) earned above ₦18,000. On the distribution of social class of the hypertensive subjects, 212(17.04%) reported to be in the lower social class, 142(11.42%) were in the middle class while 14(1.12%) were in the upper class. The chi-square tool was used to determine the statistical influence of the variables. In conclusion, socio-economic factors were found to be significant in the occurrence and distribution of hypertension and therefore, Medical practitioners are encouraged to take their services to the remote villages and make it affordable for the poor people.

Keywords: Hypertension, Socio-economic factors, Poverty, Illiteracy

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Introduction

Hypertension is one of the commonest non-communicable diseases and its complications are one of the major leading causes of morbidity and mortality in most parts of the world. It has been classified as one of the growing global public health problems or challenges in both economically developing and developed countries. Based on the negative health impact, hypertension has been termed a “silent killer” because it has no early detectable symptoms, and is a major cause of serious health conditions and death (1). The disease condition of hypertension usually does not cause symptoms but long term high blood pressure, is a major risk factor for coronary artery disease, stroke, heart failure, peripheral vascular disease, vision loss, and chronic kidney disease (2). Hypertension is usually asymptomatic, at least initially, but in some individuals it may present with occasional throbbing headaches, blurring of vision, palpitations, signs of renal diseases, left ventricular enlargement, retinopathy and nose bleeding. Hypertension could also means transitory or sustained elevation of systemic arterial blood pressure to a level likely to induce cardiovascular damage or other adverse consequences (3). Arterial hypertension is a life-threatening condition that gets worse over time, but early intervention can help to prolong the life of the affected person. Blood pressure can be the measurement of the force against the walls of arteries as the heart pumps blood through the body (4). It may present confusion in convulsion patient in term of hypertensive encephalopathy (4).

An arterial high blood pressure has the characteristic of pressure indicators, either equal of higher than 140 mm Hg for the systolic or 90 mm Hg for the diastolic pressure, after having repeatedly measured the arterial tension. When young patients are having arterial high blood pressure, it is first due to the diastolic arterial high blood pressure, affecting the small arteries. At older age this illness is affecting the big arteries and result to systolic arterial high blood pressure.

Worldwide, raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths. This accounts for 57 million disability adjusted life years (DALYS) or 3.7% of total DALYS. Globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008 (5). However, because of population growth and ageing, the number of people with uncontrolled hypertension rose from 600 million in 1980 to nearly 1 billion in 2008. Across the WHO regions, the prevalence of raised blood pressure was highest in Africa, where it was 46% for both sexes combined. Both men and women have high rates of raised blood pressure in the Africa region, with prevalence rates over 40% (5).

Influential factors like age, income, education and social lifestyle can predispose an individual to hypertension. A number of studies of urban African populations have shown a positive correlation between hypertension and age (3).

As an individual grows older, physiological changes set in. For example, muscles begin to atrophy and arteries begin to grow narrow as well. The narrowing of arteries increases the pressure of blood flow, which eventually results in hypertension (6). Hypertension is more common in men than in women when they are below 40 years of age. For example, the

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prevalence of hypertension in African countries like Accra, Ghana was much higher in men than women aged below 40 compared to whites; blacks are a lot more at risk when it comes to hypertension (7). They are susceptible to become more hypertensive than whites. Blacks' genetic factors may predispose them to hypertension (3).

Concerning the socio-economic factors, It has been known people in lower socio-economic positions report more symptoms of general mental ill health and poor function, minor depressive symptoms, anxiety and poor, as well as neurotic disorders (8,9,10) respectively. Socio-economic differences have been absent for some employee populations, but sometimes also for general adult as well as elderly and adolescent populations (10,11 & 12).

According to Marmot (13), common mental disorders have used a wide range of measures of socio-economic circumstances. Conventional socio-economic status measures, including education, occupational class and income. Material circumstances have included wealth, house and car ownership,and high standards of living and economic situation (12,15). Each socio-economic measure reflects both common ranking in society, as well as particular socio-economic circumstances according to the specific nature of the measure.

Current socio-economic status measured by education, occupational class or income carries more proximal influence on adult health (15). As the current status represents more immediate and accumulated influences, it might produce stronger associations with health than the distal ones. Even among the measures of current socio-economic status, education is less proximal and usually acquired first over the life course. Educational attainment affects one's occupational class, which in turn contributes to income. Among the key socio-economic measures, education represents non-material resources and contributes to cognitive qualifications, altitudes and values shaping health-related behaviours in particular. Occupational class relates people to social structure and labour market and contributes to their status and power. Occupational class also reflects working conditions and their influences on health. Income mainly derived from paid employment contributes to material living standards and purchasing power which are needed in maintaining good health (15). Therefore, this study was deemed necessary in order to determine the influence of socio-economic factors in the distribution of arterial hypertension in Ohafia LGA, Abia State, Southeast Nigeria

Materials and Methods

The research study employed a cross sectional descriptive survey in Ohafia Local Government Area, Abia State, Nigeria. The participants were randomly selected from communities in Ohafia. Appointments were placed at community centers and town union centers. Information concerning the blood pressure assessment was circulated within the sampled communities prior to the date of visit. Information was formally passed through the town union heads, worshiping centers and writing notices which were pasted at strategic locations. The subjects were examined of their blood pressure level from 18 years and above and a questionnaire booklet was completed on 587 participants by the research team through face-face interview. The blood pressure was taken three times at few interval gaps of 2 minutes and the average of the last two measurements

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were compiled for data analysis. Diagnosis of hypertension was based on 2003, joint national committee WHO criteria on high blood pressure, (16) Chobanian et al 2003)) which defined hypertension as systolic blood pressure of > 140mmHg and/or diastolic pressure > 90mmHg or a blood pressure below this level for individuals previously diagnosed of hypertension but are placed on hypertensive drugs or on therapy. Emphasis was placed on demographic and socio-economic information such as age, gender, marital status, family type, education, income, occupation and social class. The collected data were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. The results were presented in frequency tables and charts. The chi-square tool was used to determine the statistical influence of the variables.

Results

A total of 1244 subjects were involved in this study, of which 369(29.66%) were hypertensive while 875(70.34%) were normotensive. This was represented in the bar chart of Figure 1. Results on the demographic information of the participants were shown in Table 1. The ages of the participants were categorized into age groups and the age group above 60 years showed the highest distribution of hypertension (13.67%). The gender distribution of hypertensive subjects showed 187(15.03%) males and 182(14.63%) females. Information on marital status showed that, of the hypertensive subjects, 12(0.96%) were single, 276(22.19%) were married and 60 (4.82%) were either a widow or widower.

In table 2, the information on the family type of hypertensive subjects showed that 33(2.65%) were single parents, 267(21.46%) came from monogamous families and 66(5.31%) came from polygamous families. The table 2 also showed the family size of the participants; family with one person, 14(1.13%) were hypertensive; family of two persons, 56(4.5%) were hypertensive; family of 3-4 persons, 93(7.5%) were hypertensive; family of 5-6 persons, 120(9.65%) were hypertensive and family above 6 persons, 84(6.75%).

The result in table 3 showed the distribution of the socioeconomic information on participants in relation to hypertension; 126(10.13%) were civil servants, 110(8.84%) were farmers, 36(2.89%) were traders, 40(3.22%) were artisans and 25(2.01%) were unemployed. Information on education of the hypertensive subjects showed that 138(11.09%) stopped at Primary Education, 69(5.55%) stopped at Secondary Education, 86(6.91%) acquired Tertiary Education while 74(5.95%) had no formal education. The income distribution of hypertensive subjects showed that 252(20.25%) earned below the ₦18,000 which is the minimum wage in Nigeria while 97(7.80%) earned above ₦18,000. The distribution of social class of the hypertensive subjects showed that 212(17.04%) subjects were in the lower social class, 142(11.42%) were in the middle class while 14(1.12%) were in the upper class.

Discussion

The prevalence of hypertension in Southeast Nigeria was found to be 29.66% in this study. The rate was higher in males compare to females and it could be the influence of socioeconomic stress on men in terms of material resources to keep family financial stable. The prevalence of hypertension in populations has been reported to differ geographically since it may be influenced

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by demographic and socio-economic factors. Hypertension was reportedly more prevalent in the developed than developing countries (17). In African continent, national prevalence of 15-30% was adduced (18) and its prevalence in Nigeria was noted to occur in 10-15% of the population (19). Hypertension tends to occur with increasing age, hence, the higher prevalence among adults above 60 years. Education was an important factor in the distribution of hypertension as most cases of hypertension were among subjects who stopped at primary school education. Most of these people are not aware of the disease or the risks involved. Lack of awareness means lack of knowledge of the basic preventive measures. According to some studies from Iloh, (20, 21), shown that people who lack proper education and awareness of common non-communicable diseases record higher cases than the educated ones. Proper education means that preventive measures will be taken and adequate management measures will be adhered to the management of the condition.

In Nigeria, majority of people still live below the minimum wage. This high level of poverty especially in the rural areas affects people's ability to afford proper health care. They rather resort to cheaper less appropriate means of treatment. Civil servants also face the problem of delay in payment of salaries, sometimes for months. This obviously affects their ability to keep to their medical appointments and purchase of their medications. A study carried out by American Heart Association (22) on four socioeconomic indicators which include personal income, education level, occupation and neighborhood score. The researcher found that the risk of developing hypertension was 95% higher for people who scored lowest in all four socio-economic indicators compared to people with all four indicators in the highest category. Complications like stroke can result from hypertension especially when the blood pressure is not maintained within the normal limits. Studies (23, 24) have shown that Nigerians are particularly susceptible to hypertension and its complications such as disabling and fatal stroke which remains a major cause of morbidity and mortality. There is also strong evidence to suggest that hypertension and its associated complications like stroke are major health challenges in the 21st century (25). As of the year 2000, nearly one (1) billion persons or 20% of adult population, were affected with hypertension worldwide,(26) and it has been predicted that the number could jump to more than 1.5 billion in 2025, if drastic measures are not taken to control hypertension and stroke complications.

In conclusion, socio-economic factors were found to be significant in the occurrence and distribution of hypertension. Illiteracy and poverty were major contributory factors with majority of the people living below the minimum wage and not able to access proper health care and keep up with their regular medical appointments. There is a need for the government to ensure that health care reaches those who cannot afford it especially those in the rural areas. Medical practitioners are also encouraged to take their services to the remote villages and make it affordable for the poor people. Proper health education and awareness campaigns on hypertension should be intensified on the need for people, especially adults to monitor their blood pressure regularly to ensure that they take their medications and live healthy lifestyles to prevent an increase in their blood pressure above normal limits.

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Results

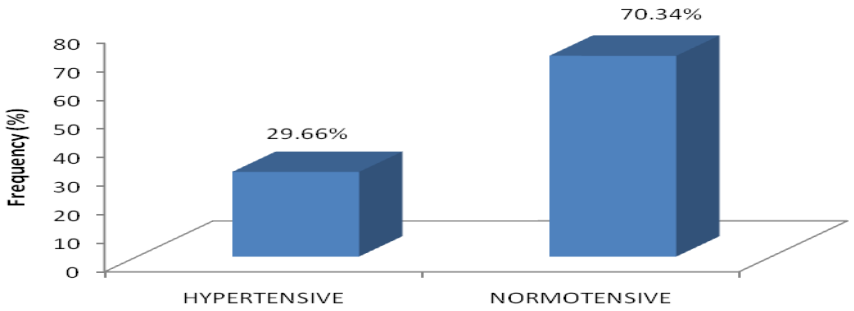

Figure 1: Prevalence of hypertension in Southeast Nigeria

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Table 1: Demographic Information on participants

Age Group	F	%	Cases	%
20-30	102	8.20	6	0.48
31-40	248	19.94	35	2.81
41-50	280	22.51	76	6.11
51-60	243	19.53	80	6.43
Above 60	362	29.10	170	13.67
Not Stated	9	0.72	2	0.16
Total	1244	100.00	369	29.66
Gender				
Male	490	39.39	187	15.03
Female	754	60.61	182	14.63
Total	1244	100.00	369	29.66
Marital Status				
Single	49	3.94	12	0.96
Married	1016	81.67	276	22.19
Widow/widower	144	11.58	60	4.82
Divorced/separated	28	2.25	19	1.53
Not giving	7	0.56	2	0.16
Total	1244	100.00	369	29.66

Table 2: Family type and size among participants

Family Type	F	%	CASES	%
Single parent	125	10.05	33	2.65
Monogamous	889	71.46	267	21.46
Polygamous	225	18.09	66	5.31
Others	0	0.00	0	0.00
Not giving	5	0.40	3	0.24
Total	1244	100.00	369	29.66
Family Size				
1	37	2.97	14	1.13
2	123	9.89	56	4.50
3-4	388	31.19	93	7.47
5-6	357	28.70	120	9.65
Above 6	337	27.09	84	6.75
Not stated	2	0.16	2	0.16
Total	1244	100.00	369	29.66

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Table 3: Socioeconomic Information on participants

Occupation	**F**	**%**	**CASES**	**%**
Unemployed	85	6.83	25	2.01
Farming	378	30.39	110	8.84
Trading	131	10.53	36	2.89
Artisans	119	9.56	40	3.22
Civil servants	454	36.50	126	10.13
Retirees	30	2.41	16	1.29
Driving	31	2.49	13	1.04
Others	14	1.12	3	0.24
Not given	2	0.16	0	0.00
Total	1244	100.00	369	29.66
Education				
None	202	16.23	74	5.95
Primary	377	30.31	138	11.09
Secondary	243	19.53	69	5.55
Tertiary	413	33.20	86	6.91
Not stated	9	0.73	2	0.16
Total	1244	100.00	369	29.66
Income (Naira)				
None	68	5.47	20	1.61
< 18000	639	51.36	252	20.25
≥18000	533	42.85	97	7.80
Not stated	4	0.32	0	0.00
Total	1224	100.00	369	29.66
Social Class				
Lower	703	56.51	212	17.04
Middle	458	36.82	142	11.42
Upper	79	6.35	14	1.12
Not giving	4	0.32	1	0.08