KNOWLEDGE OF RISK FACTORS AND PREVENTIVE MEASURES OF HYPERTENSION AMONG SECONDARY SCHOOL TEACHERS IN NJIKOKA LOCAL GOVERNMENT AREA, ANAMBRA STATE

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Abstract

The study investigated knowledge of risk factors and preventive measures of hypertension among Secondary School Teachers in Njikoka Local Government Area, Anambra State. The purpose of the study was to find out if Secondary School Teachers in Njikoka Local Government Area, Anambra State have knowledge of risk factors and preventive measures of hypertension. Eight research questions and six hypotheses guided the study. The cross-sectional design was adopted for this study. The population of the study consisted of the 229 secondary school teachers in public secondary schools in Njikoka Local Government Area, Anambra State. The sample size for the study was the entire population (229) of the study. The research instrument used for this study was a researcher's structured questionnaire title; "Knowledge of Risk Factors and Preventive Measures of Hypertension Questionnaire". The data collected were organized and analyzed using frequencies and percentages in analyzing the research questions. Findings showed that the secondary school teachers in Njikoka LGA, Anambra State know that the risk factors of hypertension are smoking, eating salty food, adding a fresh salt to your food when it is ready, eating of fast food meal, taking of alcoholic drinks and engaging in stressful activities. And that the preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State are engaging in physical activities, reducing excessive salt intake, losing of weight, avoiding of taking alcoholic drinks, eating of fruits and vegetables at least ones in a week and reducing calorie intake. Based on the outcome of the study, it was recommended among others that Government should organize quarterly public enlightenment and awareness for secondary school teachers on measures of preventing hypertension.

Keywords: hypertension, risk factors, preventive measures, secondary school teachers

Introduction

Globally, hypertension is a public health issue of great concern that needs urgent attention of healthcare professionals and caregivers. Hypertension is estimated to affect about one billion people worldwide and is a major risk factor for many cardiovascular diseases (Mbuthia, Magutah, & McGarvey, 2021: WHO, 2018). Cardiovascular diseases are responsible for about 17 million deaths globally, with complications from high blood pressure resulting in about 7.5 million deaths and 57 million disability-adjusted life years (DALYs) worldwide, both accounting for about 12.8 and 3.7 per cent of global deaths and DALYs, respectively (WHO, 2018). Globally, it is estimated that one billion adults live with hypertension; a figure which is projected to hit 1.5 billion by the year 2025 (WHO, 2018). Furthermore, hypertension-related complications are responsible for over 50 per cent of the 17.4 million annual deaths caused by cardiovascular diseases globally. At least 45 per cent of deaths due to heart disease and 51 per cent of deaths due to stroke are related to hypertension. In 2016, high systolic blood pressure was reported by the Mbuthia, Magutah, & McGarvey, (2021) as a leading cause of global disease burden in both men and women.

In sub-Saharan Africa, emerging epidemiological data suggest that hypertension has become a major public health challenge. Hypertension is a driver of the cardiovascular disease epidemic with 16.5 per cent of all global deaths attributable to high blood pressure (Lim et al., 2012: Kayima, Wanyenze, Katamba, Leontsini, & Nuwaha, 2013).). The economic impact of hypertension in Africa is felt directly by the individuals and the health care system through the high costs incurred in treating complications; and indirectly through the loss of household incomes due to disability and death (Mbuthia, Magutah, & McGarvey, 2021: Odili et al., 2017). Hypertension, if not properly controlled and managed, may lead to cardiovascular complications which include coronary heart disease, heart failure, renal damage, ischemic heart disease, strokes (Ezekwesili et al., 2016).

Nigeria, currently with a population of over 200 million, is the most populous African country. The prevalence of hypertension in the country hugely contributes to the overall burden in Africa. In 2008, the WHO estimated hypertension prevalence of 42.8 per cent in Nigeria (WHO, 2011). This is believed to be due to an increasing adult population, rapid urbanization and uptake of western lifestyles, including high consumption of processed foods (with high salts and fats), tobacco and alcohol products (Bello, 2013; Mezue, 2013). As observed by Oguizu, Utah-Iheanyichukwu, and Ibejide, (2019), the available nationwide data on the epidemiology of hypertension in Nigeria is based on the Non-communicable disease survey published in 1997 which is obsolete and no longer reliable as the threshold for the diagnosis of hypertension was a blood pressure of 160/95 mmHg as against the acceptable current threshold of 140/90 mmHg. One major problem affecting the response to this burden in Nigeria is that the awareness, treatment and control of hypertension have been low (Kayima, Wanyenze, Katamba, Leontsini and Nuwaha, 2013). Consequently, many who live with high blood pressure may end up in health facilities with cardiovascular complications, including heart failures, ischemic heart disease and strokes (Ogah et al., 2012). This situation calls for reduction of prevalence rate of hypertension in Nigeria.

Hypertension prevalence rate is high among people exposed to such risk factors as smoking, excessive alcohol consumption, obesity, excessive sodium consumption and undue stress. Hypertension, also called high blood pressure, is a condition that arises 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 pressure (Winters, 2014). Usually, hypertension is described as a systolic blood pressure (SBP) of 140 mm Hg or more, or a diastolic blood pressure (DBP) of 90 mm Hg or more (Banigbe, et al., 2020). Blood pressure for adults aged 18 years or older can be classified as follows; normal: systolic lower than 120 mm Hg, diastolic lower than 80 mm Hg, prehypertension: systolic 120-139 mm Hg, diastolic 80-89 mm Hg, stage 1: systolic 140-159 mm Hg, diastolic 90-99 mm Hg, stage 2: systolic 160 mm Hg or greater, diastolic 100 mm Hg or greater (Alexander & Courtois, 2017). It is defined as a persistent elevation of blood pressure (BP) above the normal range (WHO, 2013). The acceptable cut off point currently used according to the seventh report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of systemic hypertension (JNC-7) is systolic blood pressure (SBP) of ≥140 mmHg and or diastolic blood pressure (DBP) of ≥90 mmHg (WHO, 2018).

It is in this light that Banigbe, et al., (2020) in a study conducted in Nigeria found that the South-East had the highest prevalence of hypertension (52.8%) while the lowest rate of 20.9% was observed in the North-Central region. The specific underlying cause of hypertension cannot be found in patients. It is in this light that Owolabi, Owolabi, OlaOlorun, and Amole (2015) assert that unfortunately, hypertension is often unnoticed and undiagnosed because it is usually asymptomatic, and as such, many people with hypertension are unaware of their condition. It is a silent killer as very rarely any symptom can be seen in its early stages until a severe medical crisis takes place like heart attack, stroke, or chronic kidney disease

(Prabakaran, Vijayalakshmi & VenkataRao, 2013). However, according to the WHO (2018), many factors may contribute to its development, including renal dysfunction, peripheral resistance vessel tone, endothelial dysfunction, autonomic tone, insulin resistance and neurohumoral factors. Since people are unaware of excessive blood pressure, it is only through measurements that detection can be done. Although majority of patients with hypertension remain asymptomatic, some people with hypertension report headaches, lightheadedness, vertigo, altered vision, or fainting episode (Fisher & Williams, 2005).

For hypertension to occur there must be several disposing factors that enhance its occurrence. These factors are known as risk factors. Risk factors are attributes, characteristics or exposures that increase the likelihood of a person developing the disease or health disorder (Australian Institute of Health and Welfare, 2017). According to Oguizu, Utah-Iheanyichukwu, & Ibejide, (2019), risk factors are conditions or variables associate with a higher likelihood of negative or socially undesirable outcomes. Several risk factors have been found for the development and occurrence of hypertension. For instance, Banigbe, et al., (2020) found the risk factors of hypertension to include smoking, alcohol intake and sedentary lifestyles. Studies, according to Ondimu et al. (2019) and Saeed (2015) have shown that social habits such as smoking, alcohol consumption and physical inactivity, higher anthropometric parameters (BMI and WHR) and diet rich in red meat and low in fruit was associated with hypertension. Kayima et al. (2015) found older age-group, male sex and obesity to be risk factors of hypertension. Also, hypertension is more common in some ethnic groups, particularly African Americans and Japanese, and approximately 40-60 per cent is explained by genetic factors (WHO, 2018). Salaudeen, Babatunde, Atoyebi, Durowade and Omokanye (2014) reported that alcohol, obesity, high salt intake, certain drugs, stress, emotional problems, family history and smoking were risk factors, Htun et al. (2015) found that family income, smoking, alcohol drinking, consumption of salty and fast food, stressful conditions and increased Body Mass Index were significant risk factors for hypertension.

Meanwhile, the concept of knowledge has been variously defined in literature. Knowledge according to Simpson (2015) represents facts, information, and skills acquired through experience or education, the theoretical or practical understanding of a subject. Oguizu, Utah-Iheanyichukwu, & Ibejide, (2019) described knowledge as information, facts or ranges of what has been perceived, discovered or learned. This implies that, one need to have knowledge to perform at his or her best. According to James (2016), knowledge is the awareness or familiarity gained by experience or a person's range of information. In the context of this study, knowledge refers to the information and understanding of the risk factors and preventive measures of hypertension by secondary school teachers in Njikoka LGA, Anambra State.

A secondary school teacher is a person who engages in the art of teaching. Teachers can be found in any learning institutions ranging from primary schools, colleges of education, and special degree award institutes including secondary schools. Wells (2015) described a secondary school as a school which provides secondary education between the ages of 11 and 16 or 11 and 19, after primary education and before higher education. A teacher is a person who plans and organizes creative acts based on which students explore, experience, discover, know themselves, develop and achieve their aspiration based on a larger self (Alexander and Courtois, 2017). Contextually, a teacher refers to a qualified person who deliberately engages in activities in a classroom that makes learning successful in secondary schools in Njikoka LGA, Anambra State.

Ideally, secondary school teachers ought to possess adequate knowledge of the risk factors and preventive measures of hypertension. Adequate knowledge of risk factors and preventive measures can as well be enhanced through seminars and health workshops for secondary school teachers by government. Supposedly and periodically, health educators in

schools should enlighten teachers with poor knowledge towards healthy lifestyle on the need to enhance their knowledge and adopt effective preventive measures all in a bid to reduce the increasing rate of hypertension. Unfortunately, with the increasing rate of hypertension in the society today including South Eastern part of Nigeria where Njikoka LGA, Anambra State is situated, it is disheartening to say that there seems to be a very low engagement in preventive measures of hypertension in Nigeria. This could have led to the high incidence and prevalence of hypertension-related deaths among both males and females in Nigeria, including secondary school teachers. Could it be that secondary school teachers lack adequate knowledge of risk factors and preventive measures of hypertension? Or could it be that the teachers expose themselves to the risk factors of hypertension and fail to seek medical attention?

All these questions lead to the problem of this study. Hence, the researcher finds it very necessary to conduct this study with a view to determine the knowledge of risk factors and preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State. Hence, the findings of the study would be of great benefits to secondary school teachers, school administrators, Ministry of Education, Ministry of Health, health workers, and the general public.

Methods

The study adopted the cross-sectional research design in order to achieve the purpose of the study. Cross-sectional research design according to Cohen, Manion and Morrrison (2011) is a research design that produces a snapshot of the population in a given period of time. Sefah, Onyame, Ankrah, Tetteh and Nutornutsi (2021) used cross-sectional research design to determine the knowledge, attitude and lifestyle practices pertaining to hypertension among the People of Ahoe-Ho. This design was adopted for this study because it allowed the analyses of data from a population, or a representative subset, at a specific period of time. This study was carried out in Njikoka LGA, Anambra State. The situation is further worsened by non-availability of hypertension studies in Njikoka LGA, Anambra State. The total population of teachers in Njikoka Local Government Area, Anambra State is two hundred and twenty-nine (229) (Secondary Education Management Board, 2021). The sample size for the study consisted of 229 secondary school teachers in Njikoka LGA, Enugu State. Hence, there was no sampling technique used to generate preferred sample size of secondary school teachers because the population is relatively small and manageable. The instrument for data collection was a researcher designed questionnaire titled "Knowledge of Risk Factors and Preventive Measures of Hypertension Questionnaire" (KRFPMHQ) based on the specific objectives of the study.

The face validity of the research instrument was established by giving the draft copy of the instrument comprising of specific objectives, research questions and hypotheses to five experts from the Department of Human Kinetics and Health Education, University of Nigeria, Nsukka. The expert's judgment, observations, comments and suggestions was adopted in designing the final version of the instrument that was used for data collection. The Cronbach Alpha reliability method was used to establish the reliability of the instrument for the study. By apply this method, twenty copies of the questionnaire were administered to twenty secondary school teachers in another LGA (Aguata LGA) in Anambra State. Thereafter, a reliability index of .83 was established which considered the instrument reliable for the study. The copies of the completed questionnaires returned were properly cross-checked for completeness of responses. The return rate was calculated and presented in percentage. The information from copies of the questionnaire was coded and analyzed using Internal Business Machine Statistical Package for Social Sciences, IBM-SPSS (version 22 statistics for windows). The research questions were answered using frequencies and percentages; scores 0

to 39 per cent was regarded as low, scores from 40 to 69 per cent was regarded as moderate while scores 70 per cent and above was regarded as high (Nwagu & Agbaje, 2017).

Results

Research Question One: What is the knowledge of risk factors of hypertension among secondary school teachers in Njikoka LGA, Anambra State?

Table 4.3: Percentage Scores of respondents' knowledge of risk factors of hypertension (n=221)

S/N	Item	Yes	%	No	%
1	Does smoking lead to hypertension?	206	93%	15	7%
2	Does eating salty food lead to hypertension?	197	89%	24	11%
3	Does adding a fresh salt to your food when it is ready lead to hypertension?	203	92%	18	8%
4	Does eating fast food meal lead to hypertension?	169	76%	52	24%
5	Does taking alcoholic drinks lead to hypertension?	204	92%	17	8%
6	Does engaging in stressful activities lead to hypertension?	211	95%	10	5%

Data in Table 1 shows the percentage of responses on knowledge of risk factors of hypertension among secondary school teachers in Njikoka LGA, Anambra State. The Table 1 shows that the respondents agreed that smoking leads to hypertension, eating salty food lead to hypertension, adding a fresh salt to your food when it is ready lead to hypertension, eating fast food meal lead to hypertension, taking alcoholic drinks lead to hypertension and that engaging in stressful activities lead to hypertension as seen on item 1, 2, 3, 4 5 and 6 respectively. This implies that secondary school teachers in Njikoka LGA, Anambra State know that the risk factors of hypertension are smoking, eating salty food, adding a fresh salt to your food when it is ready, eating of fast food meal, taking of alcoholic drinks and engaging in stressful activities.

Research Question Two: What are the preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State?

Table 2: Percentage Scores of respondents on knowledge of Preventive measures of hypertension (n=221)

S/N	Item	Yes	%	No	%	Remark
43	Does smoking lead to hypertension?	209	95%	12	5%	**High**
44	Does eating salty food lead to hypertension?	159	72%	62	28%	**High**
45	Does adding a fresh salt to your food when it is ready lead to hypertension?	203	92%	18	8%	**High**
46	Does eating fast food meal lead to hypertension?	169	76%	52	24%	**High**
47	Does taking alcoholic drinks lead to hypertension?	204	92%	17	8%	**High**
48	Does engaging in stressful activities lead to hypertension?	164	74%	57	26%	**High**

Data on Table 9 shows the percentage of responses on preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State. The table shows that the respondents agreed that engaging in physical activities prevent hypertension, reducing salt intake prevent hypertension, losing weight help prevent hypertension, avoid alcoholic drinks, eat fruits and vegetables in a week and reducing calorie intake prevent hypertension as seen on item 43, 44, 45, 46, 47 and 48 respectively. This implies that the preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State are engaging in physical activities, reducing salt intake, losing of weight, avoiding of taking alcoholic drinks, eating of fruits and vegetables at least ones in a week and reducing calorie intake.

Discussion
Results shows that secondary school teachers in Njikoka LGA, Anambra State know that the risk factors of hypertension are smoking, eating salty food, adding a fresh salt to your food when it is ready, eating of fast food meal, taking of alcoholic drinks and engaging in stressful activities. The finding is in agreement with that of with Oye (2022), Kabawe et al. (2019) and Ugwuja, et al., (2015) who observed that the risk factors to hypertension include alcohol consumption, tobacco use and lack of exercise. The finding is also in contrary with WHO (2019) who found out that the individuals do not observe the preventive measures by avoiding risk factors to hypertension which include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fat, low intake of fruits and vegetables), physical inactivity, consumption of tobacco and alcohol, and being overweight or obese. The result of this study is in tandem with that of Anjulo, Haile, and Wolde (2021), and Milani, et al., (2021) who reported from the findings of a study that putting into practice of the preventive measures should be of a priority next to acquisition of knowledge of hypertension. This implies that more efforts should be directed in influencing teachers to observe all the preventive measures of hypertension.

Result also shows that the preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State are engaging in physical activities, reducing salt intake, losing of weight, avoiding of taking alcoholic drinks, eating of fruits and vegetables at least ones in a week and reducing calorie intake. This finding is in support of that of Oye (2022) and Centre for Disease Control (2018) who stated that engaging in physical activities, reducing salt intake, losing of weight, avoiding of taking alcoholic drinks, eating of fruits and vegetables at least ones in a week and reducing calorie intake are ways to reduce hypertension. The findings also agree with that of Milani, et al., (2021) who found that hard labour jobs, optimal physical activity and regular consumption of Vitamin D were all preventive measures of hypertension. The result shows that secondary school teachers in Njikoka Local Government Area, Anambra State were observing the preventive measures of hypertension. From the researchers' observation and data analysis, none of the secondary school teachers in Njikoka Local Government Area, Anambra State were suffering hypertension during the cause of this study. In with the researcher's submission to the findings of this study, Opreh et al. (2021), Chukwu, et al., (2021) and Mbuthia, et al., (2021) reported in their different findings that adoption of the stipulated preventive measures for hypertension as a lifestyle will curtail the cases of its complications and cardiovascular diseases globally.

Implications of the Findings for Public Health Education
The study's findings on the knowledge of risk factors and preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra

State, have significant implications for public health education in the region. The fact that the teachers demonstrate a high level of awareness regarding hypertension risk factors is promising and presents an opportunity for targeted health education initiatives. These teachers can serve as crucial agents of change by disseminating accurate information to their students, colleagues, and the wider community. Public health education efforts can focus on reinforcing this existing awareness through regular workshops, seminars, and educational materials. Emphasizing preventive measures such as engaging in physical activities, reducing salt intake, maintaining a healthy weight, avoiding alcohol, and consuming fruits and vegetables can be prioritized to promote healthy lifestyle choices among both teachers and students. This, in turn, can lead to a healthier population with reduced hypertension-related complications and improved overall well-being.

Conclusion

Considering the findings of this study, the study concluded that the secondary school teachers in Njikoka LGA, Anambra State know that the risk factors of hypertension are smoking, eating salty food, adding a fresh salt to your food when it is ready, eating of fast food meal, taking of alcoholic drinks and engaging in stressful activities. And that the preventive measures of hypertension among secondary school teachers in Njikoka Local Government Area, Anambra State are engaging in physical activities, reducing salt intake, losing of weight, avoiding of taking alcoholic drinks, eating of fruits and vegetables at least ones in a week and reducing calorie intake.

Recommendations

The following recommendations were made based on the findings of the study
1. Government should organize quarterly public enlightenment and awareness on hypertension disease for secondary school teachers through the zonal Education Board in Njikoka Local Government Area, Anambra State and the Ministry of Education on measures of preventing hypertension.
2. Government and health agencies should employ public health educators to conscientize secondary school teachers on the basic preventive measures of hypertension.

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