

Sedentary Lifestyle and Nutrition as a Perceived Causes of Hypertension among the Elderly Attending Central Hospital Benin City, Edo State

Timothy Adetunji Akingbade, Ph.D

¹ Onobumeh, Margaret
&

²Don, Juliet Ukeme

Department of Health, Safety and Environmental Education,
Faculty of Education, University of Benin, Benin
City, Edo State, Nigeria

¹megejiro2000@yahoo.com

²juliet.don@unibe.edu

Abstract

The purpose of the study therefore is to investigate sedentary lifestyle and nutrition as perceived causes of hypertension among elderly people attending Central Hospital, Benin City, Edo State. Descriptive research design of the survey type was used for this study. The population comprised of all elderly people attending Central Hospital Benin City totaling 400. Systematic sampling technique was used to select 200 elderly people attending the clinic. A self structured questionnaire was used to elicit information from the respondents. The validity of the instrument was ascertained by three experts from the department of health, safety and environmental education university of Benin. While test-retest method was used to test reliability, reliability coefficient of 0.73r was derived with the use of Pearson Product Moment Correlation (PPMC). The hypotheses were tested with chi-square (χ^2) statistical method at 0.05 level of significance. The findings reveal that sedentary lifestyle significantly causes hypertension. It was concluded in the study that, sedentary lifestyle and nutrition significantly causes hypertension among elderly people attending Central Hospital Benin City, Edo State. It was therefore recommended in the study that; elderly people should avoid sitting, watching and lying down for more than reasonable hours and elderly people should try to be engaging in physical activities to reduce risks of having hypertension.

Keywords:

Introduction

Hypertension is a medical condition in which there is a persistent rise in blood pressure or the elevation of blood pressure in the arteries (Naish, Court and Denise, 2014). Hypertension is a blood pressure of over 140/90mmHg or being on anti-hypertensive medications, it was discovered that 21.3% of the population of young adult are hypertensive and 51.6% 60-79years

and above had high prevalence rate of hypertension worldwide (Medscape, 2011). Long term hypertension is a risk factor for coronary disease and other heart related problem such stroke, heart failure, peripheral vascular disease, loss of vision and kidney disease (Lackland, and Weber, 2015). Hypertension is now a public health emergency worldwide. In developing countries it has been projected that by year 2025, there will be an 80% increase in the number of hypertensive individuals (Kearney, Whelton, Reynold, Muntner, and Whelton, 2005). Nakamura, Kouda, Fan, & Takeuchi, 2002 stated that prevalence of hypertension might be associated with sedentary lifestyle and nutrition (Nakamura, Kouda, Fan, & Takeuchi, 2002) Hypertension is controllable and a small decline of 2mmHg in blood pressure can prevent stroke and other heart related cases (Maroof, Parasher, Bansal, and Ahmad, 2007). According to Whitworth 2003, hypertension ranked third in the list of six factors contributing to the global disease burden.

Globally, the older adult population has increased tremendously and it is estimated to reach approximately 22% of the world's population by 2050 and they are more vulnerable to non communicable diseases (Scully, 2013). The risk of non-communicable diseases and disability increases with age, providing a challenge for health and social care resource. Federal Interagency Forum on Age Related Statistics FIFARS, 2012, WHO, 2012. It is well established facts that behavioral modification and physical activity plays a key role in the prevention of chronic diseases and disabilities that largely affect the elderly. Today in our society diseases such as cardiovascular, hypertension, disease, cancer, type 2 diabetes, accidental falls, obesity, mental distress, and musculoskeletal diseases can be prevented by engaging in physical activities. However, sedentary lifestyle is a lack of energy expenditure, irregular physical activities. In the last decade, sedentary lifestyle has emerged as one of the risk factor for hypertension, it is characterized by a state of been inactive and a less energy expenditure such as sitting, reclining posture, television viewing and excessive computer use (Patei, O'Neil and Lobelo, 2008). According to WHO (2010) sedentary lifestyle has been attributed to 2 million death and 19 million disability adjusted life years among the elderly. Sedentary lifestyle contributes to low quality of life. It is a modifiable risk for diabetes, obesity, hypertension, osteoporosis, fracture, cardiovascular diseases, cancer, psychiatric disorder and death.

Nutrition is the process by which food is taken into the body, it provides nourishment to the various cells in the body, it includes the ingestion and digestion of food so that it can be

absorbed into the blood stream and the utilization of the nutrient for the benefit of the entire body (Udoh 2000). Nutrition plays a key role in the growth, and repair of worn out tissue, providing heat for body metabolism and the regulation of body process. Nutrition influences all life process irrespective of the age. Adequate nutrition helps to improved and promotes the health of the elderly. According to (Udoh, 2000) there is a close association between nutrition, hypertension and the elderly. Consumption of excessive carbohydrate and fatty foods consumed by elderly people promote the deposition of cholesterol which is responsible for the narrowing of the arteries. High fat diet (nutrition) can lead to obesity a condition which has been linked to hypertension, high blood cholesterol, strokes, and diabetes and kidney disease. According to Guimaraes, Jardim, Sousa and Jarim (2015) high intake of salts such as sodium, and high carbohydrate intake cause high blood pressure and cardiovascular diseases if not properly checked.

The extent of knowledge of the elderly about hypertension, determine how they would seek intervention for the disease. Research has shown that elderly people generally have different levels of knowledge of the causes and control of hypertension. A study carried out in North Caroline, USA by Viera, Cohen Michell and Solane in 2008 revealed that 22% of known hypertensive patients sampled were not sure whether anything could be done to prevent high blood pressure or to control it (Viera, Cohen, Mitchell, and Sloane, 2008). In Brazil, Borges, Rombaldi, Knuth, and Hallal (2009) in a study conducted on the knowledge of risk factors for hypertension, it was observed that inadequate diet (nutrition) and sedentary lifestyle had the highest mean score. Blood pressure reading has systolic (top number) and diastolic (bottom down). Normal blood pressure is less than 120 over 80 (120/80), pre hypertension: 120-139 over 80-89, Stage 1 hypertension : 140-159 over 90-99, Stage 2 hypertension : 160 and above over 100 and above The exact causes of hypertension is not yet known, however several factors and conditions may play a major role in its development, some of the cause include Smoking, overweight, Lack of physical activity (Sedentary lifestyle), Too much salt in the diet (Nutrition), Stress, Older age, Genetics, Family history of high blood pressure, kidney disease, thyroid disorders and Sleep disorder (WebMD, 2015).

Sedentary lifestyle and inadequate nutrition may contribute to the elevation of blood pressure levels, which, in the long run, can lead to the development of hypertension. Researcher

have argued that sedentary lifestyle is one of the major risk factors for cardiovascular diseases. This was observed in a survey recently conducted to evaluate the control of blood pressure and cardiovascular outcomes in patients aged from 50 years. Thus, the lack of physical exercise can be seen as a social problem that requires interventions; however, a change in lifestyle and adequate nutrition can reduce morbidity and mortality related to chronic diseases that affect the elderly (Guimaraes Filho, Sousa, Jardim, and Souza, 2015). High intake of salts such as sodium, and high carbohydrate intake causes high blood pressure and cardiovascular diseases if not properly checked.

Hypertension is the driver of cardiovascular diseases epidemic in Africa where it is a major, independent risk factor for heart failure, stroke and kidney failure. The researcher observed that there is a high reported case of hypertension among elderly people who come to the hospital. Studies have also shown that as of 2000, more than 900 million people were living with hypertension worldwide particularly in developing countries (Kearney et al, 2005). It is against this background that the researcher intends to investigate sedentary lifestyles and nutrition as a perceived cause of hypertension among the elderly attending Central Hospital Benin City, Edo State.

Research Questions

The following questions shall guide the study:

1. Will sedentary lifestyle cause hypertension among elderly people attending central hospital Benin City, Edo State?
2. Will nutrition cause hypertension among elderly people attending central hospital Benin City, Edo State?

Hypotheses

H₀₁: Sedentary lifestyle will not significantly cause hypertension among elderly people attending central hospital Benin City, Edo State

H₀₂: Nutrition will not significantly cause hypertension among elderly people attending Central Hospital Benin City, Edo State.

Methodology

The study adopted the descriptive research design of the survey. The population was used for generalization. The population comprised of 400 elderly people attending central hospital, Benin City, Edo. The Sample size for this study was 200 elderly people between ages of 50 years and 80 years. Systematic sampling techniques was used to select the elderly people this involves picking every even number on the list. A self structured questionnaire was used to gather information for this study. The questionnaire was subdivided into two sections A and B. Section ‘A’ sought the information about personal characteristics of the respondents while section ‘B’ elicited information on the causes of hypertension among elderly people. The validity of the instrument was ascertained by experts in health, safety and environmental education while test-retest method was used to established reliability of the instruments. A statistical tool of chi-square was used to test the hypothesis at 0.05 level of significant.

Hypotheses 1

H₀₁: Sedentary lifestyle will not significantly causes hypertension among elderly attending central hospital Benin City Edo State.

Table 1: Chi-square (x^2) result of sedentary lifestyle as a causes of hypertension among elderly attending central hospital Benin City, Edo State

S/N	Items	SA	A	D	SD	Total	x^2 Cal	df	x^2 tab	Rmk
1.	Too much lying down can lead to hypertension among elderly.	88	104	8	0	200				
2.	Long sitting with screen based entertainment may result to hypertension.	26	133	35	6	200				
3.	Spending of long hours watching television is strongly associated with hypertension.	30	153	16	1	200	105.6	9	16.92	Ho Rej.
4.	Going every places by motor or motorcycle among elderly people may make them vulnerable to hypertension	27	154	16	3	200				
	Total	171	544	75	10	800				

Table 1 The findings from the analysis in the table indicated that calculated Chi-square of 105.6 and the table value of 16.92 92 with degree of freedom of 9 at 0.05 alpha level of

significance. Since the calculated value is greater than the table value, the null hypothesis is therefore rejected. This implies that sedentary lifestyle significantly causes hypertension among elderly people attending central hospital Benin City, Edo State.

H₀₂: Nutrition will not significantly causes hypertension among elderly attending central hospital Benin city edo state

Table 2: Chi-Square (x^2) result of Nutrition as a causes of hypertension among elderly people

S/N	Items	SA	A	D	SD	Total	x^2 Cal	df	x^2 tab	Rmk
1	High intake of salt has been found to be strongly related with hypertension	44	13	18	2	200				
2	Jogging and running in the morning can serve as a measure against hypertension	19	114	65	2	200				
3	Risk of hypertension can be multiplied by excess intake of carbohydrate.	15	147	36	2	200	113.77	9	16.92	Ho Rej.
4	High intake of food rich in cholesterol causes hypertension.	13	162	25	-	200				
	Total	91	559	144	6	800				

The findings from the analysis in the table indicated that calculated Chi-square value of 113.77 and the table value of 16.92 with degree of freedom of 9 at 0.05 alpha level of significance. Since the calculated value is greater than the table value, the null hypothesis therefore is rejected. This implies that nutrition significantly causes hypertension among elderly people attending central hospital Benin City, Edo State.

Discussion of Findings

The tested hypothesis one revealed that there was a significant influence of sedentary lifestyle as a cause of hypertension among the elderly attending Central Hospital Benin City, Edo State. These findings supported the view of WHO (2010) who stated that sedentary lifestyle has been attributed to 2 million death and 19 million disability adjusted life years among the elderly. The same authority further maintained that sedentary lifestyle contributes to low quality of life, risk for diabetes, obesity, hypertension, osteoporosis, fracture, cardiovascular diseases, cancer, psychiatric disorder and death.

The tested hypothesis two revealed that nutrition significantly causes hypertension among elderly people attending central hospital Benin City, Edo State. The findings is in consistent with Udoh (2000) noted that there are a closed association between nutrition and hypertension and the elderly, therefore consumption of excessive carbohydrate and fatty foods by elderly people promote the deposition of cholesterol which is responsible for the narrowing of the arteries. The authority further stressed that high fat diet can lead to obesity a condition which has been linked to hypertension, high blood cholesterol, strokes, and diabetes and kidney disease. According to Guimaraes, (2015) high intake of salts such as sodium, and high carbohydrate intake cause high blood pressure and cardiovascular diseases among the elderly.

Conclusion

Based on the findings of this study it was concluded that: Sedentary lifestyle and nutrition is strong predictors for hypertension among the elderly attending central hospital Benin City, Edo State.

Recommendations

Based on the conclusion it was therefore recommended that;

1. Elderly people should be health educated on the need to avoid sitting, watching and lying down for more than reasonable hours and there is the need for elderly people to engage in physical activities such light jogging, walking, and gardening to reduce risks of developing hypertension.
2. Health educators, medical personnel, and other social workers should carry out awareness programme for the elderly people on the various causes of hypertension and how it can be prevented.

References

Borges, T. T., Rombaldi, A. J., Knuth, A. G., & Hallal, P. C. (2009). Knowledge on risk factors for chronic diseases: a population-based study. *Cad Saude Publica*, 25(7): 1511-20.

- Brundtland, G. H. (2002). *Reducing risks, promoting healthy life*. Geneva: World Health Organization.
- Federal Interagency Forum on Aging-Related Statistics (2012): Older Americans Key Indicators of Well-Being. Washington, DC: U.S: Federal Interagency Forum on Aging-Related Statistics. Retrieved from www.americ.com
- Guimaraes, P. Sousa, A. Jardim, T. Souza, W. & Jardim, P (2015) Progression of Blood Pressure and Cardiovascular Outcomes in Hypertensive Patients in a Reference Center Arg *Bras cardiolo Apr 104 (2) 292-298*
- Kearney, P. M., Whelton, M., Reynold, K., Muntner, P., & Whelton, J. (2005). Global burden of hypertension: *Analysis of worldwide data. Lance, 365: 217-223.*
- Lackland D, Weber M, (2015) Global burden of cardiovascular diseases and stroke: hypertension at the core. *The Canadian journal of cardiology 31 (5) 569 -71*
- Maroof, K. A., Whelton, M., Reynold, K., Muntner, P., & Whelton J. (2005). Global burden of the bank employees of Meerut district of utta Pradesh. *IJPH 2007; 51: 225-227.*
- Martinez, C. M. & Latorre, M. (2006). Risk factors for hypertension and diabetes mellitus in metallurgic and siderurgic company's workers. *Arc Br-----as Cardiol, 88:236-240.*
- Matthews, C.E., Chen, K.Y. Freedson, P,S,. Buchowski, M. S. and Beech, B.M. (2008) Amount of time spent in sedentary behaviours in the United States, 2003-2004. *American Journal of Epidemiology, 167(7): 875-881.*
- Medscape, Y. I. (2011). Hypertension in ageing patients. Available at <http://www.medscape.com/viewarticle> Retrieved on 25/04/2016.
- Naish, J. Court, D. & Denise, S. (2014). What is hypertension? Available at <http://www.google.com/hypertension> Retrieved on 25/04/2016.
- Nakamura, H., Kouda, K., Fan, W., & Takeuchi, H. (2002). Cardiovascular risk factors in a tourist town: Association with job-related factors. *Journal Physiol Anthropol Appl Human Science, 21 (5): 223-227.*
- Pate RR, O'Neill JR, & Lobelo F (2008): The evolving definition of "sedentary". *Exerc Sport Sci Rev. 2008, 36: 173 178*
- Rombaldi, A., Knuth, A. & Hallal, G. (2009) knowledge on the risk factor for chronic diseases a population based study. *Canada saude publication July 25(7) 1511 -20*
- Scully T (2013): Demography to the limit. Nature retrieved on 23 January 2016 from www.ncbi.nih.gov/pmc/articule/pmc4



- Udoh, C (2000) *Death and Dying Education*, Stirling Horden Publisher, University of Ibadan
- Viera, A. J., Cohen, L. W., Mitchell, C. M., & Sloane, P. D. (2008). High blood pressure knowledge among primary care patients with known hypertension: a North Carolina Family Medicine Research Network (NC-FM-RN) study. *J AM Fam Med*, 21(4): 300-8.
- Whitworth J. (2003) statement of management of hypertension journal of hypertension *Journal of hypertension* 21:1:1985 1992
- World Health Organization (2010) global recommendation on physical activity for health, who Press Geneva Switzerland, *retrieved from who/ibdoc/publication*.
- World Health Organization (2012) physical inactivity who annual report, *retrived from who/iphd/publication*.