KNOWLEDGE OF THE PREVENTIVE MEASURES OF HYPERTENSION POSSESSED ADULTS IN ABIA SOUTH SENATORIAL ZONE OF ABIA STATE

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Abstract
The asymptomatic nature of hypertension puts many people at risk of having hypertension without their knowledge that is to say that people with hypertension may not feel symptoms and because of this, this study was designed to determine the knowledge of the preventive measures of hypertension possessed by adults in Abia South Senatorial Zone of Abia State. Eight purposes, research questions and hypotheses guided the study and the null hypotheses were tested at 0.05 level of significances. A descriptive cross sectional survey design was used for the study; the area of the study was Abia South Senatorial Zone of Abia State. The population of the study consisted of 615276 adults in Abia South Senatorial Zone of Abia State. The sample size of the study consisted of 400 adults that is 191 males and 209 female adults. Multistage sampling procedure was used to determine the sample size also Taro yamane was used to calculate the sample size. The instrument for data collection was a research developed instrument titled; knowledge of the preventive measure of hypertension test (KPMHT) the validation of the instrument was done by three experts; the reliability of the instrument was established using cronbach Alpha Method and the co-efficient values was 0.64. Mean and stand deviation was used to answer the research questions while Analysis of Variance (ANOVA) was used to test the hypotheses at 0.05 level of significance. The findings of study showed that younger adults had low knowledge of hypertension; generally, the adults had good knowledge of the preventive measures of hypertension. Based on this conclusions; recommendation were made; there is need for health education programme on the preventive measures of hypertension and this education should be translated to the language the people can understand.
Keywords: Hypertension, Adult, and Preventive measures

Introduction

Hypertension or High Blood Pressure is a medical condition in which constricted arterial blood vessels increase the resistance to blood flow, causing an increase in blood pressure against vessel walls. The heart must work harder to pump blood through the narrowed arteries. If the condition persists, damage to the heart and blood vessels are likely. It Increases the risk for stroke, heart attack, and kidney or heart failure. Often called the “Silent killer”, hypertension usually causes no symptoms until it reaches a life-threatening stage. Hypertension (high blood pressure) is when the pressure in your blood vessels is too high (140/90 mmHg or higher). It is common but can be serious if not treated.

Lack of physical fitness especially cardiovascular fitness derived from aerobic exercise is known to be related to elevated blood pressure. The role of exercise in the sustenance of the natural supple condition of the arteriole cells and influencing favourable

ratios of low density lipoproteins to the high-density variety is critical in the development and progression of hypertension. Regular exercise lower blood stimulating metric oxide (helps keep blood vessels open). Elevated levels of plasma lipids particularly cholesterol and triglycerides have been found to be closely related to the development of hypertension (Burt, Cutler & Higgins, 2011). When there is excess fat in the body, the ability of the enzymes (lipase) to break down the fats is overwhelmed thereby leading to accumulation of excess fat in the cells a disorder called cholesterol storage disease, (Burt, Cutler and Higgins, 2011).

The guidelines put out by the United States, Europe, China, and Japan for lifestyle modifications for prevention of hypertension are similar, namely: Salt restriction, high consumption of vegetables and fruits, increased intake of fish and reduced content of saturated/total fat, appropriate weight control, regular physical exercise, moderate alcohol consumption and quitting smoking.

Despite effective therapies and lifestyle interventions, optimal prevention of hypertension remains a serious health challenge to health professionals especially in most developing countries like Nigeria and particular Abia South Senatorial Zone. The above background motivated the researcher towards determining the knowledge of preventive measures of hypertension among adults in Abia South Senatorial Zone of Abia State.

Purpose of the Study

The purpose of this study was to determine the knowledge of the preventive measures of hypertension among Adult in Abia South senatorial zone in Abia State. Specifically, the study determined:

1. The knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on gender.
2. The knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on age.
3. The knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on education level.
4. The knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on location

Research Questions

The following research questions guided the study;

1. What is the knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on gender?

2. What is the knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on age?
3. What is the knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on education level?
4. What is the knowledge of preventive measures of hypertension possessed by adults in Abia South Senatorial Zone Abia State based on location?

Hypotheses

The following null hypotheses guided the study and were tested at 0.05 level of significance.

1. There was no significance difference in the knowledge of preventive measures of hypertension between male and female adults in Abia South senatorial Zone of Abia State.
2. There was no significance difference in the knowledge of preventive measures of hypertension among adults in Abia South senatorial Zone of Abia State based on age.
3. There was no significance difference in the knowledge of preventive measures of hypertension among adults in Abia South senatorial Zone of Abia State based on level of education.
4. There was no significance difference in the knowledge of preventive measures of hypertension between urban and rural adults in Abia South senatorial Zone of Abia State.

Methods

The research design adopted for this study is the cross-sectional survey design. This study was carried out in Abia South senatorial zone of Abia State. Abia South senatorial zone is one the three senatorial zones in Abia State. The study population was adults (both sexes) aged 20 years and above. The population for the study consisted of 615276. The sample for this study was four hundred (400) adults (191 males and 209 females). To determine the sample size from the population, the sample size formula propounded by Taro Yamane was used. The instrument for data collection was a researcher designed structured instrument on Knowledge of the preventive measures of Hypertension Test otherwise called (KPMHT). The data collected was analyzed using the statistical package for social science (SPSS) version 25. The research questions were answered using mean and standard deviation. Hypotheses one, four, five and eight were tested using t – Test while Hypotheses two, three, six and seven were tested using ANOVA. All the hypotheses were tested at 0.5 level of significance and appropriate degrees of freedom

Results

Research Question One: What is the knowledge of preventive measures of hypertension possessed by adults in Abia south senatorial zone of Abia State based on gender?

Table 1: Mean Score on Knowledge of Preventive Measures of Hypertension by Gender of Respondents in Abia South Senatorial Zone

Variable	Gender	N	Mean	SD	Remark
Percentage Score on Preventive Measures of Hypertension	male	72	41.25	17.03	Low
	female	320	32.12	13.93	Very Low
	Total	**392**	**33.80**	**14.95**	**Very Low**

The mean scores displayed in Table 1 show that the male results had a mean knowledge of preventive measures of hypertension = 41.25 while female respondents had mean knowledge = 32.12. This indicates that while male respondents had low knowledge of preventive measures of hypertension, the females had very low knowledge. The difference in mean scores between the two was 9.13. The standard deviations of the two groups were closer to the central mean.

Research Question Two: What is the knowledge of preventive measures of hypertension possessed by adults in Abia south senatorial zone of Abia State based on age?

Table 2: Mean Scores on Knowledge of Associated Risk Factors of Hypertension by Age of Respondents in Abia South Senatorial Zone

Variable	Age Range	N	Mean	SD	Remak
Percentage Score on Knowledge of Preventive Measures of Hypertension	35-45	236	33.54	15.84	Very Low
	46-55	64	38.45	13.21	Very Low
	56-65	48	33.84	9.34	Very Low
	66 & above	44	28.37	15.70	Very Low

Results displayed in Table 2 indicates that respondents between 46-55 years had the highest mean knowledge of preventive measures of hypertension as shown by the mean score of 38.45 while those 66 years and above had the lowest mean score (Mean = 28.37). Those between 35 - 45, and those between 56 and 65 had almost the same mean knowledge of preventive measures of hypertension (33.54 and 33.84. All the mean scores suggest that all respondents of different age range had very low knowledge of the preventive measures of hypertension. The standard deviations of the various groups were closer to the central mean.

Research Question Three: What is the knowledge of preventive measures of hypertension possessed by adults in Abia south senatorial zone of Abia State based on education level?

Table 3: Mean Scores on Knowledge of preventive measures of Hypertension by Educational Level of Respondents

Variable	Age Range	N	Mean	SD	Remak
Percentage Score on Knowledge of Preventive Measures of Hypertension	No formal education	88	30.72	17.17	Very Low
	Primary education	56	25.54	9.37	Very Low
	Secondary education	72	36.53	17.66	Very Low
	Tertiary/university education	176	36.85	12.63	Very Low

Table 3 shows that respondents with primary education had the lowest mean knowledge of preventive measures of hypertension (Mean = 25.54) while those with tertiary/university education had the highest knowledge with mean score of 36.85. This was followed by those with secondary education who had mean knowledge of 36.53. These values suggest that respondents of different educational levels had very low knowledge of preventive measures of hypertension. The standard deviations of the various groups were closer to the central mean.

Research Question Four: What is the knowledge of preventive measures of hypertension possessed by adults in Abia south senatorial zone of Abia State based on location?

Table 4: Mean Scores on Knowledge of preventive measures of of Hypertension by Location of Respondents in Abia South Senatorial Zone

Variable	Location	N	Mean	SD	Remak
Percentage Score on Knowledge of Preventive Measures of Hypertension	Urban	300	34.02	14.30	Very Low
	Rural	92	33.07	16.95	Very Low

The results displayed in Table 4 shows that respondents in urban areas had slightly more mean knowledge of preventive measures of hypertension as shown by mean score of 34.02. On the other hand, those in rural areas had mean knowledge of 33.07. However, all of them had very low knowledge of preventive measures of hypertension. The standard deviation of the various groups was closer to the central mean.

Hypothesis One: There will be no significant difference in the knowledge of preventive measures of hypertension of male and female adults in Abia south senatorial zone of Abia State.

Table 5: Independent Samples t-test Analysis on Mean Knowledge of Preventive Measures of Hypertension of Male and Female Adults in Abia South Senatorial Zone

Gender	N	Mean	SD	df	t	*p*	*Remark*
Male	72	41.25	17.03	390	4.81	0.000	S
Female	320	32.12	13.93				

The summary of t-test result displayed in Table 5 shows that male adults' mean knowledge of preventive measure of hypertension was significantly different from the mean knowledge of female adults in Abia south senatorial zone, t(390) = 4.81, p=0.000. The null hypothesis was rejected since the p-value was less than 0.05 level of significance.

Hypothesis Two: There will be no significant difference in the knowledge of preventive measures of hypertension among adults in Abia south senatorial zone of Abia State based on age.

Table 6: Analysis of Variance on Mean Knowledge of Preventive Measures of Hypertension among Adult of Different Age Groups in Abia South Senatorial Zone

Source of Variation	Sum of Squares	df	Mean Square	F(3,388)	*p*	Remark
Between Groups	2693.32	3	897.77	4.11	.007	S
Within Groups	84678.73	388	218.24			
Total	87372.05	391				

The summary of ANOVA result displayed in Table 6 shows that there was a significant difference in the mean knowledge of preventive measures of hypertension among adults of different age groups, $F(3,388) = 4.11$, $p = 0.007$. Therefore, the null hypothesis was rejected. However, to ascertain which of the age groups differ significantly from the others, posthoc Scheffe multiple comparison test was performed. The result presented in Table 17 shows the mean knowledge on preventive measures of hypertension of adults between 46-55 years of age was significantly higher than the mean knowledge of those that were 66 years and above, p-value = 0.008. However, no other age group was significantly different in their mean knowledge of preventive measures of hypertension, p-values > 0.05.

Table 7: Scheffe Multiple Comparison Tests Comparing Mean Knowledge on Risk Factors of Hypertension among Adults of Different Age Groups

(I) Age Range	(J) Age Range	Mean Diff. (I-J)	SE	*p*	Remark
35-45	46-55	-4.91	2.08	0.137	NS
	56-65	-0.30	2.34	0.999	NS
	66 & above	5.16	2.43	0.211	NS
46-55	56-65	4.61	2.82	0.446	NS
	66 & above	10.07	2.89	0.008	S
56-65	66 & above	5.46	3.08	0.372	NS

Hypothesis Three: There will be no significant difference in the knowledge of preventive measures of hypertension among adults in Abia south senatorial zone of Abia State based on level of education.

Table 8: Analysis of Variance on Mean Knowledge of Preventive Measures of Hypertension among Adult of Different Educational Levels in Abia South Senatorial Zone

Source of Variation	**Sum of Squares**	**df**	**Mean Square**	**F(3,388)**	***p***	**Remark**
Between Groups	6826.59	3	2275.53	10.96	0.000	S
Within Groups	80545.47	388	207.59			
Total	87372.05	391				

The summary of ANOVA result displayed in Table 8 shows that there was a significant difference in the mean knowledge of preventive measures of hypertension among adults of different educational levels, $F(3,388) = 10.96$, $p = 0.000$. Since the p-value was less than 0.05 level of the significance, the null hypothesis was rejected.

The multiple comparison test shown in Table 9 indicates that the mean knowledge of preventive measures of hypertension of adults with no formal education was not significantly different from the mean knowledge of those with primary education and those with secondary education, $p > 0.05$, but was significantly different from the mean knowledge of those with tertiary education, $p<0.05$. On the other than the mean knowledge of preventive measures of hypertension of adults with primary education was significantly different from the mean knowledge of those with secondary and tertiary education, p-values < 0.05 level of

significance. Those with secondary, and those with tertiary education were not significantly different in their mean knowledge of preventive measures of hypertension, p >0.05.

Table 9: Scheffe Multiple Comparison Tests Comparing Mean Knowledge of Preventive Measures of Hypertension Among Adults with Different Levels of Education.

(I) Educational Levels	(J) Educational Levels	Mean Diff. (I-J)	SE	*p*	Remark
No formal Education	Primary	5.18	2.46	0.222	NS
	Secondary	-5.82	2.30	0.093	NS
	Tertiary	-6.13	1.99	0.015	S
Primary	Secondary	-10.99	2.57	0.000	S
	Tertiary	-11.31	2.21	0.000	S
Secondary	Tertiary	-0.31	2.02	0.999	NS

Hypothesis Four: There will be no significant difference in the knowledge of preventive measures of hypertension of urban and rural adults in Abia south senatorial zone of Abia State.

Table 10: Independent Samples t-test Analysis on Mean Knowledge of Preventive Measures of Hypertension of Adults in Urban and Rural Areas in Abia South Senatorial Zone

Location	**N**	**Mean**	**SD**	**df**	**t**	***p***	***Remark***
Urban	300	34.02	14.30	390	0.53	0.594	NS
Rural	92	33.07	16.10				

The summary of t-test result presented in Table 10 shows that adults in urban areas and those in rural areas were not significantly different in their mean knowledge of preventive measures of hypertension t(390) = 0.53, p=0.594. Since the p-value was greater than 0.05 level of significance, the null hypothesis was not rejected.

Discussion of Findings

Knowledge on the preventive measures of hypertension.

The results of the study showed that male adults is Abia State had the highest mean knowledge of the preventive measures of hypertension. While the female also had a low mean knowledge score of the preventive measures of hypertension. For age adults between the ages of 46 - 55 years had the highest mean knowledge of the preventive measure of hypertension generally, all the mean scores suggested that all respondents of different age

range had very low knowledge of the preventive measures of hypertension. Check the knowledge of that adult in Abia State using their education level, adult with primary education had the lowest knowledge of the preventive measures of hypertension while adults with highest mean knowledge but generally low knowledge for all the educations levels. Adults living in the urban areas had slightly high mean knowledge of the preventive measures of hypertension than their counter part living in the rural area, generally, also both showed low knowledge of the preventive measures of hypertension.

The findings of the study was so because most a time, people would know that something is wrong with them but will not know how to treat, prevent or handle it looking at the findings from the knowledge of the preventive measures of hypertension among adults in Abia South senatorial zone they all had low knowledge of the prevention when compared using gender, age, education level and location. This could also be so because people hardly accept they suffer from hypertension and therefore, blocking their chances of looking for a solution or preventive measures.

The findings was also supported by the findings of Taha and Bella (2016); Mlunde (2007) and Oyira, Mgbekem and Okon (2019) showing that the variables of gender, age education level and location have significant influence in the knowledge of the preventive measures of hypertension. The null hypothesis of no significant difference in gender was rejected; the null hypothesis of no significant difference in age was rejected; the null hypothesis of no significant difference in educational level was rejected while the null hypothesis of no significant difference in location was not rejected.

Conclusion

Adults in Abia State when it comes to the knowledge of the preventive measures of hypertension, the knowledge of male was slightly higher than that of the female, they still show low knowledge of the preventive measures of hypertension. For all the age categories, they had low knowledge of the preventive measures of hypertension, although ages 45-55 years had slightly high mean knowledge of the preventive measures of hypertension. There was low knowledge of the preventive measures of hypertension for all the education levels showing that education level has an influence in their knowledge of hypertension. Finally, for location adults in the urban areas had low knowledge of the preventive measures of hypertension.

Recommendations

The following recommendations were made based on the findings.

1. There is need for health education by health educators most especially in the area of preventive measure of hypertension in order to sustain their good knowledge of the associated risk factors possessed by the adults.
2. Health education should not only come in English Language but also in various local dialects to enable everyone have an understanding of the subject matter as it concerns others with no formal education.
3. Younger people should also be educated by the health educators about hypertension because it is no longer a disease for the elderly as shown in the finding among adult 35-45 years.
4. Government should take the teaching of health education to the rural areas in order to also get them educated about hypertension as shown in the finding were rural area residents had low knowledge of both the risk factors and preventive measures of hypertension.

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