

Knowledge of High Blood Pressure among Public Secondary School Teachers in Abia State

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ABSTRACT

This study examined the knowledge of high blood pressure among public secondary school teachers in Abia State, Nigeria. Three research questions guided the research while three null hypotheses tested the study, focusing on possible differences in knowledge based on age, gender, and marital status. A cross-sectional descriptive survey design was adopted. The population comprised all public secondary school teachers in the state, from which a multistage sampling technique produced a representative sample of 500 respondents. Data were collected with a validated and reliable questionnaire titled Knowledge of High Blood Pressure among Teachers (KHBPT), which included dichotomous knowledge items. The instruments were validated by three experts, the reliability of the instruments were 0.65 for knowledge of teachers towards preventive measures of high blood. Frequencies and percentages were used to analyze knowledge, while means, standard deviations, and one-way ANOVA tested the hypotheses at the 0.05 significance level. Findings revealed that the teachers possessed a generally high level of knowledge about hypertension. Statistical analyses showed no significant differences in knowledge when compared across age, gender, or marital status, leading to the retention of all six null hypotheses. These results indicate that demographic factors do not substantially influence teachers' awareness or disposition toward preventive health practices for high blood pressure. The study concludes that public secondary school teachers in Abia State are well-informed and favourably inclined toward hypertension prevention, creating a strong foundation for school-based health promotion. It recommends continuous, inclusive workplace wellness programs and regular blood pressure screening coordinated by education authorities and public health agencies to sustain and enhance these positive outcomes.

1. Introduction

High blood pressure, also known as hypertension, is a chronic medical condition in which the pressure of blood in the arteries remains persistently elevated. It is one of the most prevalent diseases globally and a leading cause of morbidity and mortality. According to the American Heart Association (AHA, 2022), high blood pressure is diagnosed in adults when the systolic pressure is 130 mmHg or higher, or the diastolic pressure is 80 mmHg or higher.

Globally, the burden of hypertension is substantial. According to WHO (2023), an estimated 1.28 billion adults aged 30 to 79 are affected, with two-thirds residing in low- and middle-income countries like Nigeria. This underscores the importance of ongoing management and public health interventions. In Nigeria, hypertension is the most prevalent non-communicable disease and constitutes over 25% of emergency admissions in urban hospitals, highlighting its public health importance (Daniel, Adejumo, Adejumo, Owolabi & Braimoh, 2023). Within this context, it is critical to examine the knowledge and attitudes towards preventive measures of high blood pressure among key societal groups such as teachers.

Teachers serve as role models and are in a strategic position to influence students and communities positively and as such need to have handsome information, proper attitude to health and full knowledge about their wellbeing. It has been advocated for government-led health seminars and workshops to enhance teachers' knowledge and reduce hypertension rates. This is as a result of how the teaching profession is characterized by long hours and high stress. An example is a case where the government of Abia State declared free education up to the Junior Secondary School level, emphasizing its dedication to accessible education for all residents (Guardian Nigeria, 2024).

Despite these initiatives, teachers in Abia State, like many across Nigeria, face significant occupational stressors. Studies have shown that teachers often contend with large class sizes, administrative burdens, and inadequate remuneration, leading many to seek additional income through side businesses, thereby increasing their workload and stress levels (Taiwo, 2024). Such stressors have been linked to a higher prevalence of hypertension among teachers. For instance, a study in Enugu State found that 34.9% of primary school teachers were hypertensive, with a significant association between stress levels and hypertension (Okorie, Aloysius-Maduforo, Ibekwe, & Maduforo, 2024). The state's proactive educational policies, combined with the occupational challenges faced by teachers, underscore the need for targeted health interventions. Given these factors, Abia State presents a

pertinent context for examining the knowledge and attitudes of public secondary school teachers toward the prevention of high blood pressure.

High blood pressure (HBP), often termed a "silent killer," remains a major global public health issue due to its asymptomatic nature and strong association with cardiovascular diseases, stroke, and premature death. Globally, it affects over 1.28 billion adults aged 30 to 79, with two-thirds residing in low- and middle-income countries. In Nigeria, recent studies have shown that the prevalence of hypertension is increasing, particularly in the South-East region, where it affects a significant portion of the adult population. This growing burden is further exacerbated by limited awareness, poor health-seeking behaviour, and inadequate preventive practices. However, teachers, particularly those in secondary schools, are uniquely vulnerable due to occupational stress, sedentary work patterns, and poor work-life balance, which are factors known to increase the risk of developing high blood pressure.

Despite their critical role in shaping national development, the health status of teachers is often overlooked. The insidious nature of high blood pressure means many teachers remain undiagnosed until complications arise, leading to reduced productivity and quality of life. Evidence suggests that insufficient knowledge and unfavorable attitudes toward high blood pressure contribute to delayed diagnosis and poor disease management. Although studies have explored high blood pressure awareness among general populations in Nigeria, there remains a research gap concerning public secondary school teachers in Abia State. Without reliable data on their knowledge and attitudes toward high blood pressure prevention, it is difficult to implement preventive health strategies tailored to their needs. This study, therefore, seeks to fill this gap by assessing the knowledge and attitudes of public secondary school teachers in Abia State toward high blood pressure and its prevention.

1.1 Purpose of the Study

The purpose of the study is to determine the knowledge and attitude towards preventive measures of high blood pressure among public secondary school teachers in Abia State. Specifically, the study will determine the:

- Knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their age.
- Knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their gender.
- Knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their marital status.

1.2 Research Questions

The following research questions guided the study:

- What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on age?
- What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on gender?
- What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on marital status?

1.3 Hypotheses

The following null hypotheses are formulated for the study:

- There is no significant difference in the knowledge of high blood pressure among public secondary school teachers in Abia State based on age.
- There is no significant difference in the knowledge of high blood pressure among public secondary school teachers in Abia State based on gender.
- There is no significant difference in the knowledge of high blood pressure among public secondary school teachers in Abia State based on marital status.

2. Methods

The study employed a cross-sectional descriptive research design. This study was conducted in Abia State, situated in the South-East geopolitical zone of Nigeria; The population for this study comprises of 3855 teachers employed in the 184 public secondary schools across the 17 Local Government Areas of Abia State. The sample size of this study was 500 teachers selected from 184 public senior secondary schools in Abia State. The study employed a multistage sampling technique, which involves a step-by-step approach to narrowing down the population in stages. The instrument used for data collection in this study is a self-developed questionnaire titled: "Knowledge of High Blood Pressure Among Teachers (KHBPT)." The reliability of the instrument was established using the test-retest method. All data was analyzed using the Statistical Package for Social Sciences (SPSS), version 21.0, which is suitable for handling the type of data generated by the study and ensuring accurate statistical computations. Responses to the knowledge items, which are structured in a dichotomous Yes/No format, were analyzed using frequencies and percentages. To test the null hypotheses, the study employed Analysis of Variance (ANOVA) at a 0.05 level of significance.

3. Findings

3.1 Research Question One: What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their age?

Table 1 presents the frequency and percentage distribution of teachers' responses on the knowledge of high blood pressure in public secondary schools in Abia State, disaggregated by age range. The findings reveal that teachers across the three age categories (21–30 years, 31–40 years, and 41 years and above) demonstrated a generally high knowledge of high blood pressure. In each age group, more than 50% of teachers displayed a high knowledge of high blood pressure. Although slight variations exist in the percentages across the groups, the overall trend shows that knowledge of high blood pressure is consistently high across age categories.

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Table 1: Frequency and Percentages on the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their age

	21-30Yrs			31-40Yrs			41 and Above		
	YES	NO	Rem2ark	YES	NO	Remark	YES	NO	Remark
	Freq/%	Freq/%		Freq/%	Freq/%		Freq/%	Freq/%	
1. A person with increased blood pressure must eat fruits.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
2. High blood pressure can lead to heart attacks or strokes.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/19	High
3. High blood pressure can cause damage to the arteries and organs.	73/71.6	29/28.4	High	135/68.5	62/31.5	High	119/70.8	49/29.2	High
4. Drugs for increased blood pressure must be taken every day.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/19	High
5. High blood pressure can be controlled through lifestyle changes.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
6. Regular checkups are necessary for managing high blood pressure.	94/92.2	8/7.8	High	175/88.8	22/11.2	High	151/89.9	17/10.1	High
7. Physical inactivity causes high blood pressure.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
8. High blood pressure can be hereditary.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
9. Obesity causes high blood pressure.	73/71.6	29/28.4	High	135/68.5	62/31.5	High	119/70.8	49/29.2	High
10. Stress can contribute to high blood pressure.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/19	High
11. Excessive salt intake can increase high blood pressure.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/19	High
12. Smoking is a risk factor for high blood pressure.	94/92.2	8/7.8	High	175/88.8	22/11.2	High	151/89.9	17/10.1	High
13. Drinking alcohol in excess can cause high blood pressure.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
14. High blood pressure can damage the kidneys over time.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
15. Regular exercise helps to lower high blood pressure.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/0	High
16. People with high blood pressure should limit their caffeine intake.	94/92.2	8/7.8	High	175/88.8	22/11.2	High	151/89.9	17/10.1	High
17. Taking high blood pressure medication is a lifelong commitment.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
18. Managing high blood pressure can improve overall health and longevity.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
19. A balanced diet and low-fat foods can help manage high blood pressure.	102/100	0/0	High	197/100	0/0	High	168/100	0/0	High
20. High blood pressure is often referred to as the "silent killer" because it shows no symptoms.	81/79.4	21/20.6	High	157/79.7	40/20.3	High	136/81	32/19	High

3.2 Research Question Two: What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their gender?

Table 2: Frequency and Percentages on the knowledge of high blood pressure among public secondary schools' teachers in A2bia State based on their gender

	MALE			FEMALE		
	YES	NO	Remark	YES	NO	Remark
	Freq/%	Freq/%		Freq/%	Freq/%	
1. A person with increased blood pressure must eat fruits.	68/100	0/0	High	399/100	0/0	High
2. High blood pressure can lead to heart attacks or strokes.	54/79.4	14/20.6	High	320/80.2	79/19.8	High
3. High blood pressure can cause damage to the arteries and organs.	48/70.6	20/29.4	High	279/69.9	120/30.1	High
4. Drugs for increased blood pressure must be taken every day.	54/79.4	14/20.6	High	320/80.2	79/19.8	High
5. High blood pressure can be controlled through lifestyle changes.	68/100	0/0	High	399/100	0/0	High
6. Regular checkups are necessary for managing high blood pressure.	62/91.2	6/88	High	358/89.7	41/10.3	High
7. Physical inactivity causes high blood pressure.	68/100	0/0	High	399/100	0/0	High
8. High blood pressure can be hereditary.	68/100	0/0	High	399/100	0/0	High
9. Obesity causes high blood pressure.	48/70.6	20/29.4	High	279/69.9	120/30.1	High
10. Stress can contribute to high blood pressure.	54/79.4	14/20.6	High	320/80.2	79/19.8	High
11. Excessive salt intake can increase high blood pressure.	54/79.4	14/20.6	High	320/80.2	79/19.8	High
12. Smoking is a risk factor for high blood pressure.	62/91.2	6/8.8	High	358/89.7	41/10.3	High
13. Drinking alcohol in excess can cause high blood pressure.	68/100	0/0	High	399/100	0/0	High
14. High blood pressure can damage the kidneys over time.	68/100	0/0	High	399/100	0/0	High
15. Regular exercise helps to lower high blood pressure.	54/79.4	14/20.6	High	320/80.2	79/19.8	High
16. People with high blood pressure should limit their caffeine intake.	62/91.2	6/8.8	High	358/89.7	41/10.3	High
17. Taking high blood pressure medication is a lifelong commitment.	68/100	0/0	High	399/100	0/0	High
18. Managing high blood pressure can improve overall health and longevity.	68/100	0/0	High	399/100	0/0	High
19. A balanced diet and low-fat foods can help manage high blood pressure.	68/100	0/0	High	399/100	0/0	High
20. High blood pressure is often referred to as the "silent killer" because it shows no symptoms.	54/79.4	14/20.6	High	320/80.2	79/19.8	High

Table 2 shows the frequency and percentage distribution of teachers' responses on the knowledge of high blood pressure in public secondary schools in Abia State, disaggregated by gender. The result indicates that more than 50% of both male and female teachers demonstrated a high knowledge of high blood pressure across all the 20 items. Although slight variations exist in the percentages across the groups, the overall trend shows that knowledge of high blood pressure is consistently high across male and female teachers in public secondary schools in Abia State.

3.3 Research Question Three: What is the knowledge of high blood pressure among public secondary schools' teachers in Abia State based on their marital status?

Table 3: Frequency and Percentages on the Knowledge of High Blood Pressure among Public Secondary Schools' Teachers in Abia State Based On Marital Status

	Single		Remark	Married		Remark	Widow/Widower		Remark
	YES	NO		YES	NO		YES	NO	
	Freq/%	Freq/%		Freq/%	Freq/%		Freq/%	Freq/%	
1. A person with increased blood pressure must eat fruits.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
2. High blood pressure can lead to heart attacks or strokes.	162/79.4	42/20.6	High	172/100	45/20.7	High	40/87	6/13	High
3. High blood pressure can cause damage to the arteries and organs.	141/69.1	63/30.9	High	148/68.2	69/31.8	High	38/82.6	8/17.4	High
4. Drugs for increased blood pressure must be taken every day.	162/79.4	42/20.6	High	172/79.3	45/20.7	High	40/87	6/133	High

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5. High blood pressure can be controlled through lifestyle changes.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
6. Regular checkups are necessary for managing high blood pressure.	183/89.7	21/10.3	High	193/88.9	24/11.1	High	44/95.7	2/4.3	High
7. Physical inactivity causes high blood pressure.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
8. High blood pressure can be hereditary.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
9. Obesity causes high blood pressure.	141/69.1	63/30.9	High	148/68.2	69/31.8	High	38/82.6	8/17.4	High
10. Stress can contribute to high blood pressure.	162/79.4	42/20.6	High	172/73.3	45/20.7	High	40/87	6/13	High
11. Excessive salt intake can increase high blood pressure.	162/79.4	42/20.6	High	172/79.3	45/20.7	High	40/87	6/13	High
12. Smoking is a risk factor for high blood pressure.	183/89.7	21/10.3	High	193/88.9	24/11.1	High	44/95.7	2/4.3	High
13. Drinking alcohol in excess can cause high blood pressure.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
14. High blood pressure can damage the kidneys over time.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
15. Regular exercise helps to lower high blood pressure.	162/79.4	42/20.6	High	172/79.3	45/20.7	High	40/87	6/13	High
16. People with high blood pressure should limit their caffeine intake.	183/89.7	21/10.3	High	193/88.9	24/11.1	High	44/95.7	2/4.3	High
17. Taking high blood pressure medication is a lifelong commitment.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
18. Managing high blood pressure can improve overall health and longevity.	204/100	0/0	High	217/100	0/0	High	46/100	0/0	High
19. A balanced diet and low-fat foods can help manage high blood pressure.	204/100	0/0	High	217	0/0	High	46/100	0/0	High
20. High blood pressure is often referred to as the "silent killer" because it shows no symptoms.	162/79.4	42/20.6	High	172/79.3	45/20.7	High	40/87	6/13	High

Table 3 presents the frequency and percentage distribution of teachers' responses on the knowledge of high blood pressure in public secondary schools in Abia State, disaggregated by marital status. The findings reveal that teachers across the three marital status (single, married, widow/widower) demonstrated high knowledge of high blood pressure. In each group, more than 50% displayed high knowledge of high blood pressure.

3.4 Discussion of Findings

The results showed that the teachers' knowledge of high blood pressure in Abia State varied significantly across demographic factors such as age, gender, and marital status. This finding is consistent with Agu, Ufor, and Badaru (2024), who reported that teachers in Anambra State were able to identify major risk factors such as smoking, excessive salt intake, and alcohol consumption, but lacked comprehensive understanding of all preventive strategies. Similarly, Berezi, Wodi, Wankasi, and Hamilton-Ekeke (2024) found that despite moderate levels of awareness, teachers exhibited important knowledge gaps, which if left unaddressed, could undermine effective preventive practices. The present study extends these observations by confirming that such gaps are also evident among teachers in Abia State, highlighting the need for continuous health education interventions tailored to occupational groups.

4. Conclusion

This study set out to determine the knowledge of high blood pressure among public secondary school teachers in Abia State, focusing on the influence of age, gender, and marital status. Guided by eight research questions and six null hypotheses, a cross-sectional descriptive design was employed, using a validated and reliable questionnaire administered to a representative sample of

teachers across the state's three education zones. Statistical analyses of the collected data revealed that the teachers generally possessed high knowledge of hypertension while demographic variables of age, gender, and marital status showed no significant effect on these outcomes. The study therefore concludes that enhancing workplace wellness initiatives and continuous health education will further strengthen teachers' capacity to model and promote heart-healthy lifestyles within their schools and communities.

5. Recommendations

- The Ministry of Education and school administrators should provide regular, state-wide health education sessions for teachers of all age groups since knowledge of high blood pressure prevention was consistently high and did not differ by age.
- Public health educators and local government health departments should continue delivering gender-inclusive hypertension awareness campaigns, ensuring that both male and female teachers receive equal opportunities for ongoing training and screening.
- School principals and community health officers should implement joint wellness programs for all teachers, regardless of marital status, to maintain the uniformly high knowledge of preventive measures observed across relationship categories.
- Education zone directors should organize periodic wellness activities such as fitness drives and routine blood pressure checks for teachers of all ages, reinforcing the positive attitudes toward prevention found in the study.

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