

Research Article

# Prevalence of Hypertension Self Care Activities Among Hypertensive Patients Receiving Care in A Secondary Health Care Facility in Kogi State Nigeria.

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## ABSTRACT

**Background/Objective:** Hypertension self care activities are important in the management of hypertension. This study aimed to access the Hypertension self care activities of hypertensive patients receiving care in a Secondary health care facility in Kogi state Nigeria.

**Methods:** This was a prospective cross sectional study conducted among Hypertensive patients receiving care in the Kogi State Specialist Hospital in Lokoja, Kogi state. All hypertensive patients visiting the Kogi State Specialist Hospital during the period of study and have given consent were allowed to participate in the study. A profoma was designed to collect the socio-demographic and clinical characteristics like the blood pressure, weight(in Kilograms) and height (in meters) while the H-SCALE was used to collect information on self care activities. The data cleaning was conducted in Microsoft excel after which information were exported and analysed using the Statistical Package for Social Sciences (SPSS for windows, Version 16.0. SPSS Inc. 2007.Chicago, USA) software.

**Results:** More than half of the patients under study 183 (61.4%) were adherent to the medication. However, almost all the patients 305 (99.1%) and 308 (100%) did not adhere to low salt diets and physical activity respectively. A majority of the patients 266 (87.0%) admitted not to be smoking while more than half of the patients 221 (63.1) did not follow good weight management practices. About three-fourths of these patients did not abstain from drinking alcohol. Although more of the males (31.5%) adhered to their medications more than the females (27.9%), this was not statistically significant. More of those who adhered to their medications, had a low salt diet, engaged in physical activity and weight management practices had a source of income. Patients who had obtained a formal education had a better medication adherence, adhered to low salt diets, engaged in weight management practices and smoked less when compared to those who had no formal education. Patients who adhered to their medication and engaged in weight management practices had a greater duration of hypertension and this was statistically significant.

**Conclusion:** In conclusion, adherence to hypertension self care activities is low. This could lead to an increased risk of hypertension related complications.

**Keywords:** activities, patients, Nigeria.

## INTRODUCTION

In Nigeria, hypertension has become an important health problem. The burden of hypertension has been on the increase because of the increasing adult population and change in lifestyles of Nigerians (Ogah et al., 2012). During the last two decades, there has been a rise in the number of prevalence studies regarding hypertension and other non-communicable diseases (Ekpenyong, Udokang, Akpan, & Samson, 2012). In 2011, the prevalence of hypertension was reported to range from 6.2% to 48.9% in males and 10% to 47.3% in females

using a BP benchmark of 140/90 mmHg (Ulasi et al., 2011). The overall crude prevalence was reported to be 2.1% to 47.2% (95%CI) in Nigerian adults aged 18 years and above 4. Studies also have shown a higher prevalence in urban areas (17.5% to 51.6%) compared to rural areas (4.6% to 43%) (Oluyombo, Olamoyegun, Olaifa, Iwuala, & Babatunde, 2014). There has been a continuous and steady increase in the incidence and prevalence of hypertension around the world (Bosworth et al., 2007). Presently, over 1.5 billion people are affected with high blood pressure worldwide (Chockalingam, 2008). More

than half of adults who have hypertension in Nigeria have their blood pressure uncontrolled (Oluyombo et al., 2014).

There is evidence that poorly controlled hypertension could lead to cardiovascular and renal complications (Danaei et al., 2014). Hypertension self care activities are important in the management of hypertension as recommended by the Joint National Committee on Prevention, Detection, Evaluation and Treatment of hypertension (US Department of Health and Human Services, 2004). Studies have demonstrated the effects of self care behaviours in the proper management of hypertension (Dickinson, Mason, Nicolson, & Campbell, 2006). Medication adherence alone has proven not to be sufficient in the optimal management of blood pressure (Svetkey, Harsha, Vollmer, & Stevens, 2003). Recent studies have shown that patients who take their medications without engaging in dietary changes or physical activity have no higher rate of improved blood pressure than those who engaged in dietary changes and physical activities without taking their medications as at when due (Weir, Maibach, Bakris, & Black, 2000). Also, studies have proved that adherence to hypertension self care activities could lead to optimal control of blood pressure, increased efficacy of antihypertensive medications, reduced complications, morbidity and mortality (Weber et al., 2014). Most studies focus on medication adherences, neglecting the importance of adherence to low salt diet, physical activity, weight management practices and smoking cessation (Kressin, Orner, Manze, Glickman, & Berlowitz, 2010). There is no study that have assesses the practice of these self care activities among hypertensive patients in Kogi state Nigeria. It is therefore imperative to conduct this study more especially in a state with limited healthcare resources, poor health care system and poor health literacy. This can help health professionals develop an intervention to help achieve a better control of hypertension.

### Objective

This study aimed to access the Hypertension self care activities of hypertensive patients receiving care in a Secondary health care facility in Kogi state Nigeria.

### METHODS

**Study design:** This was a prospective cross sectional study conducted among Hypertensive patients receiving care in the Kogi State Specialist Hospital in Lokoja, Kogi state. The study was carried over a period of one month (July 3, 2019- August 3, 2019) to ascertain the patients

Knowledge about hypertension Outcome measures were Blood pressure, Body mass Index and Knowledge about hypertension.

**Study setting:** The Kogi state specialist hospital is the one of secondary health institution in Kogi State and it is located in the heart of the state capital, Lokoja. The hospital serves as a referral centre for all the primary health facilities in the state, as well as neighbouring states. It is a 150 bedded hospital. Kogi State is the 24<sup>th</sup> largest State in Nigeria with a population of 3,314,043 as at 2006 national census and a projected population in 2017 estimated to be 4,252,665. It is among the six North Central States of Nigeria. It has 21 local government areas. Lokoja is located at a geographic coordinates of latitude 7.8°N, 6.74°E and 55 meters above sea level. It has a maximum temperature of 39.6° C between the months of October to May with a relative humidity of 60% and annual rainfall of about 1000mm. Lokoja has a total population of 196,643 people as at the last 2006 national census. The main ethnic groups are Igala, Ebara and Yoruba.

**Ethical Clearance:** Ethical clearance was obtained from the Health and research ethics committee of the hospital. Also, written and oral consent were obtained from the patients before participating in the study.

**Eligibility criteria:** All hypertensive patients visiting the Kogi State Specialist Hospital during the period of study and have given consent were allowed to participate in the study.

The exclusion criteria were:

- a) Comorbid conditions like renal dysfunction, peptic ulcer, hepatic disorder.
- b) Mental incompetence
- c) Pregnancy
- d) In-patients hypertensive patients.

**Sample size selection:** All the hypertensive patients who met the eligibility criteria were included in the study.

**Data collection:** A profoma was designed to collect the socio-demographic and clinical characteristics like the blood pressure, weight(in Kilograms) and height (in meters) while the H-SCALE was used to collect information on self care activities

**Data Collection instruments:** A well designed demographic questionnaire: This was carefully designed by the researchers. It consists of 16 questions. 10 questions were on the demographic characteristics of the patients like gender, weight, marital status, education, employment, religion, income per month, religion, smoking status and alcohol consumption while 6 questions were on the health status of the patient like duration of

illness (months), Number of medical condition, present medical conditions, number of antihypertensives, emergency hospitalisation in the past four week and self rated health. Adherence to hypertension self care activities was assessed using Hypertension Self Care Level Effects (H-SCALE).

#### Data Analysis

The data cleaning was conducted in Microsoft excel after which information were exported and analysed using the Statistical Package for Social Sciences (SPSS for windows, Version 16.0. SPSS Inc. 2007.Chicago, USA) software. Continuous data were presented as mean± standard deviation while categorical data were presented as percentages and frequencies. CHI square and correlation test was also used to examine

association between the variables in the data collected.

#### RESULTS

From Table 1, a majority of the patients were aged 46-55 years 89 (27.5), while almost half of the patients were males 161 (54.6). about half of the patients 141 (43.5) were self-employed while a majority of the patients had at least a tertiary education 173 (53.4). Only 4 (1.2) of the patients reported that they had no formal education. About 60% of the patients reported to have had hypertension for 6-10 years while only 170 (57.4) of the patients reported not to have any family history of hypertension. Also, only half of the patients 164 (50.6) had their blood pressure controlled with the remaining half having an uncontrolled blood pressure. A majority of the patients 287 (88.6) were obese having a body mass index >30kg/m<sup>2</sup> (Table 1).

**Table 1: Socio demographic characteristics of patients**

Socio demographic	Frequency	Percentage
Age		
18-25	4	1.2
26-35	35	10.8
36-45	81	25.0
46-55	<b>89</b>	<b>27.5</b>
56-65	81	25.0
>65	18	5.6
Gender		
Male	<b>161</b>	<b>54.6</b>
Female	147	45.4
Occupation		
Civil servant	127	39.2
Self employed	<b>141</b>	<b>43.5</b>
Unemployed	36	11.1
Retired	4	1.2
Educational qualification		
No formal education	4	1.2
Primary	112	34.6
Secondary	<b>173</b>	<b>53.4</b>
Tertiary		
Duration of hypertension		
1-5	32	9.9
6-10	<b>194</b>	<b>59.9</b>
11-15	69	21.3
>15	13	4.0
Family history of hypertension		
Yes	138	42.6
No	<b>170</b>	<b>57.4</b>
Control of hypertension*		
	<b>164</b>	<b>50.6</b>

Controlled	144	49.4
Uncontrolled		
BMI**		
Overweight	21	11.4
Obese	287	88.6

\*SBP <140mm Hg, DBP <90mm Hg (JNC 8 guideline)

\*\*Body mass Index

Table 2 shows the prevalence rates of the individual hypertension self care activities. From the table, it is seen that more than half of the patients under study 183 (61.4%) were adherent to the medication. However, almost all the patients 305 (99.1%) and 308 (100%) did not adhere to low salt diets and physical activity

respectively. A majority of the patients 266 (87.0%) admitted not to be smoking while more than half of the patients 221 (63.1) did not follow good weight management practices. About three-fourths of these patients did not abstain from drinking alcohol.

**Table 2: Prevalence Of Hypertension Self Care Activity Level Effects (H-Scale) Of Patients**

domain	Adherent n (%)	Non Adherent n (%)
Medication adherence	183 (61.4)	125 (38.6)
Low salt diet	3 (0.9)	305 (99.1)
Physical activity	0 (0)	308 (100)
Smoking	266 (87.0)	42 (13.0)
Weight management	87 (26.9)	221 (63.1)
Alcohol consumption	39 (17.0)	268 (83.0)

Table 3 and 4 compared adheres and non-adheres of hypertension self care activities on demographic and health related characteristics using a bivariate analysis. Although more of the males (31.5%) adhered to their medications more than the females (27.9%), this was not statistically significant. A larger proportion of the non-adheres to physical activity and alcohol consumption were males and this was statistically significant.

More of those who adhered to their medications, had a low salt diet, engaged in physical activity and weight management practices had a source of income. They were either civil servants or self employed. However, those who were unemployed

or retired differed significantly in smoking and alcohol consumption when compare to the civil servants and self employed.

Patients who had obtained a formal education had a better medication adherence, adhered to low salt diets, engaged in weight management practices and smoked less when compared to those who had no formal education. However, patients with no formal education had low salt diets and consumed less alcohol than those who had obtained a formal education.

Patients who adhered to their medication and engaged in weight management practices had a greater duration of hypertension and this was statistically significant.

**Table 3: Differences Between Adherers and Non-adherers to Medication, Low-salt Diet, and Physical Activity Behaviours for Demographic and Health Characteristics<sup>a</sup>**

	Medication		Low salt diet		Physical activity	
	Adherent	Non-adherent	Adherent	Non-adherent	Adherent	Non-adherent
Age	59.4	40.6	1.0	99.0 <sup>b</sup>	0	100 <sup>b</sup>
Gender						
Male	31.5	20.8	0.6	51.6	0.0	52.3 <sup>b</sup>
female	27.9	19.8	0.3	47.4	0.0	47.7
Occupation						
Civil servant	23.1	18.2	0.3	40.9	0.0	41.2
Self employed	29.5	16.2	0.6	45.1	0.0	45.8
Unemployed	6.2	5.5	0.0	1.7	0.0	11.7
Retired	0.6	0.6	0.0	1.3	0.0	1.3
Educational						

qualification						
No formal	0.6	0.6	0.0	1.3	0.0	1.3
Primary	3.9	2.3	0.0	6.2	0.0	6.2
Secondary	21.8	14.6	0.0	36.4	0.0	36.4
Tertiary	33.1	23.1	1.0	55.2	0.0	56.2
Duration of hypertension						
1-5	5.5	4.9	0.0	10.4	0.0	10.4
6-10	37.7	25.3	1.0	62.0	0.0	63.0
11-15	14.6	7.8	0.0	22.4	0.0	22.4
>15	1.6	2.6	0.0	4.2	0.0	4.2

<sup>a</sup> All values are percentages

<sup>b</sup> Significant at  $p < 0.05$

**Table 4: Differences Between Adherers and Nonadherers to smoking, weight management, and Alcohol Behaviours for Demographic and Health Characteristics<sup>a</sup>**

	Smoking		Weight management		Alcohol	
	Adherent	Non-adherent	Adherent	Non-adherent	Adherent	Non-adherent
Age	13.6	86.4	28.2	71.8 <sup>b</sup>	12.7	87.3 <sup>b</sup>
Gender						
Male	7.5	48.8	14.6	37.7	8.4	43.8 <sup>b</sup>
female	6.2	41.6	13.6	34.1	4.2	43.5
Occupation						
Civil servant	34.7	6.5	10.7	30.5	3.2	38.0 <sup>b</sup>
Self employed	40.6	5.2	14.3	31.5	8.1	37.7
Unemployed	9.7	1.9	2.9	8.8	0.6	11.0
Retired	1.3	0.0	0.3	1.0	0.6	0.6
Educational qualification						
No formal	1.3	0.0	0.3	1.0	0.0	1.3
Primary	4.9	1.3	2.6	3.6	0.3	5.8
Secondary	31.5	4.9	12.0	24.4	5.2	31.2
Tertiary	48.7	7.5	13.3	42.9	7.1	49.0
Duration of hypertension						
1-5	8.8	1.6	0.6	9.7 <sup>b</sup>	1.3	9.1
6-10	53.9	9.1	18.8	44.2	7.8	55.2
11-15	19.8	2.6	6.8	15.6	3.6	18.8
>15	3.9	0.3	1.9	2.3	0.0	4.2

<sup>a</sup> All values are percentages

<sup>b</sup> Significant at  $p < 0.05$

## DISCUSSION

The study assessed the prevalence of hypertension self care activities among hypertensive patients receiving care in a secondary health facility in Kogi state Nigeria. More than one-fourth of the patients who participated in the study were not adherent to their medication. This may have accounted to the high prevalence of uncontrolled blood pressure among the population. Although almost all the patients didn't engage in physical activities, a majority of them adopted the weight management practices. None of the patients had a normal body mass index and this could be

accounted by their not being involved in aerobic physical activities. This study recorded a high number of patients not being adherent to low salt diet with a majority still consumed alcohol. Similarly, a poor adherence to low salt diet was reported in a study in Ghana (Asmah & Orkoh, 2017), while a high adherence to low salt diet was reported in a study in China (Bibbins-Domingo et al., 2010).

It was observed that more males adhered to their medication although there were more males who took part in this study than females. More of those who adhered to their medications, had a low salt

diet, engaged in physical activity and weight management practices had a source of income. Also, those who were unemployed or retired differed significantly in smoking and alcohol consumption when compare to the civil servants and self employed.

Patients who had obtained a formal education had a better medication adherence, adhered to low salt diets, engaged in weight management practices and smoked less when compared to those who had no formal education. Patients who adhered to their medication and engaged in weight management practices had a greater duration of hypertension and this was statistically significant. It is worrisome that a majority of the patients who participated in this study did not observe low salt diet. This is similar to a recent study where a majority of the patients who took part in the study did not adhere to a low salt diet (Vollmer et al., 2001). Eating a low salt has been associated with a reduction in blood pressure and cardiovascular complications (Svetkey et al., 1999).

## CONCLUSION

Generally, adherence to hypertension self care activities in the population under study was low. Poor self care activities can lead to increased risk of cardiovascular diseases, high morbidity and mortality.

## CONFLICT OF INTEREST

The authors declare that there are no conflict of interest.

## Funding

This research was sponsored by the researchers.

## Availability of data and materials

The dataset generated and analyzed during this study is not publicly available in order to maintain data security but are available from the corresponding author on request.

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