

## KNOWLEDGE OF HYPERTENSION AND MANAGEMENT STRATEGIES AMONG HYPERTENSIVE PATIENTS ATTENDING MEDICAL CLINIC IN A TERTIARY HOSPITAL IN BENIN CITY, EDO STATE, NIGERIA

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### Abstract

*Hypertension has been acknowledged as a world health challenge, a leading cause of death in adults and a risk factor for other diseases such as cardiovascular diseases, diabetes, strokes. Hypertension is related to some risky health behaviours such as smoking, overweight, alcohol consumption, sedentary lifestyle, physical inactivity. It is labelled a 'silent killer' because it progressively and permanently damages organs before occurrence of any diagnosable external presentation, hence, this study investigates the level of knowledge of hypertension and its management strategies among hypertensive patients and compliance to their medication and treatment regimen. A cross sectional descriptive survey design was used. A sample size of 148 was determined from a total population of 225 attending medical clinic in the outpatient department in University of Benin Teaching Hospital. A convenient sampling technique was used to select 148 respondents. A self-structured questionnaire with reliability coefficient of 0.89 was the instrument used for data collection. The result of the socio-demographic characteristic of the respondents shows that majority of the respondents are females within the age group of 51 to 70 years, have diploma/degree and they are married. Lastly, majority are civil servants. Findings reveal that the respondents are highly knowledgeable about hypertension but the knowledge about management strategy of hypertension is average. Finally, the level of compliance with management strategies is low. The result of the hypothesis tested shows that age and educational level of respondents are significant factor associated with level of knowledge of hypertension among respondents. Therefore, it is important for patients to be thoroughly educated on the importance and benefits of proper management of hypertension.*

**Keywords:** Knowledge: Hypertension: Management strategies.

### Introduction

Hypertension is a world health challenge, a leading cause of death in adults and a risk factor for other diseases such as cardiovascular diseases, diabetes, strokes. Hypertension is associated with some risky health behaviours such as smoking, overweight, alcohol consumption, sedentary lifestyle, physical inactivity. Some of these risk factors are modifiable, such as smoking, diets, overweight, while some, like genetic predisposition, race and age factor are not modifiable (Aung, Lorga, Srikrajang, Promtingkran, Kreuangchai, Tonpanya Payaprom, 2012). According to, American College of Cardiology/American Heart Association (ACC/AHA) guidelines (2017), high blood pressure (BP), or hypertension, is defined by two levels by Elevated BP, with a systolic blood pressure (SBP) between 120 and 129mmHg and diastolic blood pressure (DBP) less than 80mmHg, and (2) stage 1 hypertension, with an SBP of 130 to 139mmHg or a DBP of 80 to 89 mmHg. Hypertension is a preventable disease but a major public health challenge in the world (Karmacharya & Paudel, 2017). The challenge to optimal care and control of hypertension have been associated with factors such as lack of knowledge of advantages of monitoring blood pressure, adverse effect of drug, economic status and social life-style. Good knowledge of hypertension and its management are key factors in

preventing the development of diseases associated with hypertension.

A descriptive cross-sectional study carried out by Ikasaya, Mwanakasale and Kabelenga (2018) on the knowledge, attitudes and practices of hypertension management among hypertensive patients in Zambia, the result shows that the knowledge and practice towards hypertension is average, while the attitude is found to be good. Statistically significant association is found between their respondents' knowledge and practice of hypertension management. Also, a related study by Raghdad & Riyadh (2017) in Baghdad, Iraq, reveals that the main source of information regarding hypertension is from the health workers and the least is from medical journals and brochures. More than half of the respondents have good knowledge, express good attitude while only one-quarter recorded good practice. The result also shows that knowledge is significantly associated with age, gender, educational level, duration of hypertension and the presence of positive family history of the disease. Furthermore, the result reveals significant relationship between attitude and age, level of education and family history; the practice of hypertensive management is significantly associated with age and duration of hypertension.

Kisokanth, Ilankoon, Arulanandem, Goonewardena, Sundaresan & Joseph (2016) also conduct a cross-sectional descriptive study on Assessment of knowledge of hypertension, its complications and management strategies among hypertensive patients in Sri Lanka which reveals that poor knowledge of hypertension, its complications and management strategies. The main aggravating factors for hypertension identified by participants their study are stress and high salt intake. Organs damaged by poorly controlled hypertension are identified as the heart and kidneys. Sixty four percent posit that both medication and lifestyle modifications are useful to control hypertension.

Heymann, Gross, Tabenkin, Porter and Porath, (2011) report that patients' knowledge of hypertension, its management and physician's counselling on a healthy lifestyle and self-care have an independent effect on hypertensive patients' compliance with the recommended lifestyle behaviours. Iyalomhe & Iyalomhe (2010) explain that the barriers to optimum management of hypertension have been well demonstrated with factors such as lack of knowledge on the dangers of untreated hypertension, poor perception and life-style practice, alcohol and illicit drug use, social isolation and cost of care. Akinlua, Meakin, Umar, and Freemantle (2015) state that hypertension is common among the Nigerians. Raheem, Taiwo, & Oye (2017) posit that the most affected persons are not knowledgeable of its presence, thus increasing the occurrence of associated complications, among the elderly population.

Most of the patients in the out-patient clinic are those discharged from the hospital after recovery from hypertensive complication and are aware of the factors that can check increase in blood pressure. Therefore, the aim of this study is to assess hypertensive patients' knowledge of the disease and its management strategies among patients attending medical clinic at University of Benin Teaching Hospital, Benin City, Nigeria.

Objectives of the study

1. To rate the knowledge of hypertension among hypertensive patients attending medical clinic in a teaching Hospital.
2. To determine the Knowledge of management strategy of hypertension among hypertensive patients attending medical clinic in a teaching hospital in Benin City, Nigeria.
3. To identify level of compliance of hypertensive patients to the management strategy of hypertension

### Hypothesis

There is no significant relationship between knowledge of hypertension and age, sex and social status among hypertensive patients.

### Methodology

The researcher adopts a cross-sectional descriptive survey design. The study was carried out in the University of Benin Teaching Hospital, Benin City. UBTH is located in Egor Local Government Area of Edo State in Benin City. University of Benin Teaching Hospital is a tertiary health facility established in 1973. It provides secondary and tertiary care to Edo state and its environs. The goal of the hospital is embedded in her motto for Healing, Research and Training. UBTH at present has 900 in-patients. It also provides necessary facilities for training of high and middle level manpower for the health industry and provides for research. All hypertensive patients attending the medical clinic in University of Benin Teaching Hospital made up the target population of study of 225. Taro Yamane, (1967) formula was used to determine a sample size of one hundred and forty-eight (148) patients and convenient sampling technique was used to select respondents from the total population of 225.

Data was collected using a self-structured questionnaire, the questionnaire had three sections. Section A: comprised of demographic data of the participants; section B is made up of questions on knowledge of hypertension and its management strategies and Section C, items on compliance with management of hypertension. The questionnaire had a reliability coefficient of 0.89. Also, the face and content validity of the instrument was ensured. Ethical approval was obtained from the ethical and research committee of the University of Benin Teaching Hospital, Benin City. The researcher ensured that information provided by respondents was treated with utmost confidentiality, hence, no name or addresses were requested for, in the questionnaire. Oral consent was obtained from respondents. They had the privilege to decide at any point during the study to withdraw their participation or decline to supply any information on any issue that is not clear to them.

### Results

Table 1 presents the socio-demographic characteristic of the respondents, many respondents 90 (57.0%) are females and 68 (43.0%) males. Majority of (71.4%) are within the age group of 51-70 years for men and women. Most of the male respondents are educated ranging from primary (68.4%) Secondary (41.2%) and post-secondary (18%); for the female, 37.2% did not attain any educational level, 56.6% have primary education and

11.1% have secondary and post-secondary education respectively. More than half of the respondents are married for both male (82.5%) and female (80%). 61.7% of the male and 3.5% female are civil servants; 16.3% males and 66.7% females are self-employed; 6.8% males and 3% females are

unemployed and other are pensioner. This study reveals the socio-demographic characteristic of the respondents, many respondents as follows: majority of the respondents are females within the age group of 51 to 70 years have diploma/degree and they are married. Lastly, majority are civil servants.

**Table 1: Socio-demographic characteristics of respondents**

Response		Male N (%)	Female N (%)	Total
Gender		68 (43.0)	90 (57.0)	158 (100.0)
Age group (years)	≤ 30	1 (1.5)	2 (2.2)	3 (1.9)
	31 - 50	12 (17.6)	11 (18.8)	23 (14.6)
	51 - 70	43 (63.2)	57 (66.6)	100 (69.6)
	71 - 90	12 (17.4)	20 (18)	32 (12.3)
Educational level	Never attend to Primary	2 (19.5)	30 (37.2)	32 (30.0)
	Secondary	20 (68.4)	40 (56.4)	60 (61.3)
	Diploma/Degree	28 (41.2)	10 (11.1)	38 (7.3)
	Postgraduate	10 (14.7)	10 (11.1)	20 (12.7)
Marital status	Single	8 (11.8)	0 (0.0)	8 (5.1)
	Married	56 (82.5)	72 (80)	128 (81)
	Divorced/Separated	4 (5.8)	6 (6.6)	8 (5.1)
	Widowed	2 (2.9)	10 (11.1)	14 (8.8)
Occupation	Civil Servant	42 (61.7)	23 (25.5)	65 (41.1)
	Self employed	11 (16.3)	60 (66.7)	71 (44.9)
	Pensioner	9 (13.2)	4 (4.4)	13 (8.3)
	Unemployed	6 (6.8)	3 (3.3)	9 (5.6)

**Objective one**

To rate the knowledge of hypertension among hypertensive patients attending medical clinic in the teaching Hospital.

Table 2 shows the knowledge of hypertension, 126 (79.7%) report that high blood pressure means the same hypertension, 132 (83.5%) report that high blood pressure usually comes with symptoms. Also, 144 (91.1%) respondents report that high blood pressure can cause stroke, 97 (61.4%) report kidney, 144 (91.1%) heart attack, 49 (31.0%) report blindness, while 33 (20.9%) report Asthma. Further,

141 (89.2%) report that high blood pressure can be treated with medicine, 79 (50.0%) report that high blood pressure cannot be cured, 143(90.5%) report that stress is a cause of hypertension, 137 (86.7%) report that smoking could cause hypertension, 141 (89.3%) report that Alcohol could cause hypertension, 127 (80.4%) claim that high salt intake could cause hypertension, 144 (80.4%) report that Obesity could cause hypertension and 99 (86.5%) report that ageing could cause hypertension. This study indicates that the respondents are highly knowledgeable about hypertension.

**Table 2: Knowledge of hypertension**

	Yes		No	
	N	%	N	%
High blood pressure means the same as hypertension	126	79.7	32	20.3
High blood pressure usually comes with symptoms	132	83.5	36	22.7
High blood pressure can cause a person to have Stroke	144	91.1	14	8.9
Kidney problem	97	61.4	61	38.6
Heart attack	144	91.1	14	8.9
Blindness	49	31.0	109	69.0
Asthma	33	20.9	125	79.1
High blood pressure can be treated with medicine	141	89.2	17	10.8
High blood pressure cannot be cured	79	50.0	79	50.0

Hypertension can develop from: Stress	143	90.5	15	9.5
Smoking	137	86.7	21	13.3
Alcohol	141	89.3	17	10.8
High salt intake	127	80.4	31	19.6
Obesity	144	80.4	31	19.6
Ageing	99	86.5	31	13.3

**Objective two**

To determine the knowledge of management strategy of hypertension among hypertensive patients attending medical clinic in a teaching hospital in Benin City, Nigeria.

Table 3 shows the knowledge of hypertension management strategies hypertension. One hundred and forty-one 141(89.2%) report fresh vegetables and fruit less in sugar are good for people with high blood pressure. One hundred and fifty (94.9%) report that it is important to check your blood pressure on a

regular basis, 133(84.2%) report losing weight usually help reduce blood pressure, 41(25.9%) report that smoking will not affect your blood pressure, 29(18.4%) report that increasing salt intake is good for people with high blood pressure, 114(72.2%) report regular moderate to vigorous exercise is good for propel with high blood pressure, 34(21.5%) report that alcohol and sugary beverages are good for people with high blood pressure. This study indicates that the knowledge of management strategy of hypertension among hypertensive is average (58%).

**Table 3: Knowledge of hypertension management strategies**

	Yes		No	
	N	%	N	%
It is important to check your blood pressure on a regular basis	150	94.9	8	5.1
Losing weight usually help reduce blood pressure	133	84.2	25	15.8
Smoking will not affect your blood pressure	41	25.9	117	74.1
Increasing salt intake is good for people with high Blood pressure	29	18.4	129	81.6
Regular moderate to exercise is good for people with high Blood pressure	114	72.2	44	27.8
Alcohol and sugary beverages are good for people with high blood pressure	34	21.5	124	78.5
Fresh vegetables and fruits less in sugar are good for people with high Blood pressure	141	89.2	17	10.8

**Objective three**

To identify level of compliance of hypertensive patients to the management strategy of hypertension.

Table 4 shows the level of compliance of hypertensive patients to the management strategy of hypertension. 72.8% of respondents attend clinic every appointment day while 27.2% do not. 33.5% sometimes use of traditional medicine while 66.5% do not. 67.1% of respondents take all your

prescribed medications as advised by their physician, while 32.9% do not. 32.9% smoke and/or drink alcohol of respondents while 67.1% do not. 46.8% of respondents reduce salt intake as advised by the doctor, while 53.2% do not. 70.3% of respondents eat more of vegetables and fruits but less of processed and fast food while 29.7% do not. This study concludes that the level of compliance to management strategies is low (42%)

**Table 4: Level of compliance to management strategies of hypertension**

	Yes		No	
	N	%	N	%
I attend clinic every appointment day	115	72.8	43	27.2
Sometimes I use of traditional medicine	53	33.5	105	66.5
Do you take all your prescribed medications as advised by your physician	106	67.1	52	32.9
I do smoke and/or drink alcohol	52	32.9	106	67.1
I have reduced salt intake a advised by the doctor	74	46.8	84	53.2
I eat more of vegetables and fruits but less of processed and fast foods	111	70.3	47	29.7

**Hypothesis one**

There is no significance relationship between the level of knowledge of hypertension and socio-demographic data such as age, sex, marital status and educational level.

data such as age, sex and educational status. From the entire socio-demographic variable on age and educational level of respondents are significant factor associated with level of knowledge of hypertension among respondents.

Table 5 shows the relationship between the level of knowledge of hypertension and socio-demographic

**Table 5: Relationship between the level of knowledge of hypertension and socio- demographic data such as age, sex and social status.**

		Poor	Good	x <sup>2</sup>	P
Age in years	< 60	3 (6.0)	25 (94.0)	15.212	0.009
	> 60	30 (33.3)	100 (66.7)		
Sex	Male	9(15.8)	48(84.2)	0.228	0.633
	Female	19(18.8)	82(81.2)		
Marital Status	Single	7(10.9)	57(89.1)	4.708	0.194
	Married	17(24.6)	52(75.4)		
	Divorced	2(22.2)	7(77.8)		
	Widow/Widower	2(12.5)	14(87.5)		
Level of Education	Primary	3(30.0)	7(70.0)	5.169	0.160
	Secondary	7(31.8)	15(68.2)		
	Tertiary	17(14.0)	104(86.0)		
	No formal education	1(20.0)	4(80.0)		
Occupation	Student	7(12.3)	50(87.7)	8.312	0.216
	Civil servant	9(20.5)	35(79.5)		
	Pensioner	2(11.8)	15(88.2)		
	Self employed	6(22.2)	21(77.8)		
	Unemployed	0(0.0)	3(100.0)		

**Discussion**

This study determines hypertensive patients' knowledge of the disease and its management strategies among patients attending medical clinic at University of Benin Teaching Hospital, Benin City, Nigeria. The demographic characteristics show that, there are more females than males' hypertensive patients in the study area, this result confirms Kisokanth, Ilankoon, Arulanandem, Goonewardena Sundaresan & Joseph (2016) study which report more female than male population hypertensive patients. Although the result contradicts Raghdaa & Riyadh (2017) who report equal gender distribution among hypertensive patients in three teaching hospitals in Baghdad, Iraq. They observe that the difference in findings may be attributed to the area of study. Further findings show that the respondents are within the age of 51-70 years. Also, most of the respondents attend secondary school and are self-employed. Furthermore, majority of participants are married, this is in agreement with the report of (Kisokanth, et al., 2016) with the same findings.

This study reveals that respondents' level of knowledge of hypertension is high. This result is similar to the results reported by (Atapattu, Sinhabahu & Subasinghe 2016) in a study conducted in the National Hospital of Sri Lanka which shows that patients' knowledge regarding many aspects of aetiology, complications and management of hypertension is satisfactory. This study concurs with the study carried out by Mansa, Prethika, Kodishala, Aruna, Sharadha, Mohan (2016) whose findings reveal that a higher percentage of the patients have good knowledge of hypertension in Gandhi hospital, Secunderahab. The writers perceived that the good scores of knowledge in this study may be due educational level of the participants, mass media and ongoing education on health management programme conducted by health educators during every visit to the clinic.

Also, a study in United State of America by Oliveria, Chen, McCarthy, Davis & Hill (2005) found that the health care providers are important sources of information. This study is in contrast to the study of

Bilal, Riaz, Shafiq, Ahmed, Sheikh and Rasheed (2015) that found out that 1.1% of their study population have no knowledge of hypertension in Karachi, Pakistan. Also, Dawit & Hailu (2017), report that there is inadequate knowledge about hypertension among hypertensive patients in Ethiopia. This study is not in agreement with the study of Iyalomhe & Iyalomhe (2010) that reveal that most hypertensive patients are not aware of the symptomless nature of the disease in suburban Nigerian community.

This study shows that the respondents' level of knowledge on management strategies of hypertension is moderate. This result is not in accordance with Akoko, Fon, Ngu & Ngu's (2017) report that knowledge of hypertension and compliance with therapy among hypertensive patients in Cameroon is poor. Also, this study is not in agreement with Sabouhi, Babae, Naji & Zadeh's (2011) report that only about one in ten patients was aware that hypertension is a disease that may be symptomless. This study is in agreement with the study of Kisokanth, et al., (2016) that report that most patients believe in drugs and lifestyle modifications (exercise is expelled and diet therapy) are useful strategies for treating hypertension.

This study found that respondents' level of compliance to the management strategies of hypertension is low. The writers believe that the level of compliance is not in accordance with the educational level of the participants, mass media and ongoing education on health management programme conducted by health educators during every visit to the clinic. This study reveals that there is a relationship between the level of knowledge and socio-demographic data, although, only age and educational level of respondents are significant factors. This finding is similar to the study of Akoko, et al (2017) that observes that sex, age and educational level positively affected knowledge of hypertension. However, this finding is not in agreement with the study of Aghoja et al., (2017) whose findings reveal that occupation, marital status and duration of hypertension are significantly related to knowledge, attitude and practice about hypertension management.

### Implication to Nursing

Evidence from this study could guide nurses to counsel patients on knowledge and management of hypertension. The study will serve as a guide for nurses to identify reasons for non-compliance to prescription given by physician and measures which they can put in place to help patients comply to prescription.

### Conclusion and recommendations

This study assesses the level of knowledge of hypertension and its management strategies among hypertensive patients attending medical clinic in University of Benin Teaching Hospital. The findings show that the respondents' level of knowledge about hypertension is high and their management strategy is moderate. Further result reveals that the respondents have low level of compliance with management strategies of hypertension. The hypothesis tested reports a significant relationship between the level of knowledge and socio-demographic, although only age and educational level of respondents are significant factors.

We, therefore, recommend that health education should be intensified on self-care, dangers of untreated hypertension and healthy lifestyle practices. Also, further studies on educational level of hypertensive patient and the level of compliance should be carried out in patients from this group.

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