ASSESSMENT OF HEALTH BEHAVIOUR, MOTIVATION, AND SELF-EFFICACY OF HYPERTENSIVE PATIENTS TOWARDS THEIR SELF-CARE PRACTICES

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ABSTRACT

Hypertension is a chronic non-communicable disease, and its prevalence is a global health challenge. Lifestyle modification can decrease the risk of hypertension, although certain self-care practices are needed for optimal blood pressure. This study was carried out to assess the health behaviour, motivation, and self-efficacy of hypertensive patients in their self-care practices. A survey was conducted using the hypertension self-care profile (HBP-SCP), Orem's self-care model, and motivational interviewing. Patients who were diagnosed as hypertensive patients, attending the Medical outpatient department (MOP) of the University of Nigeria Teaching Hospital were assessed for 15 weeks during their clinic days. Descriptive and Inferential statistics were carried out and Statistical Significance was set at $P>0.05$. A total of 415 hypertensive patients were included in the survey, 219 (52.8%) females and 196 (47.2%) males, 111 (26.7%) of the respondents frequently checked their blood pressure at home, and about half of them 187 (45.1%) were taking their antihypertensives. One hundred and sixty-eight (40.5%) were motivated to practice regular exercise. The majority of them 375 (90.4%) were motivated to eat less processed and salty food and 403 (97.1%) were confident that they could monitor their salt intake. Gender and level of education were found to be significantly related to self-care practices. Patients attending the tertiary healthcare facility had good health behaviour, and were moderately motivated and confident in their self-care practice. Factors that could affect health behavior, motivation, and confidence were somehow addressed but more work needs to be done by the health care practitioners.

KEYWORDS: **Hypertension; Orem self-care model; Hypertension self-care profile; Motivational interview.**

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INTRODUCTION

Hypertension is a chronic noncommunicable disease and its prevalence is a global health challenge [1], resulting in complications such as cardiac stroke, heart failure, and chronic renal failure [1]. Hypertension is the third leading risk factor for low quality of life such as disability and sometimes even death. According to the World Health Organization, the global prevalence of hypertension is 22% [2].

It has been estimated that by 2025, the trend of hypertension in adults will increase to 29%(1.56 billion) [1]. About 639 million hypertensive patients reside in developing countries and these hypertensive patients have little knowledge of hypertension and do not have adequate control of the condition [3,4].

According to the clinical guidelines for the management of hypertension, hypertension is defined as a systolic blood pressure of 140 mm Hg or greater and/or a diastolic pressure of 90 mm Hg or greater in patients who are not taking antihypertensive [5].

Hypertension is seen as an iceberg disease that follows the "rule of halves" which means it is asymptomatic at the initial stage, which leads to a lot of people remaining undiagnosed. Sometimes those diagnosed may not have access to appropriate treatment, and those who have access to appropriate treatment may not maintain control over the disease [8].

The exact causes of hypertension are unknown, but evidence has shown that some lifestyle factors can contribute to an increased risk of hypertension, such as excessive use of alcohol and tobacco, physical inactivity, higher body mass index, and genetic factors [6] . These factors can be managed through self-care practices; these practices are a nonpharmacological approach that involves the maintenance of healthy living in the patient's interest by making certain daily decisions and actions to manage their illness [7]. These self-care practices needed for optimal blood pressure include some health behaviors which are activities that need to be adopted to prevent, detect, and improve healthy well-being [8]. In the case of hypertension, they include; adhering to a healthy low-salt diet, adequate exercise, cessation of smoking, moderate consumption of alcohol, and adhering to antihypertensive medication [12].

Lack of motivation is usually a barrier to self-care practices [9], but self-efficacy, which refers to an individual's belief in his or her ability to perform certain behaviours that are necessary to produce a specific goal, may be a key to improving motivation and thus involvement in self-care practices in hypertension [14].

Self-care practices are very important in the management of hypertension. Most studies have only accessed the relationship between self-care practices and self-efficacy with the management of hypertension but there is a dearth of information on how health behaviors and motivation can affect self-care practice to bring about optimal management of hypertension. Thus, this study aims to assess the health behaviour, motivation, and self-efficacy of hypertensive patients toward their self-care practices.

MATERIALS AND METHODS

Study Design

This is a cross-sectional descriptive study conducted among hypertensive patients who attended the medical outpatient department (MOP) of the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu State for 15 weeks (October 2021- January 2022) during their clinic days.

Study Population

Hypertensive patients who were on follow-up at the hospital and who were also eligible were included in the study. Eligible patients included adult patients who were 18 years or older and patients who had been taking antihypertensive medications for six or more months in the teaching hospital. Patients who had no history of hypertension, pregnant patients without chronic hypertension, patients recently diagnosed with hypertension less than 6 months, and patients with impaired reasoning were not included in the study.

Study Setting

The University of Nigeria Teaching Hospital Ituku-Ozalla (UNTH) is one of the largest tertiary teaching hospitals in South East Nigeria, located on 200 acres of land. It is located 21 kilometers from Enugu Capital City along Enugu-Port Harcourt Expressway. It has about 41 main departments with three (3) outposts. The bed capacity of the hospital is currently over 500 beds with state-of-the-art facilities. The hospital has broad objectives of service, teaching, and research. This is achieved by providing inpatient and outpatient services to its clients through its highly trained staff.

Study Instrument

The instrument used was a hypertension self-care profile (HBP-SCP); a 20-item instrument consisting of a 0-4 response scale. The format was structured

based on two validated theoretical approaches: Orem's self-care model [15] and motivational interviewing [16]. Orem's model describes how people enable themselves to partake in self-care and intentionally perform some actions such as taking medications or physical activity. Motivational interviewing provides a means of ensuring that patients are involved in the self-care process[10].

Health behaviour was assessed using a 5-response Likert scale to assess the patient's level of engagement and participation in the listed health activities. The question is 'how often do you do the following'? The response includes 'always, frequently, moderately frequent, rarely, and never. They were coded '4, 3, 2, 1, and 0', respectively. The elements were written in such a way that choosing from '0' to '4' indicates a movement towards 'good health behaviour' while the reverse is the opposite.

The motivation was assessed using a 5-Likert response scale to assess the patient's reported level of importance of the health activities. The question is "how important is it to you to do the following"? The response includes: 'extremely important, very important, moderately important, slightly important, and not important. They were coded '4, 3, 2, 1, and 0', respectively. The elements were written in such a way that choosing from '0' to '4' indicates a movement towards being 'highly motivated' while the reverse is the opposite.

Self-efficacy was also determined using a 5-response Likert scale to assess the patient's level of confidence in engagement and participation in health activities. The question is "how confident are you in doing the following"? The response includes: 'extremely confident, very confident, moderately confident, slightly confident, and not confident. They were coded '4, 3, 2, 1, and 0', respectively. The elements were worded in such a way that choosing from '0' to '4' indicates a movement towards 'good self-efficacy' while the reverse is the opposite.

Data Collection Procedure

Data were collected from 415 hypertensive patients using a validated structured questionnaire presented to participants on their clinic days by trained nursing personnel in a homogeneous way to reduce bias. Since it was their clinic days, patients were educated on their state of the disease and its pharmacological and nonpharmacological management before filling out the questionnaires. Informed consent was also obtained before the administration of the questionnaire, which consists of two parts.

Part A of the questionnaire was structured to collect the demographic data of the respondents such as age, gender, level of education, occupation, family history of hypertension, co-morbidities, and what antihypertensive the patient use.

Part B was designed to ascertain health behavior, motivation, and self-efficacy.

For the non-educated and elderly respondents, the questionnaire was reviewed and explained to them individually, and the information was collected by the surveyor or gotten directly from their caregivers.

Data Analysis

The data was entered and coded in Microsoft Excel and analyzed using Statistical Product and Service Solutions software (SPSS) Version 23 and results were presented in frequency, percentages, mean scores, and standard deviation. The mean of health behaviour, motivation, and self-efficacy was calculated and categorised. A mean score of less than or equal to 40 for health behaviour, motivation, and self-efficacy was classified as Low Health behaviour, Low motivation, and Low Self-efficacy, respectively. The mean scores between 40 and 60 for health behaviour, motivation and self-efficacy were classified as moderate health behaviour, moderate motivation, and moderate self-efficacy, respectively. The mean scores greater than 60 for health behaviour, motivation and self-efficacy were classified as high health behaviour, high motivation and high self-efficacy, respectively. Chi-square was used to determine the relationship between health behavior, motivation and self-efficacy scores, and socio-demographic characteristics. Statistical significance was established at $P < 0.05$.

Ethical Consideration

The approval for this study was sought and obtained from the Ethics Board of the University of Nigeria, Nsukka. Anonymity and confidentiality were maintained throughout this study.

RESULTS

A total of 415 hypertensive patients participated in the study. Slightly more than half (219, 52.8%) of the respondents were females. About half (194, 46.7%) of the respondents were in the age group of 51-60 years and a majority of them (301, 72.5%) were married. Less than half (172, 41.4%) of the participants had tertiary education and were self-employed (178, 42.9%). More than half (225, 54.2%) of the respondents had a family history of hypertension. The duration of hypertension was between 1 – 5 years in more than half (141, 52.4%)

of the total respondents. The majority (232, 63.6%) of the respondents did not have comorbidities, while more than a quarter (102, 27.9%) of the participants had diabetes, Table 1. About half (195, 48.6%) of the respondents were on hydrochlorothiazide, while less than 3% of the patients were on Atenolol (10, 2.3%), Thiapril (10, 2.4%), and Spironolactone (11, 2.6%), Table 2. The overall mean score for the HBP SCP behaviour scale was 50.9470 $\pm$ 10.28822, indicating a mean score of moderate health behaviour. Some of the patients practice good health behaviour (moderately frequent or frequently or always practice), particularly taking part in exercise regularly(115, 27.7%), eating less processed food and replacing highly salty foods with less salty foods (295, 71.1%), monitoring their salt intake by avoiding salty condiments such as ketchup and eating less than 1 teaspoon of table salt per day (306, 73.8%), boiling or steaming their food rather than frying their food (134, 32.3%), replacing high traditional fatty food and limiting the intake of fatty food to 65g daily (291, 70.1%) and (271, 65.3%), respectively, practicing moderation in alcohol intake (241, 58.1%), non-smoking (311, 74.9%), checking their blood pressure at home (111, 26.7%), taking their antihypertensives (187, 45.1%), visiting their doctors regularly (219, 52.8%), refilling their prescriptions (218, 52.5%), trying to keep their weights down (107, 25.8%) and avoiding situations that cause stress (126, 30.4%). On the other hand, some patients never practiced reading nutrition facts on sodium levels (185, 44.6%) and nutrition facts on saturated fats (164, 39.6%), and nutrition facts on sodium levels, Table 3.

The overall mean score for HBP-SCP Motivation Scale was 56.7904 $\pm$ 10.82232 which indicated moderate motivation mean score. Some patients reported that it is (very or extremely important) to be motivated to practice good health behavior such as regular exercising (168, 40.5%), eating less processed food and salty food such as canned foods, noodles, and frozen foods (375, 90.4%), monitoring salt intake by avoiding salty condiments such as ketchup and eating less than 1 teaspoon of table salt per day (321, 77.3%), eating food with less saturated fats, replacing traditionally high fatty food with low fatty food and limiting calorie intake to less than 65g daily (157, 37.8%),(190, 45.8%) and (186, 44.8%), respectively.

Also, boiling or steaming food instead of frying during cooking (177, 42.7%), eating 5 or more servings of fruits and vegetables daily (173, 41.7%), moderating alcohol intake (236, 56.9%), non-smoking (255, 61.4%), checking their blood

pressure at home regularly (136, 32.8%), taking their antihypertensives (203, 48.9%), reducing their weight (189, 45.5%), trying to stay away from stress (189, 45.5%), seeing their doctor (234, 56.4%) and filling their prescription regularly (194, 46.7%). However, fewer patients stated reading nutrition facts on sodium content (101, 24.3%) and saturated fat (103, 24.8%) was not important Table 4. The overall mean score for HBP-SCP Self-Efficacy Scale was 53.1473$\pm$10.05506, which indicated a moderate self-efficacy mean score. A larger percentage of the patients were moderately or very or extremely confident to take part in regular physical exercise (163, 39.3%), to eat less processed foods and highly salty food such as canned foods, frozen meals and noodles (413, 99.5%), monitor their salt intake such as by avoiding salty condiment such as ketchup and eating less than 1 teaspoon of table salt per day (403, 97.1%), to boil, steam or bake their food instead of frying during cooking (184, 44.3%), to eat less food that are high in saturated fats e.g. butter and trans-fat (157, 37.8%), to limit calorie intake from fats less than 65grams daily (160, 38.6%),to eat 5 or more servings of fruits and vegetables daily (156, 37.6%), to practice moderation in drinking alcohol (190, 45.8%), to practice non-smoking (241, 58.1%), to check their blood pressure regularly at home (156, 37.6%), to take their blood pressure medication regularly (188, 45.3%), to reduce their weight (114, 27.5%), to try staying away from anything that causes stress (118, 28.4%), to see their doctor (220, 53.0%) and fill their prescription regularly (118, 45.3%). Moreover, fewer patients stated not confident to read nutrition facts to check for sodium content (111, 26.7%) and level of saturated fats (104, 25.1%) in their meals, Table 5.

The level of education was significantly associated with health behavior; p-value < 0.05. Gender and level of education were significantly associated with Motivation Self-efficacy at p-value <0.05, Tables 7 and 8.

DISCUSSION

Self-care practices are known as the basis of care for most chronic diseases. Self-care practice is important to reduce the possibilities of disabilities, health care expenditures, outpatient, visits, and emergency department visits [11]. This study accessed the health behaviour, motivation, and self-efficacy of hypertensive patients toward their self-care practices.

The prevalence of hypertension was higher in females and more common in patients under the

Table 1: Sociodemographic characteristics of the respondents

Variables	Frequency (N)	PERCENTAGE (%)
Sex		
MALE	196	47.2
FEMALE	219	52.8
Age (YEARS)		
18-29	13	3.1
30-50	62	14.9
51-60	194	46.7
61-70	98	23.6
GREATER 70	48	11.6
Marital status		
MARRIED	301	72.5
SINGLE	29	7.0
WIDOWED	79	19.0
DIVORCED/SEPARATES	6	1.4
Education		
NONE	27	6.5
PRIMARY	66	15.9
SECONDARY	150	36.1
TERTIARY	172	41.4
Occupation		
SELF-EMPLOYED	178	42.9
EMPLOYED	129	31.1
RETIRED	108	26.0
Family history		
YES	225	54.2
NO	190	45.8
Duration of hypertension (YEARS)		
1-5	141	52.4
6-15	92	34.2
16-25	24	8.9
GREATER 25	12	4.5
Comorbidity		
DIABETES	102	27.9
ISCHEMIC HEART DISEASE	7	1.9
HEART FAILURE	24	6.3
HYPERLIPIDEMIA	9	2.2
NONE	232	63.6
OTHERS	1	0.2

Table 2: Profile of antihypertensive medications of respondents

Drugs	Frequency	Percentages
Methyldopa	30	5.2
Amlodipine	85	20.4
Atenolol	10	2.3
Frusemide	18	4.4
Hydrochlorothiazide	195	48.6
Lisinopril	57	13.7
Losartan	29	7.0
Nifedipine	42	10.1
Spirinolactone	11	2.6
Thiapril	10	2.4
75 mg low-dose aspirin	108	25.4

Table 3: Health Behaviour

Health behaviour	Never	Rarely	Moderately Frequent	Frequently	Always
Questions	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Take part in regular physical exercise e.g. (30mins brisk walking 4-5 times /week)	25 (6.0)	73 (17.6)	115(27.7)	94 (22.7)	108(26.0)
Eat less processed food (e.g. Canned or frozen meals)	15 (3.6)	52 (12.5)	86 (20.7)	139(33.5)	123(29.6)
Read the nutrition facts label to check information on sodium content	185(44.6)	81 (19.5)	53 (12.8)	48 (11.6)	48 (11.6)
Replace traditionally high-salt food (canned soups and noodles) with less salty ones like homemade foods	16 (3.9)	66 (15.9)	93(22.4)	156(37.6)	84 (20.2)
Limit the use of high-salt condiments e.g ketchup	17 (4.1)	68 (16.4)	72(17.3)	160(38.6)	98 (23.6)
Eat less than 1 teaspoon of table salt per day	14 (3.4)	59 (14.2)	93(22.4)	146(35.2)	103(24.8)
Use boil, bake, or steam instead of frying when cooking	17 (4.1)	50 (12.0)	124(29.9)	134(32.3)	90 (21.7)
Read the nutrition labels to check information on saturated fats, for example butter, red, meats and trans fats, for example, lard and shortening	164(39.5)	89 (21.4)	64 (15.4)	65 (15.7)	33 (8.0)
Replace traditional high-fat food, e.g., deep-fried chicken with low-fat ones eg baked chicken	14 (3.4)	64 (15.4)	152(36.6)	139(33.5)	46(11.1)
Limit calorie intake from fats less than 65grams daily	11 (2.7)	70 (16.9)	134(32.3)	137(33.0)	63 (15.2)
Eat 5 or more servings of fruits and vegetables daily	20 (4.8)	64 (15.4)	126(30.4)	115(27.7)	90 (21.7)
Practice moderation in drinking alcohol (2 glasses or less for men and 1 glass or less / for women each day	9 (2.2)	30 (7.2)	53 (12.8)	82 (19.8)	241(58.1)
Practice non-smoking	9 (2.2)	15 (3.6)	34 (8.2)	46 (11.1)	311(74.9)
Check your blood pressure at home	35 (8.4)	72 (17.3)	96 (23.1)	111(26.7)	101(24.3)
Take your blood pressure medicine	4 (1.0)	48 (11.6)	67 (16.1)	10 (26..3)	187(45.1)
Get your prescription filled	7 (1.7)	39 (9.4)	56 (13.5)	95 (22.9)	218(52.5)
Keep your weight down.	40 (9.6)	79 (19.0)	107(25.8)	106(25.5)	83 (20.0)
Try to stay away from anything that causes stress	25 (6.0)	69 (16.6)	126(30.4)	115(27.7)	80 (19.3)
See a doctor regularly	1 (0.2)	38 (9.2)	60 (14.5)	95 (23.4)	219(52.8)
Overall (Mean $\pm$ standard deviation) = 50.9470 $\pm$ 10.28822					

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Table 4: Self-Health Motivation

Health Motivation	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Questions	Freq (%)	Freq(%)	FReq(%)	Freq(%)	Freq(%)
Take part in regular physical exercise e.g. (30mins brisk walking 4-5 times /week)	3 (0.7)	24 (5.8)	100 (24.1)	168 (40.5)	120 (28.9)
Eat less processed food (e.g. Canned or frozen meals)	11 (2.7)	25 (6.0)	78 (18.8)	182(43.9)	119 (28.7)
Read the nutrition facts label to check information on sodium content	101(24.3)	78 (18.8)	96 (23.1)	95 (22.9)	45 (10.8)
Replace traditionally high-salt food (canned soups and noodles) with less salty ones like homemade foods	8 (1.9)	31 (7.5)	81 (19.5)	193 (46.5)	102 (24.6)
Limit the use of high condiments eg ketchup	5 (1.2)	30 (7.2)	75 (18.1)	159(38.3)	146(35.2)
Eat less than 1 teaspoon of table salt per day	5 (1.2)	33(8.0)	79 (19.0)	162(39.0)	136(32.8)
Eat less food that is high in saturated fats e.g. butter and trans fat	13(3.1)	32(7.7)	105(25.3)	157(37.8)	108(26.0)
Use boil, bake, or steam instead of frying when cooking	10 (2.4)	25(6.0)	71(17.1)	177(42.7)	132(31.8)
Read the nutrition labels to check information on saturated e.g. butter, red meats, and trans fats e.g. lard, and shortening	103(24.8)	93(22.4)	89 (21.4)	86(20.7)	44 (10.6)
Replace traditional high-fat food, e.g., deep-fried chicken with low-fat ones, e.g. baked chicken	13 (13.1)	24 (5.8)	116(28.0)	190(45.8)	72 (17.3)
Limit calorie intake from fats less than 65grams daily	10 (2.4)	35 (8.4)	102(24.6)	186(44.8)	82(19.8)
Eat 5 or more servings of fruits and vegetables daily	7 (1.7)	34 (8.2)	70(16.9)	173(41.7)	131(31.6)
Practice moderation in drinking alcohol (2 glasses or less for men and 1 glass or less / for women each day	7 (1.7)	16 (3.9)	48 (11.6)	108(26.0)	236(56.9)
Practice non-smoking	6 (1.4)	15(3.6)	42(10.1)	97(23.4)	255(61.4)
Check your blood pressure at home	10(2.4)	35 (8.4)	107(25.8)	136(32.8)	127(30.6)
Take your blood pressure medication	4 (1.0)	27 (6.5)	54 (13.0)	127(30.6)	203(48.9)
Get your prescription filled	2 (0.5)	27 (6.5)	68 (16.4)	124(29.9)	194(46.7)
Keep your weight down	9 (2.2)	36(8.7)	92(22.2)	189(45.5)	89(21.4)
Try to stay away from anything that causes stress	10(2.4)	34(8.2)	92(22.2)	189(45.5)	97(23.4)
See a doctor regularly	2 (0.5)	32(7.7)	50 (12.0)	97 (23.4)	234(56.4)
Overall (**Mean + standard deviation) = 56.7904 + 10.82232**					

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Table 5: Self-efficacy

Self-efficacy	Not Confident	Slightly Confident	Moderately Confident	Very Confident	Extremely Confident
Questions	**Freq(%)**	**Freq(%)**	**Freq(%)**	**Freq(%)**	**Freq(%)**
Take part in regular physical exercise e.g. (30mins brisk walking 4-5 times /week)	18(4.3)	37(8.9)	127(30.6)	163(39.3)	70(16.9)
Eat less processed food (e.g. Canned or frozen meals)	15 (3.6)	33(8.0)	89(21.4)	210(50.6)	68(16.4)
Read the nutrition facts label to check information on sodium content	111(26.7)	82(19.8)	92(22.2)	97(23.4)	33(8.0)
Replace traditionally high-salt food (canned soups and noodles) with less salty ones like homemade foods	6 (1.4)	44(10.6)	99(23.9)	203(48.9)	72(17.3)
Limit the use of high-salt condiments e.g. ketchup	10 (2.4)	35(8.4)	95(22.9)	203(48.9)	72(17.3)
Eat less than 1 teaspoon of table salt per day	8 (1.9)	36(8.7)	96(23.1)	200(48.2)	75(18.1)
Eat less food that is high in saturated fats e.g. butter and trans fat	13(3.1)	32(7.7)	105(25.3)	157(37.8)	108(26.0)
Use boil, bake, or steam instead of frying when cooking	8(1.9)	28(6.7)	134(32.3)	184(44.3)	61(14.7)
Read the nutrition labels to check information on saturated e.g. butter, red meats, and trans fats e.g. lard, and shortening	104(25.1)	77(18.6)	102(24.6)	104(25.1)	28(6.7)
Limit calorie intake from fats less than 65grams daily	7 (1.7)	29(7.0)	160(38.6)	156(37.7)	62(15.0)
Eat 5 or more servings of fruits and vegetables daily	7 (1.7)	36(8.7)	121(29.2)	156(37.6)	94(22.7)
Practice moderation in drinking alcohol (2 glasses or less for men and 1 glass or less / for women each day	8 (1.9)	12(2.9)	57(13.7)	148(35.7)	190(45.8)
Practice non-smoking	2(0.5)	10(2.4)	53(12.8)	109(26.3)	241(58.1)
Check your blood pressure at home	20 (4.8)	33(8.0)	117(28.2)	156(37.6)	89(21.4)
Take your blood pressure medication	6(1.4)	22(5.3)	60(14.5)	183(44.1)	188(45.3)
Get your prescription filled	5(1.2)	20(4.8)	59(14.2)	143(34.5)	118(45.3)
Keep your weight down	40(9.6)	72(17.3)	108(26.0)	114(27.5)	81(19.5)
Try to stay away from anything that causes stress	27 (6.5)	68(16.4)	118(28.4)	118(24.4)	84(20.0)
See a doctor	4 (1.0)	21 (5.1)	56(13.5)	114(27.5)	220(53.0)
Overall (**Mean ± Standard deviation) = 53.1473 ±10.05506**					

Table 6: Demographic variables and health behavior

Characteristics	Low Frequency (%)	Moderate frequency (%)	High frequency (%)	P-value (Chi-Square test)
Gender				
Male	36 (59.0)	134(45.1)	26(45.6)	0.1359
Female	25(41.0)	163(54.9)	31(54.4)	
Age (years)				
18-29	3(4.9)	8(2.7)	2(3.5)	
30-50	10(16.4)	38(12.8)	14(24.6)	0.1227
51-60	22(36.1)	147(49.5)	25 (43.9)	
61-70	21(34.4)	68(22.9)	9(15.8)	
>70	5(8.2)	36(12.1)	7(12.3)	
Level of education				
None	0(0.0)	26(8.8)	1(1.8)	
Primary	11(18.0)	48(16.2)	7(12.3)	**0.0312***
Secondary	19(31.0)	112 (37.7)	19(33.3)	
Tertiary	31(50.8)	111(37.4)	30(52.6)	

*P>0.05 is statistically significant

Table 7: Demographic variables and motivation

Characteristics	Low Frequency (%)	Moderate frequency (%)	High frequency (%)	P-value (Chi-Square test)
Gender				
Male	16 (53.3)	118(52.0)	62(39.2)	**0.0378***
Female	14 (46.7)	109(48.0)	96(60.8	
Age (years)				
18-29	3 (10.0)	5(2.2)	5(3.2)	
30-50	5 (16.7)	30 (13.2)	27 (17.1))	0.2836
51-60	13 (43.3)	111 (48.9)	70 (44.3)	
61-70	8 (26.7)	56 (24.7)	34 (21.5)	
>70	1 (3.3)	25 (11.0)	22 (13.9)	
Level of education				
None	0(0.0)	11 (4.8)	16 (10.1)	
Primary	7 (23.3)	44 (19.4)	5 (9.5)	**0.0001***
Secondary	8 (26.7)	84 (37.0)	58 (36.7)	
Tertiary	15 (50.0)	88 (38.8)	69 (43.7)	

*P>0.05 is statistically significant

Table 8: Demographic variables and self-efficacy

Character	Low frequency (%)	Moderate frequency (%)	High frequency (%)	P-value (chi-square test)
Gender				
Male	29 (70.7)	119 (42.0)	47 (52.2)	**0.0015***
Female	12 (29.3)	164 (58.0)	43 (47.8)	
Age (years)				
18-29	3 (7.3)	5 (1.8)	5 (5.6)	
30-50	6 (14.6)	40 (14.1)	16 (17.8)	
51-60	14 (34.1)	139(49.1)	40(44.4)	0.2937
61-70	13 (31.7)	65 (23.0)	20 (22.2)	
>70	5 (12.2)	34 (12.0)	9 (10.0)	
Level of education				
None	0 (0.0)	23 (8.1)	4 (4.4)	
Primary	3 (7.3)	54 (19.1)	9 (10.0)	**0.0197***
Secondary	14 (34.1)	101 (35.7)	35 (38.9)	
Tertiary	24 (58.5)	105 (37.1)	42 (46.7)	

*P>0.05 is statistically significant

age of 70, which is consistent with some studies [10],[19], but not with a study in Nepal, which reported that the prevalence of hypertension in their study was among male respondents and patients in their middle age (40-59 years) [20]. Gender disparities are inconsistent, as seen by a lot of research, which may be attributed to variances in methodology and blood pressure cut-offs [21]. The majority of respondents were married, which is consistent with several other research [10,22,23]. According to a study, marriage has a protective impact on individuals' health [24]. In our study, the majority of respondents were married, which might be linked to psychological stress from familial pressures connected with marriage [21]. The majority of them had a university education and were self-employed or employed, which is similar to research among hypertension patients visiting a family medicine clinic in Saudi Arabia [25], although it contradicts several studies [10,19,23]. Although this does not demonstrate the amount of inactivity related to their work position, the research found that public employees and businessmen are more likely to have hypertension than those who are unemployed or work in jobs that require a lot of physical exercises, such as farming [21]. Half of the respondents from our study had a history of hypertension but this is not similar to some studies [12,13]. High blood pressure tends to run in families since most families have the same genes that might predispose one to high blood pressure, heart disease, or stroke. Additionally, specific family

behaviours such as smoking, nutrition, and exercise can influence the risk[14]. The majority of the respondents do not have comorbidities, but this is not consistent with a study in Saudi Arabia, whose majority of the respondents had dyslipidemia as a comorbidity [15]. Difficulty in managing hypertension and controlling blood pressure in patients can significantly affect the patient's overall health outcomes. [22] Hence, It can be assumed that the patients in our study had better blood pressure control, which led to the absence of comorbidities.

The HBP-SCP scale scores showed that a lot of our patients practice good health behavior and were moderately motivated and confident to partake in measures to control high blood pressure, this is not consistent with a study that used the same scale. Their patients practice good health behaviour with less motivation and self-efficacy [15]. However, our study showed that there was an increased number in the domains of self-care practices, which is similar to a study in Nepal which stated that patients that attend tertiary hospitals were well aware of their healthy lifestyles and seek the need for more healthy behaviors such as their food habits and physical activity [16]. The findings in our study are not consistent with a study in Mumbai, which showed a high proportion of unfavorable self-care practices because of unhealthy lifestyles, especially in food habits. This inconsistency might be because since the study was carried out in a slum, they were unaware of the

importance of health [17]. Also, another study was consistent with our findings, the study recorded high frequencies of good self-care practices such as, 89% were non-smokers and 75% avoiding adding extra salt, whereas in our study, 74.9% were non-smokers and 76.2% avoid extra salt either from taking fewer condiments or processed foods that contain salt [18]. Similar to our study where most of the respondents have a tertiary education, this study conducted in Chennai reported that the favourable self-care practice was due to the education, socio-economic status, and health concern of the respondents [18]. Most of the respondents practiced some self-care practices such as reduction in alcohol consumption to 2 glasses or less for men and 1 glass or less for women each day and taking part in regular physical exercise e.g. (30mins brisk walking 4-5 times /week) as recommended by the world health organization (WHO) [19]. This is because, as time passes, people become more aware that reducing alcohol use and increasing exercise might lessen the risk of high blood pressure while also exposing the patient to broader health advantages. This is because, as time passes, people become more aware that reducing alcohol use and increasing exercise might lessen the risk of high blood pressure while also exposing the patient to broader health advantages. Most of the patients confidently limit their salt intake in their meal, which is similar to a study that reported that 80% of their respondents always limits their excessive intake of salt [20], the reason could be that patients have been advised that excessive ingestion of salt can increase blood pressure and restricting salt intake could assist with needing just 1 antihypertensive drug instead of taking 2 or more antihypertensive drugs[16]. Also similarly, most of the respondents always take their drugs regularly, monitor their blood pressure regularly, and attend clinic days for regular checkups[16]. This study showed that level of education was significantly associated with health behavior, this implied that patient with better education was more likely to practice good behavior which is consistent with some studies[8,21]. Some studies also explained that patients with better education are more likely to practice good health behaviour because they can read instructions related to hypertensive care and also follow other sources of information such as social media to bring about a better understanding of their health[22,23]. From our study gender and level of education of patients with hypertension was significantly associated with motivation and self-efficacy in their self-care practices and a higher

percentage of the female were more motivated than the male patients, this is consistent with a study that stated that the female gender is more likely to be motivated to practice certain self-care practice such as adherence to medications than their male counterpart[13]. This finding is in contrast to a study carried out in West Bengal[12] and the study explained that female patients in rural areas are less likely to practice self-care practices. In terms of self-efficacy, our result was consistent with a study by Alhadlaq et al[15] which reported that female patients tend to have better self-efficacy than their male counterparts. This suggests that the female patients were more realistic about their diagnosis and were willing to take the required steps to improve their blood pressure control[24]. From our study, there is a link between good health behavior, appropriate motivation, and good self-care practice, and one cannot exist without the other, because once an individual is aware that practicing good health behavior will help to achieve better outcomes, they will be motivated to carry out such health practices and acceptance of their diagnosis makes management of their blood pressure effects. This finding is also similar to a study in Saudi Arabia[15]because once an individual understands that practicing good health behaviour will help them achieve better results, they will be motivated to carry out such health practices, and acceptance of their diagnosis makes blood pressure management effective.

Our study implies that healthcare providers and health promoters/educators should educate patients on the need for blood pressure monitoring because this has been reported to increase the knowledge and skills of blood pressure monitoring which leads to better control of blood pressure and quality of life[15], to handle factors that are related to poor health behavior, low motivation and self-efficacy of hypertensive patients to actively control their blood pressure[25] and to encourage the patients on proper nutrition and lifestyle changes[15].

CONCLUSION

The participants who were attending tertiary healthcare facilities practiced good health behavior and were moderately motivated and confident to partake in measures to control high blood pressure. Level of education was significantly associated with practicing and also in the motivation to practice good health behavior while gender was significantly associated with motivation and self-efficacy in practicing good health behavior.

Other factors could affect health behavior, motivation, and confidence. There is a need for more research in this area, especially, among older patients and patients of poor educational background to achieve the United Nations Sustainable goals (SDG 3.4.1) which are to reduce by one-third premature deaths from noncommunicable diseases through prevention and treatment by 2030 [26].

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