

## Knowledge and Self-Care Practice on Hypertension among Hypertensive Patients in a Tertiary Level Hospital of Kathmandu

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### ABSTRACT

#### Introduction

Hypertension is a public health challenge and major risk factor for cardiovascular disease in the developing as well as developed countries. The successful management of hypertension depends upon patient's knowledge on hypertension and self-care practices.

#### Methods

A descriptive cross-sectional study was conducted to identify the knowledge and self-care practice on hypertension among 212 hypertensive patients attending in outpatient department of Manmohan Cardiothoracic Vascular and Transplant Center (MCVTC). Non-probability purposive sampling technique was used. Data was collected through face-to-face interview by using structured questionnaire. Data was analyzed using SPSS version 16.0.

#### Results

This study showed that 57.5% of the respondents had adequate level of knowledge on hypertension and 57.1% of the respondents had good overall self-care practice. Regarding self-care practice, we found 100% medicine adherence, 85.8% respondents avoided alcohol and 84.9% avoided smoking, 50.9% followed weight management practice, 48.6% followed dietary management and 44.8% performed physical activity. Level of knowledge was significantly associated with age, gender, educational status and occupation. Self-care practice was only significantly associated with educational status. Level of knowledge and self-care practice were significantly positively correlated.

#### Conclusion

More than half of the respondents had adequate level of knowledge. Regarding self-care practice, nearly sixty percent of the respondents had good self-care practice. To bring those rates to higher level, awareness programs should be launched about diseases and self-care practice on hypertension.

**Keywords:** *Hypertension, knowledge, self-care practice*

## INTRODUCTION

**N**on-communicable diseases (NCDs) are creating major health challenges globally.<sup>1</sup> Cardiovascular disease (CVD) is more common NCDs. It is the number one cause of death globally. More people die annually from CVDs than from any other cause. An estimated 17.7 million people died from CVDs in 2015, representing 31% of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. Over three quarters of CVD deaths take place in low- and middle-income countries. Out of the 17 million premature deaths under the age of 70 due to non-communicable diseases in 2015, 82% are in low and middle income countries, and 37% are caused by CVDs.<sup>2</sup>

Hypertension is a chronic condition. It causes coronary heart disease, stroke and other vascular complications. It is the commonest cardiovascular disorder. It is one of the major risk factors for cardiovascular mortality, which accounts for 20-50 percentages of all deaths.<sup>3</sup>

In Nepal, NCDs account for more than 44 % of deaths and 80 % of outpatient contacts. In Nepal, one out of every five individual have hypertension.<sup>4</sup> In Nepal Overall prevalence of hypertension was 28.9% (male 28.8%, female 29%). The prevalence was increasing with age (11.1% in 70 years). According to the seventh report of the Joint National Committee (JNC 7), 29.1% were in Pre-hypertensive group.<sup>5</sup>

## METHODS

The study was conducted in outpatient department (OPD) of Manmohan Cardiothoracic Vascular and Transplant Center (MCVTC), Maharajgunj Kathmandu. A descriptive cross-sectional study design was used to assess knowledge and self-care practice on hypertension among hypertensive patients. The study population was all adult (19 years and above) hypertensive patients diagnosed with hypertension and under the antihypertensive medication for at least six months and willing to participate were included in the study. Non-probability purposive sampling technique was adapted to select sample and face to face interview technique was used to collect data through structured questionnaire. Data was collected from September 2<sup>nd</sup> to September 28<sup>th</sup> 2018. Before data collection research permission was obtained from Research Committee of Maharajgunj Nursing Campus and ethical approval from Institutional Review Committee (IRC) and hospital administration of MCVTC Maharajgunj. Written Informed consent was obtained from each respondent before taking interview.

For level of knowledge, there were total 13

questions which included single as well as multiple responses with total score ranges from 0-36 and mid value (50%) was taken as cut off point. Level of knowledge is adequate above mean and inadequate below mean. To find out the self-care practice, modified pattern of standard tool was used which was Hypertension Self-Care Activity Level Effects (H-SCALE) which consists of six items that is medication, physical activity, dietary pattern, weight management, smoking and tobacco use and alcohol consumption. To identify overall self-care practice, total score was calculated by summing score of six items, where score were awarded for 0-21, physical activity 0-14, diet score 0-22, weight management 0-45, alcohol consumption 0-1 and smoking (active and passive) 0-1 respectively, thus total score ranges from 0-104 which was converted into percentile and 75th percentile was taken as cut off point. Good self-care practice  $\geq 75\%$  and Poor self-care practice  $< 75\%$ . Item wise self-care practice was label as per standard tool.

The collected data was analyzed by using descriptive as well as inferential statistics (Chi square test). Karl Pearson correlation coefficient was used to evaluate relationship between level of knowledge and level of self-care practice. Statistical significance was set at p value  $< 0.05$ .

## RESULTS

This study showed that 35.8% of the respondents belonged to age group more than 60 and above followed by 27.8% were age of 51-60 years with mean age  $55.69 \pm 12.46$ . More than half (57.1%) were female. Almost all (90.6%) were married, 50.9% lived in joint family and 62.7% were residing inside the valley. Two third of the respondents (67%) were able to read and write and about one third of the respondents (36.3%) were home maker and 55% of the respondents had income enough for  $\leq 12$  months. Nearly half (48.1%) of the respondents had family history of hypertension and 107 had associated co-morbidities among them 53.3% of respondents had diabetes mellitus.

About two-third of the respondents (60.8%) had correctly identified normal value of systolic blood pressure and 62.3% had correctly identified normal value of diastolic blood pressure. In regards to high blood pressure 40.6% had correctly identified systolic value and nearly half (48%) had identified high diastolic value of blood pressure. Regarding risk factors majority of the respondents (69.3%) replied intake of high salt and high fat diet followed by stress (65.1%), increasing age (40.6%), intake of excessive amount of alcohol (30.7%), use of smoking and tobacco (29.2%), inactivity (23.1%) and heredity (45.3%) respectively. Majority of the respondents (69.3%) had responded headache as major symptoms of hypertension and only 13.7%

Table 1. Knowledge regarding hypertension among respondents (n=212)

Variables	Number	Percentage
Normal blood pressure		
SBP ( $\leq$ 120mm of Hg)	129	60.8
DBP ( $\leq$ 80mm of Hg)	132	62.3
Hypertension		
SBP ( $\geq$ 140mm of Hg)	86	40.6
DBP ( $\geq$ 90mm of Hg)	102	48.1
Hypertension is controllable	197	92.9
Risk factors*		
High salt and high fat intake	147	69.3
Stress	138	65.1
Hereditry	96	45.3
Increasing age	86	40.6
Over weight	70	33.0
Intake of excessive amount of alcohol	65	30.7
Smoking and tobacco use	62	29.2
Sedentary life style	49	23.1
Sign and symptoms*		
Headache	147	69.3
Dizziness	146	68.9
Chest heaviness	51	24.1
Fatigue	46	21.7
Bleeding from nose	31	14.6
Asymptomatic	29	13.7
Diagnostic measures*		
Regular health check up	144	67.9
Measurement of BP	118	55.7
According to symptoms (perceived by clients such as headache, dizziness)	46	21.7
Complications*		
Brain attack	156	73.6
Heart attack	155	73.1
Kidney disease	128	60.4
Visual impairment	121	57.1

\*Multiple responses

of the respondents had claimed hypertension had asymptomatic. One third of the respondents (67.9%) said hypertension can be diagnosed by regular health checkup. Majority (73.6%) of the respondents answered brain attack followed by heart attack (73.1%), kidney disease (60.4%), and visual impairment (57.1%) as the complications of hypertension. Almost all of the respondents (92.9%) had answered "hypertension is disease that is controllable" (Table 1).

Majority of the respondents (89.6%) had answered intake of prescribed medicine, followed by low salt diet (86.6%), low fat diet (85.4%). Majority of the respondents (89.2%) had answered antihypertensive medication cannot be discontinued (Table 2).

Table 2. Knowledge regarding management of hypertension among respondents (n=212)

Variables	Number	Percentage
Management		
Intake of prescribed medicine	190	89.6
Intake of low salt diet	184	86.8
Intake of low fat diet	181	85.4
Regular exercise	133	62.7
Management of stress	116	54.7
Quit smoking	91	42.9
Maintain normal weight	94	44.3
Limit alcohol intake	92	43.4
Antihypertensive medicine cannot be discontinued	189	89.2

There were 57.5% of the respondents had adequate knowledge. Regarding self-care practice more than half (57.1%) had good self-care practice (Table 3).

Regarding item wise self-care practice all the respondents had good practice in intake of medicine, 44.8% in physical activity, 48.6% in dietary management, and 50.9% good practice to control weight, 84.9% were nonsmoker and 85.8% were nonalcoholic.

There were significant statistical association with age, gender educational status, occupation and level of knowledge (p value= 0.001, 0.001, 0.000, 0.000 respectively). Respondents with age lower than 65 had better knowledge than those with age equal to or higher than 65. Male respondents had better knowledge than female respondents. Respondents with ability to read and write had higher knowledge than those who could not read and write. The respondents who were homemakers or in agriculture had lower knowledge than the respondents who had different occupations (Table 4).

There is statistical significant association between educational status (p =0.006) and level of self-care practice. The respondents with ability to read and write had better self-care practice than those who had no ability to read and write (Table 5).

Table 3. Level of knowledge and self-care practice among respondents (n=212)

Variables	Number (%)	Mean
Level of knowledge		
Adequate ( $\geq$ 18)	122 (57.5)	20.16 $\pm$ 7.44
Inadequate (<18)	90 (42.5)	
Level of practice		
Good practice ( $\geq$ 75%)	121 (57.1)	76.69 $\pm$ 14.08
Poor practice (<75%)	91 (42.9)	

Table 4. Association between level of knowledge on hypertension among respondents and selected variables

	Variables	Level of knowledge		Chi-square	p-value
		Inadequate n (%)	Adequate n (%)		
Age	≤45 years	11 (26.8)	30 (73.2)	15.151	0.001*
	45 – 64 years	40 (37)	68 (63)		
	≥65 years	39 (61.9)	24 (38.1)		
Gender	Male	27 (29.7)	64 (70.3)	10.663	0.001*
	Female	63 (52.1)	58 (47.9)		
Educational status	Able to read and write	45 (31.7)	97 (68.3)	20.391	0.000*
	Cannot read and write	45 (64.3)	25 (35.7)		
Occupation	Homemaker and agriculture	58 (55.8)	46 (44.2)	14.818	<0.001*
	Other than homemaker and agriculture	32 (29.6)	76 (70.4)		
Type of family	Nuclear	48 (46.2)	56 (53.8)	1.145	0.26
	Joint	42 (38.9)	66 (61.1)		
Family history of hypertension	Yes	43 (42.2)	59 (57.8)	0.007	0.93
	No	47 (42.7)	63 (57.3)		

This study shows that there is positive relationship between knowledge and practice at 95% of confidence level ( $r=0.209$ ;  $p$  value= $0.002$ ). The participants who had better knowledge of the disease had better self-care practice.

## DISCUSSION

The current status of knowledge on hypertension was adequate in more than fifty percent (57.5%) of the respondents and 57.1% had good self-care practice on hypertension. In this study, about two

third of the respondents (60.8%) had correctly identified normal value of systolic blood pressure and 62.3% had correctly identified normal value of diastolic blood pressure. In high blood pressure, only 40.6% had correctly identified systolic value while nearly half (48%) had identified high diastolic value of blood pressure. The finding of the study contradicts the result shown by Patnaik et al.,<sup>6</sup> in India which revealed that 34.7% were not aware about the normal blood pressure range and 53.9% had no idea about systolic and diastolic blood pressure.

Table 5. Association between level of knowledge on self care practice among respondents and selected variables

	Variables	Level of practice		Chi-square	p-value
		Inadequate n (%)	Adequate n (%)		
Age	≤45 years	25 (61)	16 (39)	3.337	0.19
	45 – 64 years	53 (49.1)	55 (50.9)		
	≥65 years	39 (61.9)	24 (38.1)		
Gender	Male	49 (53.8)	42 (46.2)	0.116	0.73
	Female	68 (56.2)	53 (43.8)		
Marital status	Married (living with spouse)	103 (53.6)	89 (46.4)	1.959	0.16
	Single(unmarried, widow, divorced)	14 (70)	6 (30)		
Educational status	Able to read and write	69 (48.6)	73 (51.4)	7.568	0.006*
	Cannot read and write	48 (68.6)	22 (31.4)		
Economic condition	Income enough ≤12 months	73 (62.4)	44 (37.6)	5.480	0.19
	Income enough ≥12 months	44 (43.6)	51 (53.7)		
Family history of hypertension	Yes	52 (51)	50 (49)	1.408	0.24
	No	65 (59.1)	45 (40.9)		

Regarding knowledge about risk factors of hypertension, we found that majority (69.3%) of the respondents replied intake of high salt and high fat diet followed by stress (65.1%), increasing age(40.6%), intake of excessive amount of alcohol (30.7%), inactivity (23.1%) and heredity (45.3%). The present study finding is consistent with study done in India by Patnaik et al.,<sup>6</sup> which revealed that majority (61.8%) of the respondent had answered increased salt intake followed by 52% heredity, 43% no regular exercise, 39.2% tobacco used and 28.4% alcohol consumption.

Knowledge on sign and symptoms of hypertension revealed that majority of the respondents (69.3%) replied headache followed by (68.9%) as dizziness, (21.7%) as fatigue,(14.6%) as bleeding from nose,(24.1%) as chest heaviness and (13.7%) answered there were asymptomatic. The finding of this study is supported with study done by Adebayo et al.,<sup>7</sup> where 77.5% of the respondents had answered headache followed by 56.4% as chest pain, 55.6% as dizziness, 43.6% as blurring of vision, 39.3% as difficulty in breathing and only 17.1% had answered there were asymptomatic.

Regarding complications, we found that 73.6% had answered paralysis, 73.1% answered heart attack, 60.4% answered kidney disease and 57.1% answered visual impairment. This finding is consistent with Adebayo et al.,<sup>7</sup> which found that 84% of the patients had stated stroke, followed by 66.5% as paralysis, 50.5% as kidney failure, 37.8% as blindness and 69.5% as death as the complications of hypertension.

We found that for managing of hypertension, most of the respondents (89.6%) had answered intake of prescribed antihypertensive medicine, 86.8% replied intake of low salt diet, 62.7% stated regular exercise, 44.3% told weight reduction, 54.7% stated reduction of stress, 42.9% stated quit smoking and 43.4% stated limiting intake of alcohol. The findings of the study is similar with study findings of Kisokanth et al.,<sup>8</sup> where 81.1% stated intake of low salt diet, 75.7% weight reduction, 45.5% regular physical exercise, 47.9% quit smoking and 46.9% stated restriction of alcohol to manage hypertension. In this study most of the respondents (89.2%) had answered antihypertensive medication cannot be discontinued. This study finding is supported by Bhandari et al.,<sup>9</sup> where 70% of the respondents had answered antihypertensive medicine cannot be discontinued.

In this study all the respondents took blood pressure pills every day at the same time as recommended number of blood pressure pills. The finding of the study is supported by the study done by Karmacharya and Poudel<sup>10</sup> where almost 85% of the respondents took medication regularly. This finding was lower in percentage (i.e. 58.6%) of medication adherence in

study conducted by Warren-Findlow and Seymour<sup>11</sup>. In this study, 44.8 % of the respondents were involved in regular physical exercise for at least 30 minutes everyday. Similar findings to the study done by Warren-Findlow and Seymour<sup>11</sup> where (52.2%) were engaging in physical activity and some exercise on most days of the week. This study finding contradict with study done by Zinat Motlagh et al.,<sup>12</sup> 24.5% engaged in physical activity most of the days in a week. This study showed that 92% of the respondents had not used additional salt in their food while eating and only 8% of the participant had used additional salt while eating. More than half (51.4%) of the respondents had consumed processed food daily. The study by Dasgupta et al.<sup>13</sup> showed similar finding- 48% of the respondents always tried to avoid adding extra salt in their food . This study finding differ from the study done by Kisokanth et al.,<sup>8</sup> which showed that 2.6% of the respondents consume pickle daily. We found that 14.2% consumed alcohol and 11.3% had used tobacco. This finding contradicts with study done by Zinat Motlagh et al.,<sup>12</sup> in Iran- none of the participants consumed alcohol. This finding aligns with Bhandari et al.,<sup>9</sup> where 16% of the participant consumed alcohol.

## CONCLUSION

Based on the findings of the study, it can be concluded that more than half of the respondents have adequate level of knowledge. Regarding self-care practice nearly sixty percent of the respondents have good self-care practice. Still health care institution needs to have provision of awareness program about disease and self-care practice on hypertension.

## CONFLICT OF INTEREST

None declared.

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