

Socio-economic Analysis and the Study of Prevalence, Awareness, Treatment, Control and Risk Factors of Hypertension in Hospital Staff

Shakya S*, Bhattarai J*, Rawal K*, Kunwar AR*, Shakya YR* , Sharma D*

*Shahid Gangalal National Heart Centre, Bansbari, Kathmandu.

ABSTRACT

Hypertension is an important public health challenge in the developing and the developed world alike. This worksite based descriptive cross-sectional study was undertaken in Sahid Gangalal National Heart Centre in 2010 with 50 subjects were recruited by multistage purposive cluster sampling. The primary aim of this descriptive cross-sectional study was to assess the socio-economic status and to measure the prevalence, awareness, treatment, and correlates of hypertension. The prevalence of pre-hypertension is 38% and hypertension is 34%. Among the hypertensive 53% are aware of their condition and 66.66% of them are under treatment and 16.66% have control over the condition. The prevalence of overweight and obesity were 22% and 4% respectively. The prevalence of central obesity was 29.72% among male and 69% among female. Knowledge, Attitude and Practice on hypertension was satisfactory. Fourteen percent understood hypertension as a raised blood pressure during blood flow in the arteries. Majority of them (72%) have positive attitude towards use of medicine in hypertension. Majority of them (86%) had checked their blood pressure in last 2 years. Difference in prevalence of hypertension was found among the tobacco users and non- users (65% vs 40%), who do regular exercise and those who do not (28% vs. 38%) and sleep disturbance was higher among hypertensive than non-hypertensive (48% vs. 10%). Patients with Dislipidemia (32%) had higher prevalence of hypertension than those without Dislipidemia (44% vs 30 %) Similar finding were found between overweight participants (26%) and normal weight participants (46% vs 34%). The prevalence of hypertension is higher with the higher socio-economic status.

Key Words: Socio-economic status, Hypertension, Risk factors

Correspondence:

Samjhana Shakya, Senior Staff Nurse
Sahid Gangalal National Heart Centre
Bansbari, Kathmandu, Nepal
Phone Number: 00977-1-4371374
Email: shakyasamjhana@gmail.com

INTRODUCTION

Hypertension is one of the most important causes of cardiovascular morbidity and mortality. Globally, 7 million people die every year because of hypertension¹. About half of the world's burden of cardiovascular disease is carried by countries in the Asia- Pacific region.² In Nepal, the prevalence of hypertension was 6% in rural Kathmandu³. One other study reported the prevalence of hypertension as 19.7% in the sub urban area of Kathmandu⁴.

Socioeconomic status is an important factor that determines the lifestyle, knowledge, attitude and practices of the people. It can have causative association and can interfere with treatment and treatment compliance. In developed countries socio economic condition is inversely associated with hypertension. However in low and middle income countries, section of the population that undergo more rapid social development are exposed to increased risk factors for CVD and thus are at a greater risk of disease compared to people who are less well off.⁵

This is a descriptive cross-sectional study done at a worksite. The objective of this study is to assess the socio-economic status of the respondents, assess the prevalence, awareness, treatment, control and risk factors of hypertension in the study population.

METHODS

A worksite based descriptive cross-sectional study was undertaken in Sahid Gangalal National Heart Centre in 2010 with all the staffs working under Department of Administration and Department of Finance. A Total of 50 subjects were recruited by multistage purposive cluster sampling. Data was collected in two months of time period from January 2010 to February 2010. By nature data are both qualitative and quantitative.

INTERVIEW

Interview with each subject was done by using structured and unstructured questionnaire. Informed consent was taken from each participant.

Measurement of Blood Pressure:

Blood pressure (BP) measurement was carried

out on each participant using standard mercury sphygmomanometers. BP was measured on both arms. Only the arm with higher BP was used for the second measurement. The first BP measurement was taken before the administration of the questionnaire and second BP measurement was obtained upon completion of the questionnaire. Mean Blood pressure was recorded on the basis of these two readings.

Measurement of waist circumference:

Waist circumference was measured according to the instructed by American Heart Association.

Calculation of BMI:

Height and weight was taken for each subject and BMI was calculated by weight in kg divided by height in meter square.

RESULTS

Demographic Features

There were altogether 50 respondents, male 37(74%) and female 13 (26%). The mean age of the respondent was 35.86 years. Half of them had educated to less or equal to SLC and 48% had higher education. Majority of them live in single family (68%). Twelve percent were vegetarians. Alcohol consumption and smoking were 54% and 48% respectively. One third of them do regular exercise.

Basic Anthropometric Measurement

Mean height and weight of respondents were 161.91 cm and 60.42 Kg respectively. The prevalence of overweight and obesity were 22% and 4% respectively. The prevalence of central obesity was 29.72% among male and 69% among female.

Prevalence, Awareness, Treatment and Control of hypertension

The SBP ranges from 95-170mmHg and DBP ranges from 65-110 mmHg. The average mean arterial blood pressure was 96.57mmHg. The prevalence of pre-hypertension was 38% and hypertension was 34%. Among the hypertensives, 53% were aware of their condition, 66.66% were on treatment and 16.66 % of treated had controlled blood pressure.

Among hypertensive, 88.24% were male and

11.76% were female. 64.71% are younger than 40 years.

Knowledge, Attitude and Practice

Seventy percent of respondents knew at least two or more symptoms of hypertension. Fourteen percent understood hypertension as a raised blood pressure during blood flow in the arteries. 28% could able to give the value of normal blood pressure. Majority of them (72%) have positive attitude towards use of medicine in hypertension. Majority of them (86%) had checked their blood pressure in last 2 years.

Values of different parameters of hypertensive respondents (n=17)

Parameters	Percentage
Central obesity	41.81
High BMI	23.53
Non Vegetarian	94.18
Regular Exercise	35.29
Education less than SLC	35.29
Education more than SLC	64.71
Job status : less than administrative assistant	35.29
Job status : More or equal to administrative assistant	64.71
Joint family	70.59

The prevalence of hypertension seems high with higher education, higher job status and Joint family.

DISCUSSION

The prevalence of pre hypertension was 38% and hypertension was 34%. We compare these findings, with two community based studies conducted in Nepal and two worksite based studies done out of Nepal.

Prevalence of hypertension in this study seems highest in compare to above study. We also found that the prevalence of pre hypertension has increased in many folds in this one decade.⁶

As all the participants of this study are hospital staff their awareness was higher than community based study. Even though, awareness seems poor in compare to previous study.⁷

Health seeking behavior on hypertension in this study was 67% compared to 26% in 2006 study.⁸

It can be concluded that, definitely prevalence of pre-hypertension and the hypertension is increasing. Awareness, control and treatment rate is higher than community based study conducted in sub urban area in Kathmandu (4)but it is poor in compare to study had done in Salami Factory.⁹

Knowledge, Attitude and Practice (KAP) on hypertension

Overall health seeking behavior of participants was very good. All of them have heard about the hypertension and 86% of them have checked their blood pressure within last two years. More than half of them (58%) have given value for their last blood pressure. This figure is very good in compare to previous study when only 10% did so¹⁰.

Basic knowledge on hypertension was found very high. Seventy percentages of the participants knew at least two or more symptoms of hypertension. Only one of them said, hypertension only rarely causes any symptoms compared to 28% in above study.

Overall, KAP on hypertension was satisfactory among the participants. It may be because they are heart hospital staffs; they are more knowledgeable in compare to general public. So, this data may not be representing general public's KAP on hypertension.

Lifestyle and Hypertension

No significant differences were found between vegetarians and non- vegetarians, amount of salt and oil consumption, frequency and amount of fruits and vegetables consumption, nature of their work and leisure activity. It may be because of

Comparison of findings on Prevalence, Awareness, Treatment and Control of hypertension

Studies	Sharma D(2006)	Vaidhya (2007)	Sankodi (2004)	Capriotti (2000)	Shakya (2010)
Indicators					
Prevalence of hypertension	19.7%	22.7%	25.7%	30%	34%
Pre-Hypertension	*	*	*	11%	38%
Awareness	41.1%	*	61.5%	4%	53%
Treatment	26%	*	*	*	66.66%
Control	6%	*	21.9%	*	16.66%

inadequate subjects to prove it significant. Difference in prevalence of hypertension was found among the tobacco users and non- users (65% vs 40%), who do regular exercise and not (28% vs. 38%) and sleep disturbance was higher among hypertensive than non-hypertensive (48% vs. 10%).

Hypertension and other factors

Patients with Dislipidemia (32%) had higher prevalence of hypertension than without Dislipidemia (44% vs 30 %) Similar finding were found between overweight participants (26%) and normal weight participants (46% vs 34%). This is in accordance with previous findings (Shamail Zafar, 2007).

CONCLUSION

Over all the prevalence of pre- hypertension and the hypertension is probably increasing in Nepal. Awareness, control and treatment rate of hypertension is also improving.

Overall, KAP on hypertension is satisfactory. Factors that were found to influence hypertension are tobacco use, regular exercise, concurrent diabetes, Dislipidemia and weight.

This study was conducted with heart hospital staffs; it can be assumed that they are probably more knowledgeable in comparison to the general public, so, findings of this study may not be representing general public's KAP on hypertension.

ACKNOWLEDGEMENT

Our special thanks to the staffs of SGNHC, whose active participation and cooperation had given us an encouragement throughout the study. We have special debt of gratitude to Associate Professor Tilak Prasad Chaulagain for his valuable guidance. We would like to thank Mr. Siddhi Vinod Adhikari, Lecture TU, and Tri- Chandra Campus for his continuous support throughout the study.

REFERENCES

1. Burt VL , Cutler JA , Higgins SM , etal , 1960. Trends in the prevalence , awareness , treatment ,and control of hypertension in the adult US Population. *Journal of Hypertension* 26(1): 60-9
 2. Masliniuk AL, lee CM, Lawes CM, 2007. Hypertension: Its prevalence and population attributable fraction for mortality from cardiovascular disease in the Asia – pacific region, *Journal of Hypertension* 2007, Jan: 25(1), 73-9
 3. Pandey Mr , Upadhyaya LR , Dhungel S,1981. Prevalence of hypertension in a rural community in Nepal, *Indian Heart Journal*, Nov-Dec;33(6):284-9 *Indian Heart Journal*
 4. Sharma D, KC M B, Rajbhandari S etal, 2006. Study of prevalence awareness, treatment and control of hypertension in Suburban area of Kathmandu, Nepal. *Indian Heart Journal*, Jan- Feb; 58(1): 34-7
 5. Vokonas PS, Kannel WB, Cupples La ,1988. Epidemiology and risk of hypertension in the elderly : the Framingham study ; *Journal of Hypertension*6(1):53-9.
 6. Capriotti T, Kirby LG, Smeltzer SC 2000 ,un-recognized high blood pressure. A major public health issue for the workplace. *AAOHB J*,2000,Jul;48:338-43
 7. Sonkodi B, Fodor JG, Abraham G et al2004. Hypertension screening in a salami factory:a worksite hypertension study, *Journal of human hypertension*,2004,18,567-569
 8. Line Aubert, Pascal Bovet, Jean Pierre et al 1998 Knowledge, Attitudes and Practices on Hypertension in a country in epidemiological transition *Journal of Hypertension* ,1998;31:1136-1145
 9. Shamail Z, Israr UI, Anjum R et al2007 Relationship of body mass index and waist to hip ration measurement with hypertension in young adult medical students ,*Pakistan Journal of medical science* , July-Sep2007, Vol 23, No 4 , 574-579
 10. Vaidhy A; Pokhrel Pk, Karki P et al. Exploring the iceberg of hypertension a community based study in an eastern Nepal town. *KUMJ* 2007, 593:349-359
-