International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Awareness of Hypertension in the Population Residing in Rural Mountain Village of Nepal: A Cross-Sectional Study

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Received: 21/07/2016 *Revised: 07/08/2016* *Accepted: 10/08/2016*

ABSTRACT

Background: It is known fact that hypertension is a global public health problem. The complications of hypertension contribute loads of medical conditions like CVD, stroke, renal failure and premature mortality. However, hypertension is not adequately diagnosed, treated and controlled in low- and middle income countries because of the weak health systems.
Objective: The objective of the study was to find the awareness of hypertension in the study population.
Materials and Methods: A cross-sectional study was conducted among 648 adults in the rural population of Nepal. Subjects were interviewed with the help of a pre-tested structured questionnaire which included the information regarding socio-demographic parameters and awareness of hypertension. Blood pressure, height and weight were also measured for each participant.
Results: It was found that 67.7% of the study population was aware of the condition hypertension. Similarly, 64.1% of the respondents had expressed their knowledge of obesity as heard medical condition. Of all the respondents 26.2% were unaware of the cause of hypertension, whereas 34.8% of them responded 'the excessive salt intake' as the cause. Moreover, 20.1% subjects who were aware of hypertension and 21.5% who were unaware were already suffering from hypertension.
Conclusion: Awareness of hypertension in the study population does not assure that the community at large knows the cause behind the condition. Thus, the intervention for the prevention of hypertensive in the rural community is to be made effective by such means which ensure the easy integration of healthy habit through culturally acceptable practices.

Key words: Hypertension, Awareness, Obesity, Rural.

INTRODUCTION

It is known fact that hypertension is a global public health problem. The complications of hypertension contribute loads of medical conditions like CVD, stroke, renal failure and premature mortality. However, hypertension is not adequately diagnosed, treated and controlled in low- and middle income countries because of the weak health systems. [1]

Overall 29.2% of the adult world population is estimated to have hypertension by the year 2015 which was estimated to be 26.4% in the year 2000. [2] Hypertension is responsible for approximately 51% of deaths due to stroke and 45% of deaths due to coronary heart disease. It is considered directly responsible for 7.5 million deaths in 2004. [3] Globally cardiovascular disease accounts for approximately 17 million deaths a year. [4] Of these 17 million deaths,

complications of hypertension account for approximately 9.4 million deaths worldwide every year. [5]

Hypertension is an iceberg disease. It was observed in 1970 that only about half the hypertensive subjects of the developed countries were aware of their condition, only half of those aware were under treatment and only half of them were adequately treated. [6]

Epidemiological shift in the prevalence of hypertension has been observed in developing countries as compared to developed countries. [7,8] The populations with undiagnosed, untreated and uncontrolled hypertension are higher in low- and middle income countries compared to high-income countries because of weak health systems. [1]

Studies from different parts of the world show poor awareness of hypertension in general population. [9-13] Several studies from Nepal also reveal the poor awareness of hypertension in the population. [14,15] Hence this community based study cross-sectional study was undertaken to assess the awareness of hypertension and its causes in the study population.

METHODOLOGY

A community-based cross-sectional study was conducted among individuals of either sex, aged 18 years and above. The study was carried out in the rural population of Ramechap district of Nepal.

Subjects were interviewed with the help of a pre-tested structured questionnaire after obtaining the verbal consent. The entire study participant was informed about the purpose of the study before obtaining the consent. The questionnaire included the information regarding socio-demographic parameters, awareness of hypertension and the factors that may cause hypertension. In addition to this, each of the study subjects after the interview was subjected to blood pressure and anthropometric measurements. Awareness of hypertension and obesity was described as heard about the disease condition called hypertension and obesity.

Height and weight were measured using standardized techniques and calibrated equipments. Body mass index (BMI) was calculated using the formula weight in kilograms divided by the square of the height in meters (weight (kg)/ height (m2). Obesity was defined as BMI>25 for males and females. The blood pressure was measured by auscultatory method using standard mercury sphygmomanometer. The method of blood pressure measurement and criteria for diagnosis of hypertension was according to JNC VII guidelines.

Door to door visits were made and all the subjects who were 18 years and above and gave us the consent were included in our study. Subjects not willing to participate, who were acutely ill and pregnant women were excluded from the study.

The data collected was analyzed by using SPSS (Statistical Package for Social Sciences) version 20 for windows. Findings were described in terms of frequencies and percentage.

RESULTS

In our study 67.7% of the study population was aware of the condition hypertension. (Table 1) Of all the respondents 34.8% responded ‘the excessive salt intake’ as the cause of hypertension whereas 26.2% were unaware of the cause. (Table 2)

Table 1: Awareness of hypertension

Heard of Hypertension	N (%)	Hypertension	(%)
Yes	439 (67.7)	88	(20.1)
No	209 (32.3)	45	(21.5)
Total	**648 (100)**	**133**	**(20.5)**

Table 2: Awareness of causes for hypertension and obesity

Causes*	n (%)
Hypertension	
Excessive alcohol intake	74 (12.2)
Excessive salt intake	211 (34.8)
Smoking	45 (7.5)
Physical inactivity	54 (8.9)
Obesity	63 (10.4)
Don’t know	159 (26.2)
Total	606 (100)
Obesity	
Excessive alcohol intake	37 (6.9)
High fat diet	233 (43.2)
Smoking	18 (3.3)
Physical inactivity	151 (28.0)
Don’t know	100 (18.6)
Total	**539 (100)**

*Multiple responses

DISCUSSION

Hypertension is a major public health problem. [16] Hypertension in the community is an iceberg disease. Study in 1970 shows that only about half the hypertensive subjects of the developed countries were aware of their condition. [6] Situation in the developing countries is even worse because many studies have shown that awareness in the population of developing countries is not good. [9-15] Our study revealed that the awareness of hypertension and obesity is poor and also there is low overall knowledge of causes of hypertension in the study population. In this study 32.3% of the total study subjects were unaware of the hypertension which is comparable to the findings from the study done in Namibia where 38% were unaware of hypertension. [17] Other studies show even poor awareness of hypertension in the study population compared to our findings. Study from Uganda revealed only 28.2% awareness [18] whereas other studies show that 92% study population in Nigeria and 91% in Gabon were unaware of hypertension. [9] Unlike our findings awareness of hypertension was found to be 83% and 74.4% in Canadian and Brazilian study population respectively. [19,20] Awareness in above mentioned studies was described as prior knowledge of hypertension status.

Out of 648 subjects, 447 had the knowledge of causes for hypertension of which majority of the subjects (47.2%) responded excess salt intake to be the cause of hypertension which is comparable to the study done in Manipur population where majority (22%) responded as high salt intake to be the cause of hypertension [13] whereas majority of the subjects in Nigeria identified stress as the cause. [21]

Body mass index of 494 individuals (76.2%) was normal out of 648 subjects. 221 subjects (35.9%) responded that they had not heard of disease condition 'obesity'. Thirty two of the total subjects simply did not answer to any of the response. Among 539 individuals who responded to causes of obesity, 100 (18.6%) were unaware of the cause and 233 (43.2%) responded to 'high fat diet' as the cause.

Despite awareness of the condition hypertension, 88 (20.1%) out of 439 had high blood pressure, 140 had normal blood pressure and 211 were pre-hypertensive. Among 209 subjects who were unaware of hypertension, 45 (21.5%) had high blood pressure. In absence of knowledge and awareness of hypertension and its causes the pre-hypertensive subjects are at risk of developing hypertension in the future. Awareness of hypertension in the rural population does not assure that the community at large, is working for the preventive measures to stay healthy. Thus, the intervention for the prevention of hypertension in the rural community is to be made effective by such means which ensures the easy integration of healthy habits through culturally acceptable practices.

Hypertension and awareness are much discussed in terms of demographical distribution and these medical conditions do receive attention of public and medical professionals. However, awareness may not be culminating into habit of prevention and control by an individual if not screened and administered the proper community programs in the rural areas. Despite awareness programs by governmental and non-governmental sectors for hypertension and obesity, the effectiveness of awareness needs to be quantified, if the loads of lifestyle diseases are to be reduced further in the rural countryside of Nepal. The lifestyle diseases though are known in urban population, the staggering data in this study is an alarming sign for the requirement of prompt responses at rural Nepal also. The awareness and prevalence of hypertension needs to be closely monitored to control hypertension in rural Nepal.

CONCLUSION

Awareness of hypertension and knowledge of the causes for hypertension are poor in the study population. Thus, the

intervention for the prevention of hypertensive in the rural community is to be made effective by such means which ensure the easy integration of healthy habit through culturally acceptable practices.

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How to cite this article: Chataut J, Nepal O, Khanal K. Awareness of hypertension in the population residing in rural mountain village of Nepal: a cross-sectional study. Int J Health Sci Res. 2016; 6(9):15-18.

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