

A Study on Prevalence of Hypertension among Adults Aged 20-70 Years in Vencode, Kerala, India

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ABSTRACT

Background: Chronic non communicable diseases are important among the adult population all over the world. The prevalence of chronic diseases like diabetes mellitus and hypertension is showing an upward trend.

Objective: To measure the prevalence of hypertension and identify the risk factors.

Materials and Methods: A cross sectional study was conducted among adults aged 20-70 years residing in Vencode (Nedumangad Municipality) during the study period of two months by using predesigned, pre-tested and structured schedule. By using systematic sampling method, 100 individuals were selected and studied. Data entry was made using SPSS

Results: The study showed that 44% of the sample were hypertensives. In our study group 37% were males and 63% were females. The age group ranged between 20-70 years. Most of them belonged to the age group between 40-50 years. 54% of the individuals showed a positive family history. Statistically significant association was found between family history, increasing age and hypertension.

Conclusion: The study showed that 44% of the sample were hypertensives. Significant statistical association with hypertension has been obtained for family history and increasing age. No statistically significant association was obtained for other variables.

KEY WORDS: Prevalence, Hypertension, Adults.

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Online Access and Article Informtaion

Quick Response code



DOI: 10.16965/ijims.2016.137

International Journal of Integrative Medical Sciences

www.imedsciences.com

Received: 29-06-2016

Accepted: 19-07-2016

Reviewed: 29-06-2016

Published: 31-07-2016

Source of Funding: Self

Conflicts of interest: None

INTRODUCTION

Hypertension has been identified as one of the risk factors for cardiovascular morbidity and mortality [1]. Hypertension prevalence is increasing in all the countries and the rate of increase depends on the epidemiological transition the country is passing through [1]. It is an acute condition of concern due to its role in Coronary artery disease and other vascular complications [2]. The prevalence pattern of hypertension in developed countries is different

from that in developing countries [2]. Community surveys have documented that between 2nd and 6th decade prevalence of hypertension has increased by 30 times among urban dwellers and by 10 times among rural inhabitants [2]. Various factors have contributed to this major trend and may be due to changing life style, obesity, behaviour pattern of the people etc [2]. Present study was undertaken to measure the prevalence of hypertension and to identify the risk factors responsible with reference to

medical, social and individual characteristics, with a view to formulate preventive measures, especially applicable to rural population in Vencode, Kerala, India.

Objective of the present study aimed to calculate the prevalence of hypertension among adults aged 20-70 years in Vencode, Kerala, India and also to find out the association between various risk factors and hypertension

Review of literature: Sushil K.Bansal, Sunil D.Kandpal, William K.Gray, Richard W.Walker, and Deepak Goel conducted a study on The prevalence of hypertension and hypertension risk factors in a rural India community and their inference was that the rates of hypertension in the rural community under study are similar to those seen in high-income countries and in urban India. Meshram, N Arlappa, N Baalkrishna, KM Rao, A Laxmaiah, GNV Brahmam studied the prevalence of hypertension, its correlates and awareness among adult tribal population of Kerala state, India and opined that of the 4,193 adults of ≥ 20 years of age covered, 1,641 (40%) were classified as hypertensive. M.C. kalavathy, K.R.Thankappan, P.SankaraSarma, R.S.Vasan conducted a study on prevalence, awareness, treatment and control of hypertension in an elderly community-based sample in Kerala, India and concluded that there is association between the various risk factors and hypertension.

MATERIALS AND METHODS

Study Design: Cross-sectional study.

Study Setting: The study was conducted among hundred individuals of age group 20-70 years residing in Ward VI of Nedumangad Municipality. The total population was 1222 and it included 569 males and 653 females, according to Census, 2011.

Study Period: Two months (September-october, 2014)

Study Tools Questionnaire and Sphygmomanometer.

Questionnaire: The following information was collected from each subject through a validated questionnaire administered by the volunteers: age, Sex, occupation, Income status, weight, height, Pattern of salt intake, Dietary pattern, past history of any examination of blood

pressure and hypertension, or any of its complications, Pattern of physical activity and addictions.

Blood pressure measurement: Questionnaires were administered for each participant. After verifying the questionnaires, blood pressure was measured using the auscultatory method with a standardized calibrated mercury column type of sphygmomanometer and an appropriate sized cuff encircling at least eighty percent of the left arm in the seated posture, with feet on the floor and arm supported at the heart level. Following a standardized protocol, two separate measurements were recorded and an average of the two measurements after proper rest and due explanation to the examined participant about objective of the study. In some cases where high blood pressure was recorded, for the first time, readings were taken twice and took the average of two close readings. Systolic BP is the point at which the first of two or more sounds is heard (phase I) and diastolic BP is the point before the disappearance of sounds (Phase V). Salt intake was assessed from the amount of salt used in cooking and extra salt used during meals.

Sampling Method and Sample Size: The sampling method used is systematic Random sampling method. This was done by picking the 10th unit regular intervals, the houses were numbered first. Then a number was selected at random between 1 to 10. Then every 10th number from that point was selected. By this method, each unit in the sampling frame would have the same chance of being selected, but the number of possible samples is greatly reduced. The sample size was 100 individuals of the group 20-70 years.

Data Analysis: Method of data analysis was done using SPSS software. Version between the two gender groups in relationship to different stages of hypertension and normal individuals, by using appropriate test of significance (Chi square) with 95% confidence level and $p < 0.05$ level. In case of associated risk factor, subgroup analysis was done for different groups like increasing age, smoking, alcohol use, salt consumption, physical inactivity etc.

RESULTS AND DISCUSSION

It has been observed from the table that the prevalence of hypertension was greater among age groups 40-50 years and 60-70 years. Greater prevalence of hypertension was found among those with a positive family history than with no family history. The risk factors age and family history have shown a significant association statistically with hypertension. With control of communicable disease and increased life expectancy with lifestyle changes,

Table 1: Showing preparation of studying population.

Variable	Category	Frequency
Age (years)	20-30	24
	30-40	17
	40-50	25
	50-60	17
	60-70	17
Sex	Males	37
	Females	63
Family history	Present	54
	Absent	46
Smoking	Smokers	19
	Non smokers	81
Alcohol	Alcoholics	12
	Non alcoholics	88
Physical activity	Mild	56
	Moderate	25
	Good	19
Salt consumption	Heavy	31
	Normal	69

Table 2: Association between hypertension and study variables.

Variable	Category	Hypertensives		Non Hypertensives		P value
		Freq	%	Freq	%	
Age	20-30	1	2.3	24	41.1	0.014
	30-40	3	6.8	14	25	
	40-50	16	36.6	9	16.1	
	50-60	11	25	6	10.6	
	60-70	13	29.5	4	7.1	
Sex	Male	17	38.6	20	35.7	0.836
	Female	27	61.4	36	64.3	
Family history	Present	29	65.9	25	44.6	0.044
	Absent	15	34.1	31	55.4	
Smoking	Smokers	9	20.5	10	17.1	0.801
	Non smokers	35	79.5	46	82.1	
Alcohol	Alcoholics	8	18.1	4	7.4	0.124
	Non alcoholics	36	81.8	52	92.9	
Diet	Heavy salt intake	15	34.1	16	28.6	0.664
	Normal salt intake	29	65.9	40	71.4	
Physical activity	Mild	24	54.5	32	57.1	0.584
	Moderate	13	29.5	12	21.4	
	Good	7	15.9	12	21.4	

hypertension is becoming one of the emergency problems with its implications for concomitant increase in risk of cardiovascular and renal disease. In the present study, out of 100 individuals examined, 44 individuals were found to be suffering from HT and overall prevalence rate of HT was found to be 44% among both sexes. However the prevalence of HT was 38.6% among males and 51.4% among females.

CONCLUSION

The study showed that 44 individuals were hypertensives. Significant statistical association has been obtained for family history and increasing age. No statistically significant association was obtained for other study variables.

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How to cite this article:

P S Sreejith, V.S.Kirankumar. A Study on Prevalence of Hypertension among Adults Aged 20-70 Years in Vencode, Kerala, India. *Int J Intg Med Sci* 2016;3(7):350-352. DOI: 10.16965/ijims.2016.137