

**ORIGINAL RESEARCH**

# Analysis of the risk factors of hypertension in a population

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**ABSTRACT**

**Background:** Hypertension is the leading preventable risk factor for cardiovascular disease (CVD) and all-cause mortality worldwide. This study was conducted to find the risk factors of hypertension in a population. **Material and methods:** The study was conducted using a cross-sectional approach and focused on the community. This questionnaire was given to participants in order to achieve the study's objectives. The questionnaire gathered information regarding socio-demographic characteristics, knowledge and behaviours related to hypertension, lifestyle choices, blood pressure readings, and anthropometric measurements such as weight, height, and body mass index (BMI). The researcher delivered the questionnaire to the study participants and also examined their anthropometric characteristics. Blood pressure was measured and diagnosis of hypertension was done based on criteria described previously in literature. All the results were recorded in Microsoft excel sheet followed by statistical analysis using SPSS software. **Results:** In this study, there were 55 males and 45 females. 75 subjects belonged to the age group of 21-40 years, 20 subjects belonged to the age group of 41-60 years and 5 subjects belonged to the age group of 60+ years. The most common cause of hypertension was alcohol intake accounting for 54% of the population, followed by smoking (18%). **Conclusion:** In this study, the most common factor associated with hypertension was found to be alcohol intake.

**Keywords:** hypertension, alcohol, smoking.

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**INTRODUCTION**

Hypertension is the leading preventable risk factor for cardiovascular disease (CVD) and all-cause mortality worldwide.<sup>1, 2</sup> In 2010, 31.1% of the global adult population (1.39 billion people) had hypertension, defined as systolic BP  $\geq 140$  mmHg and/or diastolic BP  $\geq 90$  mmHg.<sup>3</sup> The prevalence of hypertension is rising globally owing to ageing of the population and increases in exposure to lifestyle risk factors including unhealthy diets (i.e. high sodium and low potassium intake and lack of physical activity).<sup>3, 4</sup> However, changes in hypertension prevalence are not uniform worldwide. In the past two decades, high-income countries (HICs) experienced a modest decrease in hypertension prevalence, while low and middle-income countries (LMICs) experienced significant increases.<sup>4</sup>

In India, cardiovascular diseases (CVDs) are estimated to be responsible for 1.5 million deaths annually. Indeed, it is estimated that by 2020, CVDs will be the largest cause of mortality and morbidity in India.<sup>4, 5</sup> Hypertension is a major risk factor for CVDs, including stroke and myocardial infarction, and its burden is increasing disproportionately in developing countries as they undergo demographic transition.<sup>6- 9</sup>

Hence, this study was conducted to find the risk factors of hypertension in a population.

**MATERIAL AND METHODS**

The study was conducted using a cross-sectional approach and focused on the community. The study aimed to identify the risk factors related with its development in an adult population aged 21 years and above. The data for this study was gathered through the use of a questionnaire. This questionnaire was given to participants in order to achieve the study's objectives. The questionnaire gathered information regarding socio-demographic characteristics, knowledge and behaviours related to hypertension, lifestyle choices, blood pressure readings, and anthropometric measurements such as weight, height, and body mass index (BMI). The researcher delivered the questionnaire to the study participants and also examined their anthropometric characteristics. Blood pressure was measured and diagnosis of hypertension was done based on criteria described previously in literature. All the results were recorded in Microsoft excel sheet followed by statistical analysis using SPSS software.

**RESULTS****Table 1: Socio-demographic characteristics of 100 study participants recruited from the community.**

Characteristics	Groups	Frequency
Age	21-40	75
	41-60	20
	60+	05
Gender	Men	55
	Women	45
Level of education	Primary	25
	Secondary	60
	Higher	15

**Table 2: risk-factors associated with hypertension.**

Risk factors	Number of subjects
Physical activities	12
Alcohol intake	54
Smoking	18
Salt intake	16

In this study, there were 55 males and 45 females. 75 subjects belonged to the age group of 21-40 years, 20 subjects belonged to the age group of 41-60 years and 5 subjects belonged to the age group of 60+ years.

The most common cause of hypertension was alcohol intake accounting for 54% of the population, followed by smoking (18%).

**DISCUSSION**

High Blood Pressure (HBP) or hypertension (HTN) is a chronic medical condition in which the blood pressure is elevated. High blood pressure is the most common cardiovascular disorder affecting approximately one billion people globally and remains the leading single contributor to global burden of disease and mortality. In 2000, there were an estimated 972 million people with HTN, 65% of whom lived in the developing world with the number predicted to grow to 1.5 billion by 2025. In Africa, however, more than 40% (and up to 50%) of adults in many countries are estimated to have high blood pressure. In sub-Saharan Africa, an estimated 74.7 million individuals are hypertensive. In most African countries and Cameroon in particular, HTN is the most common non-communicable disease.<sup>10-13</sup>

Epidemiological changes have been observed in the prevalence of hypertension (HTN) and associated cardiovascular disease (CVD) risk factors in developing countries. HTN is a chronic condition of concern because of its role in the causation of coronary heart disease (CHD), stroke, and other vascular complications. It is the most common CVD disorder which poses a major public health challenge to a population undergoing socioeconomic evolution. It is one of the major risk factors for CVD mortality, accounting for 20-50% of all deaths.<sup>14-16</sup> The overall burden of blood pressure-related diseases is rapidly rising in countries such as India and China as a consequence of the aging population, increasing urbanization, and an increase in age-specific rates of

conditions such as stroke.<sup>17, 18</sup> Hence, this study was conducted to find the risk factors of hypertension in a population.

In this study, there were 55 males and 45 females. 75 subjects belonged to the age group of 21-40 years, 20 subjects belonged to the age group of 41-60 years and 5 subjects belonged to the age group of 60+ years. The most common cause of hypertension was alcohol intake accounting for 54% of the population, followed by smoking (18%). The aim of the study conducted by Bansal SK et al<sup>19</sup> was to identify the prevalence and risk factors for hypertension in a rural community in north-east India. A door-to-door survey was conducted amongst all residents of a village in Uttarakhand province. All residents were interviewed and data were relating to the demographics of the individuals, dietary habits, alcohol consumption, tobacco use, psychosocial stress, past medical history and drug history. Blood pressure (BP) and anthropometric data was recorded and blood samples taken. They identified 1348 people living in the village. Assessment was carried out on all those aged 15 years and over (n=968, 71.8%). Hypertension, defined as BP  $\geq$  140/90 mmHg or cases of known hypertensive on medication, were present in 30.9% (95% CI 25.6 to 36.0) of males and 27.8% (95% CI 23.4 to 32.2) of females. Standardisation to the World Health Organization (WHO) world population gives an overall prevalence of 32.3% (95% confidence interval, CI 28.9 to 35.8). Increasing age and higher body mass index (BMI) were independent predictors of hypertension in both sexes, with psychosocial stress an additional independent predictor in males. In another study conducted by Singh et al, authors assessed the prevalence of hypertension and its associated factors. Mean systolic and diastolic BP were 124.25  $\pm$  15.05 mmHg and 83.45  $\pm$  9.49 mmHg, respectively. Higher odds of being hypertensive were found in male subjects, eldest age group, married subjects, subjects of upper socioeconomic status,

illiterate subjects, and retired subjects. Tobacco and alcohol consumption, overweight, obesity, and abdominal obesity were also associated with hypertension. Out of the total hypertensive 211 subjects, only 81 (38.4%) were aware about their hypertension status; out of those, 57 (70.4%) were seeking treatment and 20 (35.08%) had their blood pressure adequately controlled.<sup>20</sup>

## CONCLUSION

In this study, the most common factor associated with hypertension was found to be alcohol intake.

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