

## Evaluation of Occurrence of Various Cardiovascular Risk Factors Among Known Population: An Institutional Based Study

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### ABSTRACT

**Background:** Cardiovascular diseases (CVD) are the leading cause of both mortality and disability worldwide. The profile of CVD varies widely by country and region, and the age-adjusted mortality rates from are simultaneously declining in high-income countries and increasing in low-and middle-income countries. Hence; the present study was undertaken for evaluating the occurrence of various cardiovascular risk factors among known population.

**Materials & Methods:** A total of 500 subjects were screened during the study period. Complete demographic clinical details of all the patients were obtained. A questionnaire was framed and habit history of all the patients was recorded. Blood sugar examination was done and incidence of diabetes was recorded. Blood pressure was also assessed. Various risk factors for cardiovascular diseases were recorded.

**Results:** Diabetes was found to be present in 236 subjects. Hypertension was present in 308 subjects. Positive smoking habit was present in 237 subjects. Positive alcohol drinking history was present in 368 subjects. Positive family history of

cardiovascular diseases were seen in 211 subjects. 116 subjects belonged to lower socio-economic status.

**Conclusion:** Risk factors for cardiovascular diseases are prevalent in significant proportion of general population.


**Key words:** Cardiovascular, Diabetes, Hypertension.

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### INTRODUCTION

Cardiovascular diseases (CVD) are the leading cause of both mortality and disability worldwide. Approximately, two-thirds (63%) of premature deaths in adults (aged 15–69 years), and three-out-of-four of all adult deaths are attributable to non-communicable diseases, which are mainly due to CVD. In spite of having higher CVD morbidity and mortality; compared to Western countries, data in regards to the dynamics of CVD from Eastern population is limited.<sup>1-4</sup> The profile of CVD varies widely by country and region, and the age-adjusted mortality rates from are simultaneously declining in high-income countries and increasing in low-and middle-income countries. African countries are facing a rapid growth of CVD and have very limited resources for the creation of public health infrastructures similar to those existing in high-income countries. In addition, there are numerous national priorities that compete with the provision of this type of care, including the stimulation of economic growth, social and political changes, the devastation brought on by diseases such as HIV/AIDS in Sub-Saharan Africa, and inside conflicts of political and ethnic origin in several countries.<sup>4-6</sup>

Hence; the present study was undertaken for evaluating the occurrence of various cardiovascular risk factors among known population.

### MATERIALS & METHODS

The present study was conducted at Department of Community Medicine, Krishna Mohan Medical College and Hospital, Mathura, Uttar Pradesh (India) with the aim of assessing the occurrence of various risk factors for cardiovascular diseases among known population.

A total of 500 subjects were screened during the study period. Complete demographic clinical details of all the patients were obtained. A questionnaire was framed and habit history of all the patients was recorded. Blood sugar examination was done and incidence of diabetes was recorded. Blood pressure was also assessed. Various risk factors for cardiovascular diseases were recorded. Subjects with presence of any malignant neoplasm were excluded. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

## RESULTS

In the present study, a total of 500 subjects were enrolled. Mean age of the subjects was 43.9 years. 263 subjects were males while the remaining were females. Diabetes was found to be present in 236 subjects. Hypertension was present in 308

subjects. Positive smoking habit was present in 237 subjects. Positive alcohol drinking history was present in 368 subjects. Positive family history of cardiovascular diseases was seen in 211 subjects. 116 subjects belonged to lower socio-economic status.

**Table 1: Risk factors for cardiovascular diseases**

Risk factors	Present	Absent
Diabetes	236	224
Hypertension	308	192
Positive smoking habit	237	263
Positive alcohol drinking history	368	132
Positive family history of cardiovascular diseases	211	282
Lower-socioeconomic status	116	384

## DISCUSSION

Previous studies reporting on the quality of adequate cardiovascular (CV) risk factor control in primary prevention were frequently based on samples derived from primary care. These studies suggested an insufficient implementation of CVD prevention strategies including management of obesity, blood pressure (BP), and lipid and glucose metabolism. Little, however, is known about the control of risk factors CVD in population-based samples. This is important as estimates originating from studies in primary care may not be representative of the general population because individuals attending a primary care physician usually have a reason to do so. Such selection and indication bias will profoundly affect prevalence estimates.<sup>5-8</sup>

Hence; the present study was undertaken for evaluating the occurrence of various cardiovascular risk factors among known population.

In the present study, a total of 500 subjects were enrolled. Mean age of the subjects was 43.9 years. 263 subjects were males while the remaining were females. Diabetes was found to be present in 236 subjects. Hypertension was present in 308 subjects. Positive smoking habit was present in 237 subjects. Khetan A et al. analysed the prevalence and pattern of cardiovascular risk factors in a population in India. 18.3% (n=650), 9.0% (n=317) and 14.1% (n=500) of adults were diagnosed with hypertension, diabetes and smoking, respectively. Overall, 35.0% (n=1242) adults had at least one of the three risk factors. 55.1% (n=358) of participants with hypertension and 40.4% (n=128) of participants with diabetes were unaware of their respective condition. 36.6% (n=238) of those with hypertension and 58.0% (n=184) of diabetics were on treatment. 8.2% (n=53) hypertensives were controlled (blood pressure <140/90 mm Hg) while 13.6% (n=43) diabetics were controlled (defined as fasting blood sugar <126 mg/dL). Less than 1% diabetics were on insulin, and average number of medications for a patient with hypertension was 1.2. In their population in semiurban India, one in three adults has a major cardiovascular risk factor, with low control rates.<sup>9</sup>

In the present study, Positive alcohol drinking history was present in 368 subjects. Positive family history of cardiovascular diseases was seen in 211 subjects. 116 subjects belonged to lower socio-

economic status. Gikas A et al. assessed the current prevalence of self-reported risk factors and CHD in known population. The age-standardized prevalence rates of five major risk factors were as follows: type 2 diabetes 11.1%, hypercholesterolemia (cholesterol>240 mg/dl or using cholesterol-lowering medication) 23.8%, hypertension 27.2%, current smoking 38.9% and physical inactivity 43%. Of the participants, only 21% were free of any of these factors. Clustering of two to five risk factors was more frequent among persons aged 50 years and older as compared with younger ones (60% vs 27%, P=0.000). The age-adjusted prevalence of CHD was 6.3% (in men, 8.9%; in women, 3.8%) and that of myocardial infarction was 3.6% (in men, 5.2%; in women, 2.1%). Classic risk factors are highly prevalent and frequently clustered, especially in adults aged 50 years and older.<sup>10</sup> Gupta A et al determined the prevalence of diabetes and awareness, treatment and control of cardiovascular risk factors in population-based participants in India. The age-adjusted prevalence (%) of diabetes was 15.7 (95% CI 14.8 to 16.6; men 16.7, women 14.4) and that of impaired fasting glucose was 17.8 (16.8 to 18.7; men 17.7, women 18.0). In participants with diabetes, 27.6% were undiagnosed, drug treatment was in 54.1% and control (fasting glucose ≤130 mg/dL) in 39.6%. Among participants with diabetes versus those without, prevalence of hypertension was 73.1 (67.2 to 75.0) vs 26.5 (25.2 to 27.8), hypercholesterolemia 41.4 (38.3 to 44.5) vs 14.7 (13.7 to 15.7), hypertriglyceridemia 71.0 (68.1 to 73.8) vs 30.2 (28.8 to 31.5), low HDL cholesterol 78.5 (75.9 to 80.1) vs 37.1 (35.7 to 38.5), and smoking/smokeless tobacco use in 26.6 (23.8 to 29.4) vs 14.4 (13.4 to 15.4; p<0.001). Awareness, treatment, and control, respectively, of hypertension were 79.9%, 48.7%, and 40.7% and those of hypercholesterolemia were 61.0%, 19.1%, and 45.9%, respectively. In the urban Indian middle class, more than a quarter of patients with diabetes are undiagnosed and the status of control is low.<sup>11</sup>

## CONCLUSION

From present study results; it can be concluded that risk factors for cardiovascular diseases are prevalent in significant proportion of general population.

## REFERENCES

1. Lehnert H, Wittchen HU, Pittrow D, Bramlage P, Kirch W, Bohler S et al. Prevalence and pharmacotherapy of diabetes mellitus in primary care. *Deutsche medizinische Wochenschrift* (1946) 2005;130(7):323–8.
2. Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999–2008. *JAMA*. 2010;303(3):235–41.
3. Lanas F, Avezum A, Bautista LE, et al. INTERHEART Investigators in Latin America. Risk factors for acute myocardial infarction in Latin America: the INTERHEART Latin American study. *Circulation*. 2007;115(9):1067–74.
4. Filippidis F.T., Vardavas C.I., Loukopoulou A., Behrakis P., Connolly G.N., Tountas Y. Prevalence and determinants of tobacco use among adults in Greece: 4 year trends. *Eur. J. Public Health*. 2013;23(5):772–6.
5. Schoretsaniti S., Filippidis F.T., Vardavas C.I., Dimitrakaki C., Behrakis P., Connolly G.N., Tountas Y. 5-Year trends in the intention to quit smoking amidst the economic crisis and after recently implemented tobacco control measures in Greece. *Addict. Behav.* 2014;39(1):140–5.
6. Tokgozoglul, Bruckert E. Implementation, target population, compliance and barriers to risk guided therapy. *Eur J Prev Cardiol*. 2012;19(2 Suppl):37–41.
7. Banegas JR, Lopez-Garcia E, Dallongeville J, Guallar E, Halcox JP, Borghi C et al. Achievement of treatment goals for primary prevention of cardiovascular disease in clinical practice across Europe: the EURIKA study. *Eur Heart J*. 2011;32(17):2143–52.
8. Schargrodsky H, Herna´ndez-Herna´ndez R, Champagne BM, et al. CARMELA Study Investigators. CARMELA: assessment of cardiovascular risk in seven Latin American cities. *Am J Med*. 2008;121(1):58–65.
9. Khetan A, Zullo M, Hejjaji V, et al. Prevalence and pattern of cardiovascular risk factors in a population in India. *Heart Asia*. 2017;9(2):e010931.
10. Gikas A, Lambadiari V, Sotiropoulos A, Panagiotakos D, Pappas S. Prevalence of Major Cardiovascular Risk Factors and Coronary Heart Disease in a Sample of Greek Adults: The Saronikos Study. *Open Cardiovasc Med J*. 2016;10:69-80.
11. Gupta A et al. Prevalence of diabetes and cardiovascular risk factors in middle-class urban participants in India. *BMJ Open Diabetes Res Care*. 2014 Dec 4;2(1):e000048. doi: 10.1136/bmjdr-2014-000048. eCollection 2014.

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