Global Extent of Hypertension

Despite health education and extensive advances in drug development, hypertension has become a global burden and has reached epidemic proportions. Hypertension is a silent and invisible killer accounting for significant mortality and morbidity universally. As per the World Health Statistics 2012, of the estimated 57 million global deaths in 2008, 63% were due to non communicable disease (NCD). The largest cause of NCD deaths is cardiovascular disease, accounting for almost 17 million (48%) deaths, nearly one-third of the total. Of these, complications of “Raised Blood Pressure” accounts for nearly 9.4 million deaths worldwide every year. More than a quarter of world’s population of one billion people are affected by high blood pressure in 2000 which can probably increase to 30% by 2025.1

Incidence and Prevalence of Hypertension in India

The prevalence of hypertension is greater in low-income countries rather than high-income countries. In India, the prevalence of hypertension has increased by about 30 times among urban residents and by 10 times among rural Indians for the last three decades.2 In the INTERHEART and INTERSTROKE study, hypertension accounted for 17.9% and 34.6% population attributable risk of various cardiovascular risk factors for coronary artery disease and stroke respectively.3 CURES study carried by Mohan et al reported the overall prevalence of 20% being 23.2% in men and 17.1% in women.4

Risk Factors for Hypertension

There are several risk factors implicated in the aetiology of hypertension such as age, geographic considerations, genetic, socio-economic, ethnicity, dietary, occupational, and nutritional status etc. Among them, occupation is one of the important causes of hypertension. In particular, emergency responders or protective service workers (e.g., fire fighters, police officers) had the second highest prevalence of hypertension (26%) among occupational groups, yet they had some of the lowest rates of awareness (51%), treatment (79%), and control (48%).5 In this context the article published in the current issue “Hypertension, Prehypertension and Normotension among Police personnel in a District of West Bengal, India” by Mallik et al emphasises the magnitude of the problem in India among the emergency responders.

Occupational Risk Factors of Hypertension

The behavioural, physical and psychological factors trigger the hypertension in emergency responders. The strenuous work circumstances may elevate the blood pressure among the emergency responders and in turn precipitate the coronary disease. The work profile of such people involves long stretches of relative idleness, punctuated by unpredictable and stressful bursts of high intensity activities that demand solving and tackling life threatening problems. This produces adrenergic rush and higher demands on cardiovascular systems. Prehypertensives (BP= 120-139/80-89 mm Hg) are more prone to
develop hypertension. The major factors that evoke the hypertension in police men are poor nutrition (sometimes attributable to limited opportunities for healthy food), long hours of duty, shift work, sleep deprivation, noise exposure, posttraumatic stress disorder (PTSD) and inadequate knowledge. Improper and unhealthy diet leads to elevated blood pressure. Policemen commonly spend their days by working overtime and may therefore experience sleep deprivation. In addition, the responsibility of public safety work may lead to psychological stressful nature and in turn increase the likelihood of inadequate sleep. The relation between sleep and metabolic syndrome has been illustrated by various studies documenting associations between sleep disturbance and insulin resistance and weight gain, hypertension and cardiovascular disease. Blood pressures can be elevated because of high noises due to siren, and mechanised rescue machines. A study carried out by Violanti and their colleagues reported three times age adjusted risk of metabolic syndrome was observed in police officers with high PTSD as compared to colleagues in low PTSD score category. Sparrow et al found that the older emergency responders have the highest average systolic blood pressure readings. The prevalence rate of 27% was depicted by a study conducted on the police forces in Sudan which even reported that educated subjects may have high incidence due to their more stressful life styles and high salt content.

Implications of Hypertension

Taking into account the importance of emergency responders to our communities and society at large, it is our utmost duty to see that our public safety professionals should be made aware of hypertension and its adequate control and potential benefits of prevention of complications and take appropriate actions to promote the cardiovascular wellness programmes. The strategies to promote healthy diet, sleep hygiene, stress management seminars and maintenance of normal weight should be made available to the entire work force and as practical and high yield starting points. This will go a long way in preventing the occurrence of crippling non communicable disease like diabetes, hypertension, obesity and coronary artery disease and cerebrovascular disease among public safety professionals.

References