

Prevalence of Pre Hypertension and Its Association to Risk Factors for Cardiovascular Diseases Among Male Undergraduate Students in Chennai

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Abstract : Background: Recent studies have documented an increase in the risk of cardiovascular diseases (CVD) and a high rate of progression to hypertension in persons with pre hypertension. The risk factors for the growing burden of cardiovascular diseases especially hypertension, diabetes, overweight or obesity and waist hip ratio are increasing. Much study has not been done on cardiovascular risk factors associated with blood pressure (BP) among college students in Indian population. Objectives: The objective of our study was to estimate the prevalence of prehypertension among male students and to assess the association between prehypertension and risk factors for cardiovascular diseases. Material and Methods: A cross-sectional study was conducted among students of a university situated in the suburban area of Chennai. A total of 403 students was studied which included 200 medical and 203 engineering students. The information on selected socio-demographic variables were collected with the help of pre tested structured questionnaire. Measurements of height, weight, blood pressure and postprandial blood glucose were carried out as per standard procedure. Results: The mean age of the participants was 19.56 ± 1.67 years. The mean systolic and diastolic blood pressure were 125.80 ± 10.03 mm of Hg and 78.96 ± 11.75 mm of Hg. The average intake of fruits and vegetable per week were 4.34 ± 3.47 days and 6.55 ± 4.39 days respectively. Use of smoke and smokeless tobacco were 27.3% and 3% respectively. About 30.3% of the students consume alcohol. Nearly 45.9 % of them did not practice regular exercise. About 29 % were overweight and 5.7% were obese, 24.8% were with waist circumference above 90 centimeters. The prevalence of pre hypertension and hypertension was 49.6% and 19.1% among male students. The prevalence of pre hypertension was higher in medical students (51.5%) compared to engineering students (47.8%). Higher risk of being pre hypertensive were noted above the age of 20 years (OR=4.32), fruit intake less than 3 days a week (OR= 1.03), smokers (OR= 1.13), alcohol intake (OR=1.56), lack of physical exercise (OR=1.90), BMI of more than 25 kg/m² (OR=1.99). But statistically significant difference was noted between pre hypertensive and normotensive for age ($p < 0.0001$), lack of physical exercise ($p = 0.004$) and BMI ($p = 0.015$). Conclusion: In conclusion nearly half of the students were pre hypertensive. Higher prevalence of smoking, alcohol intake, lack of physical exercise, overweight and increased waist circumference and postprandial blood sugar more than 140 mg/dl was noted among pre-hypertensive compared to normotensive.

Keywords : cardiovascular diseases, prehypertension, risk factors, undergraduate Students

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