



Title : Obesity and cardiovascular disease risk in college girls: a public health alert

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Introduction:

Cardiovascular disease (CVD) is a major contributor to the global burden of non-communicable diseases. It is the single largest cause of death among women. India has witnessed an unprecedented rise in cardiovascular disease and obesity (WHO, 2002). The present study was conceived in order to investigate the association between obesity and CVD risk in college girls (17-22 years).

Methodology:

30 overweight /obese girls were screened based on BMI (mean BMI of study group: 28.1+3.8 kg/m²); and 30 normal weight girls formed the control group (mean BMI= 21.2 + 1.2 kg/m²). CVD risk was determined by investigating the presence or absence of CVD risk factors: abdominal obesity, hypertension, impaired glucose homeostasis, family history and dietary patterns.

Results:

Abdominal obesity was found in 93.3% (28 of 30) of the overweight /obese subjects, and in 3.3% (1 of 30) of the normal weight subjects; mean waist circumference of overweight/obese was significantly higher ($t=10.32$ at $p<0.001$). Family history was found in majority of overweight /obese subjects. The mean values of systolic and diastolic blood pressure, and fasting blood glucose level of the overweight /obese group were significantly higher than those of the normal group (SBP, $t=3.27^{**}$; DBP, $t=5.72^{***}$; FBG, $t=5.42^{***}$; $** p<0.01$, $*** p<0.001$), although they were in the normal range. A concomitant increase in these risk factor levels was noted, parallel to the rise in degree of obesity. Overweight /obese group presented light activity lifestyle. Faulty dietary patterns in terms of certain food groups and specific food intake, nutrient intake, and food-related behavior patterns were noted. The high fat intake among the overweight /obese subjects was contributed mainly by the high consumption of visible fat and full cream milk. Sugar and salt intake were relatively high among the overweight /obese subjects. Intake of fish was meager and consumption of MUFA rich oils and n-3 PUFA was low. Frequent consumption of packaged snacks rich in trans fat and added salt was noted among the overweight /obese subjects. A significantly high positive correlation was found between the degree of overweight /obesity and all the risk factors investigated (SBP, $r=0.434^{**}$; DBP, $r=0.606^{**}$; FBG, $r=0.778^{**}$; WC, $r=0.916^{**}$; family history, $r=0.263^*$; energy, $r=0.745^{**}$; fat, $r=0.617^{**}$).

Conclusion:

The findings of the study indicate that the overweight /obese college girls were at a substantially increased risk for adverse levels of several cardiovascular disease risk factors. There is an urgent need to curb these silent beginnings of cardiovascular disease in our young population, in order to prevent a serious public health crisis in the foreseeable future.

References:

World Health Report 2002: Reducing risks, promoting healthy life. Geneva, Switzerland: World Health Organization, 2002. Available from <http://www.who.int/whr/2002>.