



Association of Obesity with Coronary Risk Factors in the North Indian Bhatia Community: Jaipur Heart Watch-3

Rajeev Gupta, Mukesh Sarna, Priyanka Rastogi, Vijay Kaul and V.P. Gupta

KEYWORDS Coronary Heart Disease. Atherosclerosis. Risk Factors. Metabolic Syndrome. Hypertension

ABSTRACT Studies among emigrant Indian populations have shown a high prevalence of obesity and many coronary risk factors in Bhatia community. To determine the prevalence of risk factors in this community within India we performed an epidemiological study. Total community survey for prevalence of cardiovascular risk factors was performed using community registers for enrollment. Methodology used was similar to Jaipur Heart Watch studies performed in 1992 and 1999. Community registers listed 800 Bhatia families in Jaipur with 1604 eligible subjects aged ≥ 20 years. We invited 600 randomly selected subjects and examined 458 (76.7%, men 226, women 232). Evaluation for coronary risk factors, anthropometric measurements, blood pressure (BP), ECG, and fasting blood glucose and lipids was performed using standard definitions. Mean age of the subjects was 43.2 ± 14.6 years in men and 44.7 ± 15.3 in women. In both men and women respectively there was a high prevalence of family history of CHD in 45 (19.9%) and 50 (21.6%), diabetes in 96 (42.5%) and 77 (33.2%), sedentary habits in 82 (36.3%) and 73 (31.5%), smoking or tobacco use in 59 (26.1%) and 4 (1.7%), overweight or obesity (body mass index, BMI ≥ 25 kg/m²) in 123 (54.0%) and 161 (69.4%), severe obesity (BMI > 30 kg/m²) in 47 (20.8%) and 75 (32.3%), truncal obesity in 175 (77.4%) and 186 (80.2%), waist obesity in 78 (34.5%) and 129 (55.6%), hypertension in 116 (51.3%) and 120 (51.3%), diabetes in 40 (17.7%) and 33 (14.2%), hypercholesterolemia in 75 (33.2%) and 67 (28.9%), high triglycerides in 55 (24.3%) and 34 (14.7%), low HDL cholesterol in 169 (74.8%) and 155 (66.8%), and the metabolic syndrome in 84 (36.2%) and 111 (47.8%) respectively. BMI correlated (r value- men, women) significantly with waist diameter (0.67, 0.14), systolic BP (0.26, 0.26), diastolic BP (0.20, 0.19), fasting glucose (0.12, 0.15), total cholesterol (0.13, 0.27), and triglycerides (0.14, 0.15) ($p < 0.05$). There was a significant linear relationship of BMI with the prevalence of hypertension, hypercholesterolemia, diabetes (women), and the metabolic syndrome (χ^2 for trend $p < 0.05$). Prevalence of these risk factors was the least in subjects with BMI < 20 kg/m². This study shows that there is high prevalence of obesity, abdominal obesity, hypertension, diabetes and lipid abnormalities in this community. This is significantly greater than reported studies in Jaipur and urban populations elsewhere in India. Obesity correlates strongly with multiple coronary risk factors and is an important determinant.

Authors' Address: Dr. Rajeev Gupta, Mukesh Sarna, Priyanka Rastogi, Vijay Kaul and V.P. Gupta
Department of Medicine, Monilek Hospital and Research Centre, Jawahar Nagar,
Jaipur 302 004, Rajasthan, India
E-mail: rajeevg@satyam.net.in