

Relationship Between C-Reactive Protein and Obesity in Adults

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Dear Editor,

An association between plasma high-sensitivity C-reactive protein (CRP) concentrations and cardiovascular disease has been noted. CRP is an acute phase reactant which is a marker of inflammation in the body [1]. CRP is made by the liver in response to inflammatory cytokines such as interleukin-6 (IL-6) and tumor necrosis factor- α (TNF α). CRP has also been associated with cardiovascular disease (CVD) events and mortality in healthy individuals aged 65 years. However, there are scant data about the epidemiology and predictive value of CRP, at the population level [2]. Adipose tissue is a major source of these inflammatory cytokines. The purpose of this study was, to examine differences in high-sensitivity CRP (hs-CRP) levels and body fatness [3]. Raised body mass index (BMI) is a major risk factor for non-communicable diseases such as: CVD (mainly heart disease and stroke), which were the leading cause of death in 2012. In 2014, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 600 million were obese. Overall, about 13% of the world's adult populations (11% of men and 15% of women) were obese. In 2014, 39% of adults aged 18 years and over (38% of men and 40% of women) were overweight. The worldwide prevalence of obesity more than doubled between 1980 and 2014.

In this cross-sectional study, A total of 260 adult healthy men and women that being agreed by the chancellor and research deputy of Islamic Azad University of Hamadan. BMI (weight/height² in kg/m²) was calculated for each participant. Obesity is defined as BMI \geq 30 kg/m². Blood samples were collected into the tube. CRP measurements were performed in the laboratory. The serum was transferred into plastic tube. Plasma CRP levels were measured by means of a colorimetric competitive enzyme-linked immunosorbent assay (ELISA). The results showed that prevalence of overweigh was 42.4% and the relationship between overweigh and CRP was P = 0.006. Waist circumference in excess of 89 cm in men was 12.7% and in

women waist circumference in excess of 89 cm was 21%. The overall prevalence of general obesity was 16.9% and was closely linked to CRP. Subjects with elevated CRP had higher BMI, WC (Waist circumference). For elevated CRP, subjects in the highest BMI quartile had compared with subjects in the lowest BMI quartile. The result shows the relationship of CRP with BMI throughout the BMI spectrum (P = 0.0002). CRP levels were strongly correlated with BMI (P = 0.0002). Levels of CRP also increased steadily across WC quartiles (P = 0.0001). Waist circumference quartiles were also strongly associated with odds of elevated CRP. Men in the highest WC (91 cm) and women in the highest WC (89 cm) had an odd of elevated CRP of 5.24 (95% CI, 3.15 - 14.0). Consequently, WHO has the unique authority and the clear mandate to lead the development and implementation of the global strategy for the prevention and control of non-communicable diseases and thereby to create a better environment for world health in 2020 and beyond.

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