C-Reactive Protein and Its Association with Intake of Dietary Nutrients in Urban Adolescents and Young Adults of North India

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Background and Aim: The relationship of C-reactive protein (CRP), a surrogate marker of cardiovascular disease risk, and dietary nutrients is not known. The aim of this study is to investigate the relationship between CRP and dietary nutrients in young Asian Indians.

Material and Methods: Three hundred and sixty four healthy adolescents and young adults (316 males and 48 females) were selected from an epidemiological study involving subjects aged 14-25 years from various schools and colleges of New Delhi. Dietary nutrients intake values were determined through special software by the foodstuffs consumed daily using 24-hour dietary recall and monthly consumption data. The appropriate statistical transformations were done for each variable to obtain normal distribution curves. Correlations of CRP levels with daily intake of macronutrients and micronutrients were assessed.

Results: The mean CRP levels in the population were 1.27 ± 2.3 mg/l. The CRP levels in males (1.26 ± 2.3 mg/l) and females (1.30 ± 2.4 mg/l) were comparable. CRP was found to be inversely correlated with monounsaturated fatty acids (MUFA) (r = -0.1127, P < 0.05). No significant correlation was found between CRP levels and polyunsaturated fatty acids (PUFA), N3 and N6 fatty acids or N6/N3 fatty acid ratio. In males, it was observed that the mean of % PUFA was significantly different between the first and fourth CRP quartiles (P = 0.019) being higher in the fourth quartile of CRP than the first quartile (P = 0.015).

Conclusion: An inverse relationship was observed between intake of MUFA and CRP. Increasing the dietary intake of MUFA may be a potentially useful dietary intervention to decrease subclinical inflammation in Asian Indians at a young age.