

Higher Consumption of White Rice Increase the Risk of Metabolic Syndrome in Adults with Abdominal Obesity

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Abstract : Background: Higher consumption of white rice has been suggested as a risk factor for development of metabolic abnormalities. In this study we investigated the association between consumption of white rice and the 3-year occurrence of metabolic syndrome (MetS) in adults with and without abdominal obesity. Methods: This longitudinal study was conducted within the framework of the Tehran Lipid and Glucose Study on 1476 adults, aged 19-70 years. Dietary intakes were measured, using a 168-food items validated semi-quantitative food frequency questionnaire at baseline. Biochemical and anthropometric measurements were evaluated at both baseline (2006-2008) and after 3-year follow-up (2009-2011). MetS and its components were defined according to the diagnostic criteria proposed by NCEP ATP III, and the new cutoff points of waist circumference for Iranian adults. Multiple logistic regression models were used to estimate the occurrence of the MetS in each quartile of white rice consumption. Results: The mean age of participants was 37.8 ± 12.3 y, and mean BMI was 26.0 ± 4.5 kg/m² at baseline. The prevalence of MetS in subjects with abdominal obesity was significantly higher (40.9 vs. 16.2%, $P < 0.01$). There was no significant difference in white rice consumption between the two groups. Mean daily intake of white rice was 93 ± 59 , 209 ± 58 , 262 ± 60 and 432 ± 224 g/d, in the first to fourth quartiles of white rice, respectively. Stratified analysis by categories of waist circumference showed that higher consumption of white rice was more strongly related to the risk of metabolic syndrome in participants who had abdominal obesity (OR: 2.34, 95% CI:1.14-4.41 vs. OR:0.99, 95% CI:0.60-1.65) Conclusion: We demonstrated that higher consumption of white rice may be a risk for development of metabolic syndrome in adults with abdominal obesity.

Keywords : white rice, abdominal obesity, metabolic syndrome, food science, triglycerides

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