Abstract: P644

Relative fat mass (RFM) is a better predictor of dyslipidemia and metabolic syndrome than body mass index (BMI).

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Background- The best adiposity measure to help predict cardiovascular risk factors has remained controversial. Relative fat mass (RFM), had been recently developed. We aimed to examine RFM predictability to various cardiometabolic risk factors, compared to BMI.

Methods - Observational, cohort study, among patients who visited the Periodic Examinations Institute [PEI]. We analysed the correlation between BMI and RFM to hypertension, impaired fasting glucose, high LDL, low HDL and metabolic syndrome, by gender. Using ROC curves, we identified the ideal value of RFM for identification of metabolic syndrome.

Results- During study years, 20,167 patients visited the PEI and included in the trial. Compared to BMI, RFM showed significantly better predictability (HR, [95%CI,p value]) of high LDL [1.618 (1.441-1.816, p<0.001) vs 0.732 (0.67-0.8, p<0.001) in men; 1.572 (1.377-1.794, p <0.001) vs. 0.938 (0.849-1.163, p= 0.94) in women], low HDL [2.944 (2.569-3.373, p<0.001) vs. 2.177 (2-2.369, p<0.001) in men, 2.947 (2.519-3.448, p<0.001) vs 1.9 (1.658-2.176, p<0.001) in women], high triglycerides [4.019 (3.332-4.847, p<0.001) vs 1.994 (1.823-2.181, p<0.001) in men, 3.93 (2.943-5.247, p<0.001) vs. 2.24 (1.887-2.62, p<0.001) in women] and metabolic syndrome [7.479, (4.876-11.47, p<0.001) vs 3.263 (2.944-3.616, p<0.001) in men, 16.247 (8.348-31.619, p<0.001) vs 5.995 (5.099-7.048, p<0.001) in women] . There was no significant difference in the predictability of BMI and RFM to hypertension and diabetes mellitus. The ideal values of RFM for identification of metabolic syndrome were 27.7 for men and 39.8 for women.

Conclusions: RFM provides high predictability for dyslipidemias and metabolic syndrome in men and women.