# Higher Serum Testosterone Level Was Associated With Lower Risk of Prediabetes in US Adults: Findings From Nationally Representative Data

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Low testosterone may be a novel risk factor for prediabetes. We assessed associations between prediabetes and total serum testosterone (TT), and whether the associations were modified by population characteristics. Data from 5330 adults aged =20 years who participated in the 2011–2016 National Health and Nutrition Examination Survey in the United States were used. Predia-betes was based on fasting plasma glucose, HbA1c, or OGTT. Sociodemographic, obesity, co-morbidities, and lifestyle factors were included in logistic regression models. A dose-response relationship was found between prediabetes and testosterone quartiles. Odds ratio (OR and 95% CI) for prediabetes across the quartiles of TT were: 1.00, 0.68 (0.50 - 0.92), 0.51 (0.36 - 0.72), 0.48 (0.34 - 0.70) in men; and 1.00, 1.06 (0.81 - 1.40), 0.81 (0.61 - 1.06), 0.68 (0.49 - 0.93) in women. Results changed marginally if models were adjusted for additional variables like BMI. Subgroup analyses showed differences in the association, which was stronger in some groups (for men: age <50, White and Black, overweight/obese, adequate physical activity, never-smoking; for women: age=50, Black). Higher testosterone level was associated with a lower risk of prediabetes among US adults. The strength of association varied by population characteristics, weight status, gender, and lifestyle factors.

**Awards Won:**