

Fresh pomegranate juice ameliorates insulin resistance, enhances B-cell function, and decreases fasting serum glucose in type 2 diabetic patients.

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Abstract: Although the effects of pomegranate juice (PJ) on type 2 diabetic (T2D) conditions have been reported, a clinical study focusing on the short-term effects on different diabetic variables is still needed. We hypothesized that PJ consumption by T2D patients could reduce their insulin-resistant state and decrease their fasting serum glucose (FSG) levels, 3 hours after juice ingestion. This study demonstrated the direct effect of fresh PJ on FSG and insulin levels in T2D patients. Blood samples from 85 participants with type 2 diabetes were collected after a 12-hour fast, then 1 and 3 hours after administration of 1.5 mL of PJ, per kg body weight. Serum glucose was measured based on standard methods using the BS-200 Chemistry Analyzer (Shenzhen Mindray Bio-Medical Electronics Co Ltd, Shenzhen, China). Commercially available immunoassay kits were used to measure human insulin. Generally, the results demonstrated decreased FSG, increased β -cell function, and decreased insulin resistance among T2D participants, 3 hours after PJ administration ($P < .05$). This hypoglycemic response depended on initial FSG levels, as participants with lower FSG levels (7.1-8.7 mmol/L) demonstrated a greater hypoglycemic response ($P < .05$) compared with those who had higher FSG levels (8.8-15.8 mmol/L). The effect of PJ was also not affected by the sex of the patient and was less potent in elderly patients. In conclusion, this work offers some encouragement for T2D patients regarding PJ consumption as an additional contribution to control glucose levels.