

Effects of resistant starch of mixed tubers snacks on glucose metabolism, leptin, visceral fat and body mass index in type 2 diabetes mellitus (T2DM)

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Abstract	<p>Resistant starch could lower blood glucose, decrease adipocyte in adipose tissue and affect satiety hormones such as leptin. Tubers and pumpkin have high content of resistant starch, but their effectiveness to type 2 diabetes mellitus (T2DM) has not been known clearly. This research was conducted to determine the effectiveness of snack consumption made from tubers and pumpkins to BMI, visceral fat, glucose and leptin levels in the blood of T2DM patients and the correlation between the variables. The research method was pre-post clinical trial. Sixteen T2DM patients were in treatment (RS) and control groups. Subjects in RS group were given snack twice daily for 4 weeks. After following wash out process for 4 weeks, the same subjects was continued as subjects' control. Paired t-test and/or Wilcoxon-test was used to analyze the differences between values before and after treatment in the group and between groups. Pearson test was used to analyze the correlation of BMI, visceral fat, glucose and leptin level. The visceral fat was increased in RS group ($p=0.04$) after 4 weeks consuming snack but decrease in control group ($p=0.04$) without significant change of BMI. Leptin level was decreased ($p=0.00$) in RS group. Blood glucose significantly decreased ($p=0.01$) and leptin level increased slightly in control group. Comparing the RS and control group at the end of study, there were significantly different in the variation of visceral fat in the female groups ($p=0.05$) and leptin ($p=0.05$). Visceral fat correlated with BMI in the RS and control group. In conclusion, the mixed tubers and pumpkin snack decreased the leptin level but increased visceral fat.</p>
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