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Antidiabetic effect of *brassica oleracea* var. *capitata* and *Raphanus sativus* in Wistar rats fed a high-sucrose diet

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Currently, type 2 diabetes (T2D) is a serious health problem and its prevalence will increase worldwide in the years ahead. The research for natural sources with antidiabetic properties could be an affordable alternative to T2D prevention and management. Cruciferous vegetables such as *Brassica oleracea* var. *capitata* L (green cabbage) and *Raphanus sativus* L. (radish) have beneficial functional properties for diabetes control. However, their ameliorate effects on insulin resistance are little known. The objective was to evaluate the effect of *B. oleracea* and *R. sativus* on the pre-diabetic rat model. The antidiabetic effect of *B. oleracea* and *R. sativus* was evaluated in male Wistar rats (n=35) induced with a high sucrose diet (HSD) at doses of 5 and 10 mg/kg. Zoometric and biochemical parameters were measured. Also, histological preparations of the pancreas and liver were analyzed to observe the protection effect. Over five treatment weeks, *B. oleracea* decreased food consumption, weight and obesity index. Both vegetables decreased fasting glucose and insulin levels compared to HSD (untreated) control, although not significantly ($p>0.05$). Both vegetables significantly ($p<0.05$) reduced HOMA-IR, HOMA- β and glucose tolerance compared to HSD. Also, it had minor damage in the pancreas and liver compared to HSD. Therefore, these crucifers are a source of bioactive compounds that act on glucose homeostasis regulation and have a protective effect on organs (pancreas and liver), thus reducing the affected complications in T2D. *B. oleracea* and *R. sativus* (crucifers) can serve an application potential in the functional food's development aimed at T2D prevention and management.

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