A Pilot study on palmyrah pinattu (dried fruit pulp) as an anti-diabetic food component

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Abstract:

The fruit pulp of palmyrah (Borassus flabellifer L.) has been shown to inhibit intestinal glucose uptake in mice, the active principle being a steroidal saponin, flabelliferin-II which inhibits intestinal ATPase in mice at 5x 10"5M level. Palmyrah fruit pulp (PFP) is widely used to manufacture many food products including dried PFP (pinattu), which has been consumed in North-East Sri Lanka for centuries. The present study was carried out to investigate whether PFP in the form of pinattu could reduce serum glucose levels of mild diabetic (Type-II) patients who were not on a drug regimen with a view to developing pinattu as an anti-diabetic food component. Patients (newly diagnosed, Type-11, mild diabetic patients) attending the diabetic clinic at the Family Practice Centre, University of Sri Jayewardenepura, Sri Lanka, were subjected to a glucose challenge (75 g/50 kg BW) after a 10 hour overnight fast and the blood glucose levels determined. On subsequent visits of each patient (3 days after the first visit) blood glucose was determined after administration of PFP in the form of pinattu (6 g/50 kg BW) or fibre (4 g/50 kg BW) extracted from PFP prior to the glucose challenge. The methodology employed was the cross over method where each patient was its own control. In all mild diabetic patients treated with pinattu, there was a significant reduction ($p< 0.01$, by 15-48%) in blood glucose concentration after a glucose challenge. Therefore the results of the present study suggest that pinattu (dried PFP) could be used as an anti-hyperglycemic agent.