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EFFECT OF KARAWILA (*MOMORDICA CHARANTIA*) ON THE GLUCOSE TOLERANCE IN MATURITY ONSET DIABETES

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The hypoglycaemic action of the fresh juice of the dried extract of the fruit of *Momordica charantia* (Karawila) has been reported both in laboratory animals and during clinical trials with diabetic patients. Phytochemical studies suggest the presence of several oral hypoglycaemic agents and an insulin-like polypeptide in the fruit. Recent *in vitro* studies with isolated islets from obese-hypoglycaemic mice also provide strong evidence for the presence in the fruit of a principle which stimulated insulin secretion from beta cells[1].

This study was undertaken to evaluate the ability of the drug to improve the glucose tolerance in diabetic patients. The patients were all of the maturity onset type. Glucose tolerance test was performed on these patients. On a subsequent day a repeat Glucose tolerance was done with the extract given 30 min. before the glucose load.

In response to the external glucose load, the average peak percentage increase of blood glucose level observed was 89.5 ± 6.6 at 1.5 hours. In contrast the corresponding value when glucose was administered after extract, was only 60.8 ± 10.9.

At 2 h, the value was 81.2 ± 5.5 without the extract while the corresponding value with extract treatment was 44.0 ± 3.7.

The present data while confirming our previous results both *in vivo*[2] and *in vitro*[1] may suggest that the hypoglycaemic effect is due either to stimulation of insulin secretion or stimulation of peripheral utilization of glucose or both.

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References

1. Welihinda, J., *et al.*, *Acta. Bio. Med. Germ.*, **41**, 1229-1240.
2. Welihinda, J., Karunanayake, E. H. *and* Balasubramaniam, K. (1982), *Proc. Inst. Chem. (Ceylon)*, (1), 16-18.