'Diabetes Asia 2014' Conference

Organised by NADI NATIONAL DIABETES INSTITUTE
Endorsed by Ministry of Health Malaysia

October 16 – 19, 2014
Sunway Pyramid Convention Centre
Selangor, Malaysia

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KNOWLEDGE, ATTITUDE AND PRACTISE (KAP) ON INSULIN INJECTION AMONG TYPE 2 DIABETES MELLITUS PATIENTS IN HRPZ II: CONVENTIONAL COUNSELING VERSUS MULTIMEDIA-AIDED COUNSELING.
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Ms. Sadia Afreen, The University of Nottingham, Malaysia Campus, Semenyih
IN VIVO AND IN VITRO ANTIDIABETIC STUDIES OF PERESKIA BLEO LEAVES

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Background review
Since ancient times, plants have been used as natural agents to treat diseases particularly diabetes whose prevalence is increasing worldwide. Leaves of Pereskia bleo (Jarum Tujuh Bilah) are traditionally used to treat diabetes in many countries including Malaysia, however, no scientific claim exists in literature.

Objective
To investigate in vivo and in vitro antidiabetic activity of P. bleo with respect to understand its role in the management of diabetes.

Methods
Freeze dried aqueous (AQ) and ethanol (ETOH) extracts of the leaves were examined for in vivo antidiabetic activity (alloxan induced diabetic adult albino male rats of Sprague Dawley strain) and in vitro activity (inhibition of alpha-glucosidase and alpha-amylase enzymes). Two doses (250 and 500 mg/kg body weight) of both extracts were administered orally to the normal and diabetic rats. The blood glucose level of the rats was measured by using glucometer at 0, 2, 4, 6, 8 and 24 h after administering both extracts. For in vitro method, the inhibitory activities of both extracts against α- amylase and α-glucosidase were evaluated at 5 different concentrations (i.e. 50, 100, 250, 500, and 1000 μg/ml). Toxicological study was also performed to know the safe nature of both extracts.
Results and Conclusion
The acute toxicity study revealed LD₅₀ for the both AQ and ETOH extracts above 2500 mg/kg b.w. Both extracts exhibited a significant antihyperglycemic effect in diabetic rats after 24 h treatment of the extracts without showing hypoglycemic effect in normal rats. The highest blood glucose reduction (from 28.3 to 9.0 mmol/l) in diabetic rats was seen in ETOH extract at 250 mg/kg b.w. after 24 h. For in vitro antidiabetic study, both extracts showed high inhibitory activity against α-amylase. The highest inhibition (99.23%) was seen at 1000 μg/mL by AQ extract. On the other hand, AQ extract did not show inhibitory activity against α-glucosidase and ETOH showed a moderate inhibition (15.46%) against α-glucosidase at 1000 μg/mL. The results from this study further justify the traditional claims of P. bleo in the management of diabetes in Malaysia.