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GLYCEMIC ACTIVITY OF CATHINONE IN TYPE 2 DIABETES-INDUCED RATS

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The glycemic activity of cathinone (Bioactive alkaloid of the plant Catha edulis; Khat) in non-diabetic animals was reported, however; it's *in vivo* glycemic activity in diabetes-induced animals has not yet been reported. Therefore, the *in vitro* inhibitory effect of cathinone against α-amylase and α-glucosidase and its *in vivo* glycemic activity in diabetes-induced rats were investigated. Totally, 15 rats were fed on high-fat diet for five weeks followed by IP-injection with 30mg/kg streptozotocin. Diabetic rats were distributed into four groups (n=5); diabetic control (DC), 10 mg/kg glibenclamide (DG), 1.6mg/kg cathinone. Another five rats were fed on normal diet and designed as a non-diabetic control (NC). Four weeks after treatment, rats were sacrificed to collect blood for biochemistry and pancreas for histopathology. The *in vitro* inhibitory activity of cathinone was significantly less potent than that of α-acarbose against α-amylase and α-glucosidase (IC50: 92.60±3.29 and 194.21±0.89µg/ml, respectively). Cathinone significantly increased fasting blood sugar, but significantly decreased body weight and caloric intake as compared to baseline. Cathinone significantly decreased insulin levels as compared to the DC group. In conclusion, cathinone could not exert substantial *in vitro* inhibitory effects against α-amylase and α-glucosidase; however, it exacerbated hyperglycemia of diabetes-induced rats".

BIOGRAPHY

Abdulsamad Alsalahi is about to complete his PhD from University of Malaya, Malaysia. He is a PhD student at Department of Pharmacology, Faculty of Medicine, University of Malaya, Malaysia. He is a Lecturer at the Faculty of Pharmacy, Sana'a University, Yemen. He has 10 publications (ISI) that have been cited 93 times, and has been serving as a reviewer of reputed BMC Complementary and Alternative Medicine.

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