

Global Experts Meeting on

DIABETES, HYPERTENSION, METABOLIC SYNDROME

July 30-31, 2018 Melbourne, Australia

Hypoglycemic activity of two medicinal clays: Nzu and Ulo

Zaruwa M Z, Ochi D, Sudi Y and Ahmed M U
Adamawa State University, Nigeria

Diabetes Mellitus (DM) is a global health problem affecting millions of people in Africa. The consumption of medicinal clay (Geophagy) by DM patients in North Eastern, Nigeria as traditional remedy for the ailment has become very popular. This paper evaluated the hypoglycemic activity of two medicinal clays: Nzu and Ulo. The elemental constituents of the medicinal clay was also studied with a view of explain, its possible mechanism Atomic Absorption Spectrophotometric (AAS) analysis was used to certain the levels of Zn, Pb, Mg, Ni and Cr contents in the medicinal clays using standard protocols. Hyperglycemia was induced in 20 of 28 normoglycemic male rats (170-260 g) using the Oral Glucose Tolerance Test (OGTT) protocol and the rats were shared into seven groups of four rats each. Group-1 served as control group negative. Group-2 were hyperglycemic control group, positive, while four other groups were treated with 100 or 200 mg kg⁻¹ of Nzu and Ulo to hyperglycemic rats, respectively; another group was treated with a standard drug, Glibenclamide (600 µg/kg p.o). Elemental analysis of both clays showed the presence of Zn, Pb, Mg and Ni. These were above the recommended level of WHO per day. The mean blood glucose level of the hyperglycemic treated rats in group-3, 4, 5, 6 and 7 after administration of the medicinal clay (Nzu and Ulo) was compared with the values in control groups (2 and 3) and the Glibenclamide treated group. Significant reduction is in the blood glucose concentrations after 1st, 2nd and 3rd hours between the hyperglycemic treated and the hyperglycemic untreated rats. The control drug Glibenclamide (600 µg/kg) showed much lower blood glucose concentration at 3rd above the medicinal clay. It was concluded that the likely reason for the observed hypoglycemic effect, could be due to delayed digestion and assimilation of food, within the gut of the rat or slowed to enable a gradual absorption and catalysis of the glucose within the cells. The consumption of 100 and 200 mg/kg . Nzu and Ulo reduced blood glucose levels in hyperglycemic rats and it justified its use in the management of diabetes mellitus amidst some health risks.

moseszira@gmail.com