Journal of Applied Biosciences 186: 19733- 19746
ISSN 1997-5902

In vitro antidiabetic potential of two formulated powders of some nutraceutical plants of Cameroon

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Submission 31st May 2023. Published online at https://www.m.elewa.org/Journals/ on 31st July 2023. **https://doi.org/10.35759/JABs.187.6**

ABSTRACT
Objective: Many modes of action have been explored in the fight against type 2 diabetes, including the use of drugs. But these drugs, in addition to their relatively high cost, are not without side effects. As alternative to these difficulties, traditional pharmacopoeia use several nutraceutic plants in the treatment of type 2 diabetes, including: *Vernonia amygdalina (Bitter leaf), Tetrapleura tetraptera (Aidon tree), Leptadenia lancifolia* decne (*Sokotoro* in north Cameroun) and Gum Arabic (*Acacia Senegal sap*). The fact that these plants are used for the same treatment means that they contain bioactive contents, which can be different according to plant.
Methodology and Results: For this reason, production of formulated powders (JE1 and JE2) of these plants with good anti-diabetic effect can help in the treatment. To check the efficacy of formulated powders a study of antidiabetic activity of two formulated powders was assessed. Formulation of powders, comparative analyses of bioactive compounds of different formulated powders obtained and antidiabetic activities were done by using classical methods. The results revealed some difference in the phytochemical contents of the both formulated powders. JE1 and JE2 possess strong hypoglycaemic and anti-hyperglycaemic activity but in general JE1 has the better antidiabetic activity compared to JE2. The acute toxicity study reveals that the LD50 is greater than 2000 mg/kg.
Conclusion and Application of results: Indeed the results reveal that JE1 and JE2 have an impact on the control of glycaemia on patient suffering of type 2 diabetes. This explains why *Vernonia amygdalina, Tetrapleura tetraptera, Leptadenia lancifolia* decne and Gum Arabic (*Acacia Senegal sap*) are used in the traditional pharmacopoeia for treatment of type 2 diabetes and hence the consumption of those plants needs to be encouraged.
Key words: Nutraceutical plants, formulated powders, phytochemical contents, antidiabetic activities, treatment of type 2 diabetes.