`PRELIMINARY ASSESSMENT OF THE HYPOGLYCEMIC EFFECTS OF ANTHOCYANIN-RICH *Syzygium curanii* L. (LIPOTE) FRUIT EXTRACT ON MALE ALBINO RATS

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ABSTRACT

Low and high concentrations of anthocyanin extracted from *Syzygium curanii* L. (Lipote) fruit extract exhibited significant lowering effects on diabetic test rats. This study evaluated the potential hypoglycaemic effect of lipote berries on alloxan-induced diabetic male albino rats. Different concentrations of anthocyanin were administered to two groups of rats and its hypoglycaemic effects were compared to a known oral anti-diabetic drug (OAD) – metformin, on a single group of rats. After four weeks of administration, rats were sacrificed and individual pancreas was collected for histopathology. Microscopic examinations were done to observe morphological changes on their beta-cells, the cells principally responsible for the secretion of insulin, a hormone necessary for glucose regulation. Although both concentrations of anthocyanin exhibited hypoglycaemic effects, its ability to lower blood glucose level was not as effective as metformin. This signifies that the concentrations used cannot be recommended as an alternative for metformin. Histopathological results confirmed that aplasia occurs in diabetic rats which were due to the absence of anthocyanin and metformin treatment. On the other hand, those group of rats which are given the said treatments showed only notable morphological alterations (which may affect on their functionality) on their beta-cells.

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