

8<sup>th</sup> International Conference on PEDIATRIC NUTRITION

May 03-04, 2023 | Webinar

**In vitro combined effect of annona senegalensis and piliostigma thonningii leaf extracts on alpha amylase activity****Adam M. Nyanda***Malawi Adventist University, Malawi*

**Statement of the Problem:** A group of metabolic disorders characterized by hyperglycaemia, Diabetes mellitus (DM), has been reported to be one of the major health concerns world-wide. In 2019 WHO, reported 422 million DM cases globally, with about 3.2 to 4.2 million deaths each year, type 2 DM being the most prevalent. Postprandial hyperglycaemia reduction is one of the approaches of managing DM. Alpha amylase inhibition can potentially control postprandial hyperglycaemia, hence significant in the management of DM. Acarbose, the proven  $\alpha$ -amylase inhibitor, is associated with several abdominal associated side effects. The study aimed at determining the combined effect of *Piliostigma thonningii* and *Annona senegalensis* leaf extracts on alpha amylase activity, in search for an alternative. **Methodology & Theoretical Orientation:** Methodology & Theoretical Orientation: Mortar and pestle were used to crush the leaves into powder. The fine powder was dispensed in distilled water. Percolation followed, to filter the crude extract, then evaporated in a water bath at 65 °C to concentrate then and then reconstituted. Spectrophotometric assay method was used for alpha amylase activity at 540 nm. **Findings:** The results showed that *A. senegalensis* inhibited  $\alpha$ -amylase by 27%, 32% and 34% at 15, 30 and 45 minutes respectively. *P. thonningii* exhibited  $\alpha$ -amylase inhibitory effects of 25%, 27% and 37% at 15, 30 and 45 minutes respectively. The combined inhibitory effects of *A. senegalensis* and *P. thonningii* on  $\alpha$ -amylase were 28%, 37% and 62% at 15, 30 and 45 minutes respectively which are significantly different ( $p < 0.05$ ) from that of the positive control, acarbose (71% at 45 minutes). **Conclusion & Significance:** This study revealed the increased strength to inhibit alpha amylase enzyme by a combination of *A. senegalensis* and *P. thonningii* and a proportional increase in the effect with increase in incubation time than their individual potential to inhibit alpha amylase.

**Biography**

Adam Moses Nyanda is a medical laboratory technologist, with an expertise in laboratory diagnostics. He also happens to be an associate lecturer of Malamulo College of Health Sciences, a constituent college of the Malawi Adventist University. He has a passion in Biochemistry and Immunology research as far the world of academia and the medical profession is concerned. With his drug discovery team, he wishes to discover novel and potential traditional medicine to a wide variety of health-related problems.