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Anti-hyperlipidemic activity and total phenolic content of *Moringa oleifera* Lam (seed) in Wistar rats

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The use of natural products has become very popular because of their low or no adverse effects, cost effectiveness and accessibility. The “miracle tree” as *Moringa oleifera* is popularly called has found use both medicinally and economically. *Moringa* is a fast growing plant from family Moringaceae. It is a highly valued plant cultivated in the tropics and sub-tropics. Previous researches have investigated *M. oleifera* leaves for different activities. Hence, this study sought to investigate the seed of *M. oleifera* for its serum lipid profile altering activity in animal models. In this study, 25 animals (5 rats in a group) of weight 120-150 g excluding a control group on normal diet were made obese by feeding on a High Fat Diet (HFD) for 10 weeks, their basal lipid profile was determined and they were then treated with methanol extracts of *M. oleifera* seeds at low and safe doses of 100 and 200 mg/kg body weight for another 6 weeks. The corresponding anti-hyperlipidemic effects was determined by monitoring the lipid profile and comparing to the control groups fed a normal diet without treatment, another control group on HFD but treated with the standard drug (Orlistat 50 mg/kg body weight) and the last, on HFD without treatment. The total phenolic content was also determined by a standard method. A significant increase in Total Cholesterol (TC) and Low Density Lipoprotein Cholesterol (LDLc) in rats fed with HFD as compared to the control group that received normal diet was observed. Other profiles such as Triglycerides (TG), High Density Lipoprotein Cholesterol (HDLc) and Very Low Density Lipoprotein Cholesterol (VLDLc) including the Atherogenic Index (AI), though slightly increased and were not significantly different from the rats fed with normal diet. The total phenolic content was determined to be 83.6 ± 0.01 which is comparable to the standard (gallic acid). The result revealed that methanol extracts of *Moringa* seed could alter lipid profile at doses tested although to different degree and this could be attributable to its high phenolic content.

Biography

Ajayi Temitayo O is a PhD Student, an early career Academician and a Lecturer in the Department of Pharmacognosy, University of Ibadan the same place where she qualified as a Pharmacist some fifteen years ago. She was the Best Graduating Student in her Master's class where she isolated three bioactive compounds against caries causing microorganisms from an indigenous seed. Before joining the academics, she was the Chief Pharmacist in the Specialist Hospital of the Oyo state Hospitals Management Board. She has published 2 full length articles in reputable journals with some other manuscripts under review and in preparation respectively.

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