Effect of *Malus domestica* and *Moringa oleifera* in Amelioration of thyroid Dysfunction in Cassava-cyanide consuming Female *Rotus norvegicus*

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**Introduction:** Prolonged and frequent intake of residual cyanide through processed cassava (*Manihot esculenta*) foods can precipitate various types of toxicity syndromes including thyroid enlargement (Goitre) and other organ lesions. Since cassava is a staple food and a major energy source for the poor masses, not only in Nigeria but in many African countries and other developing worlds where it is considered to have great economic potentials, there is no intention to advocate discontinuation of the use of cassava as foods but to find ways of ameliorating the symptoms of toxicity in consuming animals due to hydrogen cyanide content.

**Objective:** To study on cassava consuming Female Wistar Rats

**Methodology:** About 24 albino wistar rats aged 8 to 9 weeks and weighing 150-165g were divided into 5 groups and fed *Ad libitum* with heat-treated cassava cyanide diets for 28 days after seven days acclimatization in food and environment. Serum iodide/Thyroid Peroxidase (TPO) activity was measured spectrophotometrically at 353nm following active iodine formation from I⁻ and H₂O₂; whereas thyroid hormone levels were determined using kit method. Serum bilirubin, malondialdehyde, minerals and antioxidant capacity as well as other phytochemical determinations in *M. domestica* and *M. oleifera* were carried out using standard laboratory methods.

**Results:** Results showed that TPO activity (µL⁻¹) were 5.055±0.119, 2.384±0.068, 3.627±0.634, and 3.449±0.070 for rats fed on the control, cassava-based feed diet, apple-cassava-based feed, and moringa-cassava-based feed respectively. This is an indication that the supplements might be helpful in treating thyroid dysfunction caused by reduced activity of the TPO enzyme. Antioxidant capacity of apple and moringa supplements determined was according to the decreasing order Duchess>Northwest greening>Golden delicious>Moringa seeds.

**Discussion:** These supplements could be helpful in alleviating the symptoms of thyroid dysfunction mediated through hydrocyanide intoxication in cassava-consuming animals.