

# **Assessing the Nutritional Quality and Consumer Acceptability of *Moringa Oleifera* Leaf Powder (MOLP)-Based Snacks for Improved Children's Food and Nutrition Security**

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## **ABSTRACT**

Globally, 16 million children are reported to be severely wasted, and 159 million children have stunted growth. Nearly 2.3 million children in South Africa are undernourished with 21-48%; 8-15% and 3.7% being stunted; underweight and wasted, respectively. Micronutrient deficiencies contribute to 1.1 million deaths of children especially in Sub-Saharan Africa and Southern Asia. Fortifying snacks with *Moringa Oleifera* leaf powder (MOLP) could possibly reduce undernutrition in children. Moringa is known as the “miracle tree” because of its nutritive value. The overall aim of the study was to assess whether Moringa-based snacks could contribute to food and nutrition security for children through the acceptability of caregivers. A mixed research approach was followed where a survey technique using random purposive sampling to obtain 77 caregivers was followed and standard methods of nutritional analysis were used for Moringa-based snack prototypes. Sixty panellists for sensory evaluation were recruited during the survey and letters were also written and given to children in crèches to take home to their caregivers. The sensory evaluation participants were further invited to a series of four focus group discussions with 10-12 group members. Snacks were given to children by 87% of caregivers,

daily. Fruity (95%), savoury (85%) and sweet (57%) snacks were mostly given to children. The 1% MOLP snack prototype was acceptable for all sensory attributes. The results showed that the 1% MOLP snack prototype had more calcium, magnesium, potassium, phosphorus, zinc, manganese, iron, crude protein and less fat content in comparison to the control (0% MOLP). Caregivers said they were willing to incorporate Moringa into snacks for their children after thorough nutrition education because they were not familiar with Moringa (90%). Moringa-based snacks seem not to be known at all in South Africa, therefore should be researched and developed as snacks that could be nutritionally beneficial to children.

**Keywords:** *Moringa oleifera* leaf powder (MOLP); Snacks; Consumer Acceptability; Children; Food and Nutrition Security

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