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Nutritional composition of leaves of *Moringa oleifera* Lam. (Murunga)

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Moringa oleifera Lam. which is commonly known as murunga in Sinhalese has been used in traditional medicine since ancient times. However, very recently it has been recognized as a multipurpose tree with a wide variety of potential uses. Several recent scientific reports highlighted leaves of *M. oleifera* as significant sources for proteins, fiber and vitamins. In Sri Lanka also this plant is heavily grown and popularly consumed by the people in the country. However, very limited studies have been conducted on this plant including its nutritional composition in Sri Lanka. The present study evaluates the nutritional composition of leaves of *M. oleifera*.

M. oleifera leaves were collected from the Gampaha District in Sri Lanka. Leaves were cleaned and oven dried at 60 °C for 6 h and powdered. Powdered leaves were analyzed for moisture, ash, protein, fat, carbohydrate, fiber, water and ethanol extractives (n = 3 each) and vitamins (A, β-carotene, B₁, B₂, B₃, B₆, C and E; n = 2 each). Standard AOAC methods were used in the analysis of protein, total fat, fiber and carbohydrates. Moisture, ash and water and ethanol extractives were analyzed according to quality control methods for medicinal plant materials (1998) and vitamins by HPLC, titrimetry and spectroscopic methods (Vit A & E: Hogberget *al* 2002; Vit B₁, B₂, B₃, B₆: methods in Roche publication 1980, Vit C: US pharmacopeia). Mean moisture, ash, protein, fat, carbohydrate, fiber, water and ethanol extractives were 8.75 ± 0.03, 10.07 ± 0.04, 30.28 ± 0.04, 7.48 ± 0.42, 52.39 ± 0.46, 9.07 ± 0.89, 32.22 ± 0.82 and 10.73 ± 0.38% respectively. Interestingly, *M. oleifera* leaves had high quantities of vitamin A & β-carotene, B₂, C and E. Vitamin A and β-carotene contents were 2.90 ± 0.14 and 11.19 ± 1.03 mg/100 g leaves respectively. Vitamin B is present in the form of B₁ (1.4 ± 0.00 mg/100 g), B₂ (19.35 ± 0.07 mg/100 g) and B₃ (6.5 ± 0.14 mg/100 g). However, vitamin B₆ was absent in leaves of *M. oleifera*. Vitamin C and E contents were 83.55 ± 0.77 and 87.7 ± 5.09 mg/100 g respectively.

It is concluded that *M. oleifera* leaves are a good source of protein, fiber and vitamins A and β-carotene, B₂, C and E. Therefore, consumption of *M. oleifera* leaves in daily life may improve the health and nutritional status of people in Sri Lanka.

Keywords: *Moringa oleifera* leaves, chemical composition

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