Standardization of a Crude Drug Moringa oleifera Leaf from Africa, India and Local (Indonesia) which Cultivated in Bajo Negoro Indonesia

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Abstract: Purpose: The research was to determine specific parameters (macroscopic and microscopic) and non-specific parameters (loss on drying, total ash content, and insoluble ash content, water-soluble extractive matter, ethanol-soluble extractive matter), heavy metal contaminant (Pb, Hg, As, Cu) and microbial contaminant (Total Plate Count and Total Yeast Mold). Research also determined a total flavonoid of M. oleifera leaf.

Methodology: The method carried out according to the procedure stated in the Marine Medicinal Indonesia 5th edition. Methods to detect Contaminants were referred to WHO guidelines for assessing the quality of herbal medicines. The determination of total flavonoid was performed by spectrophotometric method. Results: Crude drug of M. oleifera leaf meet the specific parameters (macroscopic and microscopic). Non-specific parameters of Africa, India, Local M. oleifera leaf show that loss on drying (6.30 ± 0.29; 5.50 ± 0.31; 7.56 ± 0.17)%, total ash content (0.64 ± 0.43; 10.04 ± 0.90; 15.31 ± 0.07)%, and insoluble ash content (0.56 ± 0.06; 0.35 ± 0.01; 0.36 ± 0.06)%, water-soluble extractive matter (21.38 ± 1.39; 30.12 ± 1.29; 21.69 ± 0.12)%, ethanol-soluble extractive matter (36.37 ± 1.51; 27.74 ± 2.44; 27.09 ± 1.45)%, contaminant test including heavy metal contaminant shows that Pb, Cd, As and Hg were not to be detected. Microbial contaminant (Total Plate Count and Total Yeast Mold) under limits of WHO standard. Total flavonoid content of Africa, India, Local M. oleifera leaf were 8.12 ± 0.52 mg/100 mg QIE; 13.15 ± 0.15 mg/100 mg QIE dan 13.05 ± 0.09 mg/100 mg QIE respectively. Conclusion: Moringa Oleifera meet specific parameters (macroscopic and microscopic test). Non-specific parameter levels of Africa, India, Local Moringa Leaf shows that loss on drying, total ash content, water-soluble extractive matter, ethanol-soluble extractive matter, contaminant test including heavy metal contaminant shows that (Pb; Cd; As and Hg) and microbial contaminant (Total Plate Count and Total Yeast Mold) meet the standard required. Only total ash content did not meet the standard. Total flavonoid content shows that the extract of M. oleifera from local (Indonesia) variety is higher than others.