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Ethno-medicinal knowledge on medicinal plants for iron deficiency anaemia in Tanzania

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Background: Anaemia continues to pose threat to public health despite the concerted efforts to combat it. As an attempt to fight against anaemia, Tanzanians have been using various plant species. However, this indigenous knowledge is not well explored.

Objective: To document indigenous knowledge on medicinal plants used for iron deficiency anaemia and optimize the extraction of active ingredients of the most used plant.

Method: A cross sectional study conducted in December 2013 at Mkuranga District. Forty key informants were interviewed using semi structured questionnaire. Eight focus group discussions were also conducted. Data collected were socio-demographics, general knowledge of anaemia and plants used to correct anaemia. A brief field visits were organized to collect the mentioned plants during the interview. The collected plants were later taxonomically identified by a taxonomist and voucher specimens were deposited at the herbarium of department of botany in the University of Dar es Salaam. Response surface methodology was adopted for optimization of extraction of iron and ascorbic acid from the most cited plant species.

Results: A total of 31 traditional healers, both male 77.4% and female 22.6% participated in the study. Mean age of the participants was 55.7±15 years. About 28 different plant species were recorded for correcting anaemia. *Hibiscus sabdariffa* was most cited. The optimized extraction parameters were determined at soaking time 48 minutes, solid-solvent ratio 44% and extraction temperature 55°C. Under these extraction conditions, amount of L-ascorbic acid and ferrous extracted from *Hibiscus sabdariffa* were 83.1 and 7.8 mg/100 g respectively.

Conclusion: Rural people of Mkuranga district make use of at least 28 plant species to correct anaemia. *Hibiscus sabdariffa* was the most used plant. The RSM helped to study interaction effect of extraction temperature, soaking time and solid-solvent ratio.

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