An ethnobotanical study of plants used for the treatment of malaria in Budondo sub-county, Eastern Uganda

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Research

Abstract

Background: Malaria is a leading cause of morbidity and mortality in most developing countries, and in Uganda over 95% of the country is endemic with malaria. Given the increasing widespread resistance to current drugs, the use of herbal medicines is seen as a sustainable solution to malaria treatment. This study documented medicinal plants that are traditionally used for the treatment of malaria in Budondo sub-county, Eastern Uganda.

Methods: The ethnobotanical survey was conducted between December 2017 to January 2018. A total of 273 household members were interviewed on knowledge and use of anti-malarial plants, using semi-structured questionnaires administered in five parishes of Budondo sub-county. Voucher specimen of each plant species were preserved at the Makerere University herbarium, Uganda.

Results: Overall, 97.5% of the respondents had knowledge regarding the plants used to treat malaria. A chi-square analysis shows a significant association between respondents' knowledge regarding anti-malarial plants and gender (p-value =0.008) and occupation (p-value =0.025) but not with age (p-value =0.379), educational status (p-value =0.066), average monthly income (p-value =0.419), and religious affiliation (p-value =0.064) of respondents. A total of 37 plant species, belonging to 25 plant families were used to treat malaria. The most cited plant was *Vernonia amygdalina* Delile (64.8%), followed by *Aloe vera* (L.) Burm.f. (41.9%), *Callistemon citrinus* (Curt.) Stapf (29.3%), *Mormodica feotida* Schumach (22.0%), *Cyphostemma adenocaule* (A. Rich) wild & Drumm. (16.1%) and *Eucalyptus globulus* Labill. (15.4%). Among the plant parts, stem bark (99.6%) and leaves (90.8%) were the most frequently used. The habits of the plants encountered were shrub, tree, herb, rhizomes and climber. The commonest modes of preparation included boiling in water, squeezing fresh leaves, crushing and pounding, and chewing. Oral route/drinking was the most common mode of administration, followed by steam inhaling of vapours from the aqueous extracts and skin bathing.

Conclusion: The present study shows that the people living in Budondo sub-county traditionally use diverse flora to treat malaria. Further investigations are required to evaluate the potential toxicological effects and to isolate the active components of the reported plants whose antimalarial activities have not been investigated which could be developed into effective, safe and affordable anti-malarial medicines in the future.

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