





REVIEW

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# Ethnobotany, ethnopharmacology, and phytochemistry of traditional medicinal plants used in the management of symptoms of tuberculosis in East Africa: a systematic review

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## Abstract

**Objective:** Many studies on the treatment of tuberculosis (TB) using herbal medicines have been undertaken in recent decades in East Africa. The details, however, are highly fragmented. The purpose of this study was to provide a comprehensive overview of the reported medicinal plants used to manage TB symptoms, and to analyze scientific reports on their effectiveness and safety.

**Method:** A comprehensive literature search was performed in the major electronic databases regarding medicinal plants used in the management of TB in East Africa. A total of 44 reports were retrieved, and data were collected on various aspects of the medicinal plants such as botanical name, family, local names, part(s) used, method of preparation, efficacy, toxicity, and phytochemistry. The data were summarized into percentages and frequencies which were presented as tables and graphs.

**Results:** A total of 195 species of plants belonging to 68 families and 144 genera were identified. Most encountered species were from Fabaceae (42.6%), Lamiaceae (19.1%), Asteraceae (16.2%), and Euphorbiaceae (14.7%) families. Only 36 medicinal plants (18.5%) have been screened for antimycobacterial activity. Out of these, 31 (86.1%) were reported to be bioactive with minimum inhibitory concentrations ranging from 47 to 12,500 µg/ml. Most tested plant extracts were found to have acceptable acute toxicity profiles with cytotoxic concentrations on normal mammalian cells greater than 200 µg/ml. The most commonly reported phytochemicals were flavonoids, terpenoids, alkaloids, saponins, cardiac glycosides, and phenols. Only *Tetradenia riparia*, *Warburgia ugandensis*, and *Zanthoxylum lepreurii* have further undergone isolation and characterization of the pure bioactive compounds.

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