Folk medicinal practices of *Afzelia africana* Sm. in the rural areas of Burkina Faso (West Faso)

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Abstract

Background: Millions of poor populations in Africa strongly depend on a wide variety of forest products for their healthcare. In Burkina Faso, 90% of local peoples living in rural areas rely on traditional medicine. However, the specific uses of medicinal plants are scarce at country level, limiting the valorisation of folk medicine in the country. In this study we assessed the specific use forms of *Afzelia africana* Sm. in folk medicine in the rural communities of Burkina Faso, as a basis towards a modernized traditional medicine.

Methods: Ethnobotanical surveys were conducted among local peoples of seven ethnic groups distributed along 11 rural localities. Informants were interviewed on the medicinal uses of *A. africana* namely the organs used, the diseases addressed and the therapeutic indications. The qualitative data were transformed into numeric for statistical analyses. The frequencies of answers were grouped per question item and submitted to univariate and multivariate statistics in R.

Results: The results showed that all parts of *A. africana* are used by local peoples as drugs for local healthcare. Aboveground and belowground constituents of the species were used to address 23 diseases with gastrointestinal infections (diarrheas, stomach-ach, ulcers), fevers (malaria, headaches), mental disorders, tooth pains, injuries or persistent sores, cough or rum, vertigos and articular pains representing the most frequently treated. The species was also used for the treatment of infantile diseases, female sterility and woman troubles during childbirth. Barks represented the most medicinal part (31.89%), followed by leaves (30.29%), fruits (21.36%), roots (18.33%) and seeds (9.11%). The other used organs involved the seed aril, the fruit cockle and the wood. The species organs were mostly used in the form of decoction (80%), infusion (41.23%), powder (21.81%), and calcined extracts (12.32%). The therapeutic administration consists of bathing (all body or head and face), fumigation, drinking, purging and massages. The products were used as single or in combination of the other products of the same species of other local plants. Leaves, roots and barks were used as decoction or infusion while barks, roots, seeds and fruit husks were calcined, crushed and combined with porridge or oil. Medicinal practices differed significantly among gender ($p < 0.001$) with men being the most knowledgeable. Similarly, local knowledge on the medicinal properties of *A. africana* varied among ethnic groups and climatic zones ($p < 0.001$).

Conclusion: This study demonstrated that *A. africana* is a local timber tree with medicinal properties in Burkina Faso. Further pharmacological researches are needed for scientific validation of local knowledge which could provide relevant insights into the links between medicinal plants and their actual pharmacological activities.

Keywords: African oak, Traditional medicine, healthcare, Sahel, West Africa