

Medicinal Plants used in Traditional Medicine by Ethiopians: A Review Article

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ABSTRACT

Traditional medicine refers to the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve, or treat physical and mental illnesses. Traditional medical practices can include plant, animal and mineral-based medicines, massage, spiritual therapies and a variety of other techniques unique to different regions and cultures. In Ethiopia where modern public health services are limited or not accessible, 80% of the population relies on traditional medicine for primary health care. Traditional medical services are also sought in urban areas of Ethiopia, where allopathic services are more readily available and contribute considerably to the public health care system.

Herbal therapy appears to play a prominent role in Ethiopian traditional medicine. Ethiopia is considered the home of some of the most diverse plant species in Africa that serve as sources of many traditional medicinal plants. Most of these plants are obtained from local sources in the wild by knowledgeable traditional practitioners. It has been reported that approximately 800 species of the medicinal plants grown in Ethiopia are used for treating about 300 medical conditions. In the traditional treatment of mental illnesses in Ethiopia, various plants parts either in combination, whole plant part or alone are employed. In the combination situation, the practitioners may believe that the active therapeutic ingredient is found at two or more parts of the plant. In conclusion traditional healers still play a great role in the primary health care systems in Ethiopia. The sparsely distributed forests were important resources of healers and repositories of medicinal plants gene pools.

Keywords: Medicinal plants, Traditional medicine, Ethiopians

INTRODUCTION

According to World Health Organization (WHO), traditional medicine refers to the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses [1]. Traditional medical practices can include plant, animal and mineral-based medicines, massage, spiritual therapies and a variety of other techniques unique to different regions and cultures [2]. Traditional medicine is typically contrasted with conventional medicine, also referred to as allopathic, modern, orthodox or Western medicine, which is based on biochemical theories of illness [1,2].

In countries with limited access to allopathic medicine, traditional medicine is often the main source of health care. In some countries in Asia and Africa, 80% of the population uses traditional medicine for primary health care needs [1]. In many developing nations, there are more traditional healers than there are allopathic practitioners, and the population of allopathic practitioners is often concentrated in

urban areas, further reducing rural access to medical care. In Uganda, the ratio of biomedical practitioners to the population is approximately 1:20,000, while the ratio of traditional healers to the population can be as low as 1:200 [2]. Other studies report that Uganda has at least one traditional healer per village, and four out of five Ugandans seek care from traditional healers [3].

In regions of Ethiopia where modern public health services are limited or not accessible, 80% of the population relies on traditional medicine for primary health care. Traditional medical services are also sought in urban areas of Ethiopia, where allopathic services are more readily available and

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contribute considerably to the public health care system in Addis Ababa, the capital city [4]. It is estimated that at least 25% of all modern medicines are derived, either directly or indirectly, from medicinal plants, primarily through the application of modern technology to traditional knowledge. In the case of certain classes of pharmaceuticals, such as anti-tumoral and antimicrobial medicines, this percentage may be as high as 60% [5,6].

Traditional medicines have always played a key role in world health and continue to be used to treat a vast array of conditions and complaints. A survey completed by WHO's Roll Back Malaria programme showed that in Ghana, Mali, Nigeria and Zambia, around 60% of all febrile cases in children, presumably due to malaria, are treated at home with herbal medicine [7,8]. Information compiled by UNAIDS revealed that approximately two thirds of HIV/AIDS patients in a variety of developing countries seek symptomatic relief and manage opportunistic infections through the use of traditional medicines [7-9]. TM/CAM use is also prevalent in the cities of San Francisco and London, as well as throughout much of South Africa, where a reported 75-78% of people living with HIV/AIDS use these interventions as well [7,10]. Other conditions commonly addressed with traditional medicines include digestive or intestinal diseases, sickle-cell anemia, hypertension, high cholesterol, headaches, insomnia, diarrhea, microbial infections, bronchitis, diabetes, burns, rashes and menopause [6,8]. In Brazil, a reported 89% of patients diagnosed with cancer use TM/CAM products to treat their conditions [10].

RESULTS

According a study conducted in Gindeberet district, Western Ethiopia to investigate the medicinal plants and traditional knowledge of the community of the district showed that, a total of 26 species of medicinal plants were collected and identified for treating 36 human ailments. The preparations and administration of medicinal plants are through oral, dermal and nasal routes. However, oral application (33 preparations, 67.3%) was the highest and most commonly used route of application followed by dermal application (15 preparations, 30.6%). The most commonly used plant parts for herbal preparations in the area were leaves (28%) and roots (28%) followed by barks (14%) and fruits (14%). 72.5% of the healers were rural residents [11].

Another study conducted in Dek Island, Ethiopia, indicated that the informants, in both age categories, that reported a medicinal plant as a remedy for an illness were able to identify the plants during the collection of medicinal plants for depository. Eighty-nine informants reported 60 medicinal plants that are used to treat both human and animal diseases. Of which 14 individuals reported 6-11 medicinal plants. The female informants reported five medicinal plants: *Glinus lotoides*, *Momordica foetida*, *Brassica carinata*, *Justicia schimperiana* and *Zingiber officinale* that are used to treat 'mich', 'kosso' (Tapeworm) and 'hodkurtet' (stomachache).

The 60 medicinal plant species are distributed across 40 families and 58 genera. In terms of number of medicinal plant species, Asteraceae are the dominant family (4 genera, 5 species) followed by Euphorbiaceae, Malvaceae and Poaceae (3 genera, 3species), Amaryllidaceae, Brassicaceae, Cucurbitaceae, Lamiaceae, Olacaceae, Sapindaceae, Solanaceae and Verbenaceae each has two genera and two species. The rest have one species each [12].

The medicinal plants species are used to treat 45 diseases. Twenty-two are used to treat gastrointestinal illness and intestinal parasites followed by 17 for internal and respiratory diseases, 14 for evil eye, 13 for skin infection and external injuries, 11 for cancer and swellings and 6 for 'mich'. Three medicinal plants are used as a remedy for rabies, 2 for snakebite and 2 for venereal disease and impotence. Fourteen multiple plants treatments with different combinations of medicinal plants are used to treat cancer, evil eye, internal and external illnesses. Six are used to treat internal illness followed by 3 for evil eye and 2 for cancer and gastrointestinal illness. The highest number of medicinal plants in a multiple medicinal plants prescription is ten that is used to treat evil eye. Analysis of the growth forms of the medicinal plants used in single treatment elucidated that 33 species are herbs, 10 shrubs, 9 trees and 2 climbers. In multiple treatments, 26 are herbs, 17 trees, 7 shrubs and 1 climber. The herbaceous species constituted the largest number or proportion in both types of treatments [12].

A study conducted in Laelay Adi-yabo, Northern Ethiopia reported that a total of 37 medicinal plant species belonging to 37 genera and 24 families. The habits of the plants were 29% each (shrubs, trees and herbs) and 10% climbers. Most frequently used plant part were leaves (34%) followed by roots (24%), seed (6%) and the remaining were other parts. Crushing was the most common way of remedy preparation. While, healing knowledge transfer varies within family. The result of the study revealed the existence of traditional healing knowledge had conserved the diversity of medicinal plants [13]. Seventy-two plant species distributed into 48 families and 70 genera were documented as having medicinal value in the study area. Sixty-five (71%) of the medicinal plants were collected from natural vegetation and 27 (29%) from home gardens. Of these 45 (62%) were used as human medicines 15 (21%) as livestock medicines and 13 (18%) were used for treating both human and livestock diseases [14].

DISCUSSION

Traditional medicine plays a significant role in the healthcare of the majority of the people in developing countries, including Ethiopia, and medicinal plants provide valuable contribution to this practice. Emerging evidence indicates that cancer is becoming one of major health problems in Ethiopia. Relying primarily on field surveys, there have been recent efforts to assess the use of Ethiopian

traditional medicinal plants for treatment of various diseases including cancer. The present paper is an overview of the literature reporting the use of these plants for cancer treatment. It was reported that 30 species of plants were used for treating human cancer, with most of them belonging to different plant families. In addition to cancer, a large majority of the plants were also used against various types of other diseases. For most of the plants reported (73%), there was some kind of independent experimental/clinical evidence supporting their claimed anticancer activity. A small number of medicinal plants (13%) were mentioned to be used only in Ethiopia for cancer treatment, but no experimental/clinical confirmation was available [15].

Herbal therapy appears to play a prominent role in Ethiopian traditional medicine. Ethiopia is considered the home of some of the most diverse plant species in Africa that serve as sources of many traditional medicinal plants. In Ethiopia, medicinal plants contribute, to about 80% of the traditional medicines used in the country (the others being animal and mineral origins) [16,17]. Most of these plants are obtained from local sources in the wild by knowledge able traditional practitioners. It has been reported that approximately 800 species of the medicinal plants grown in Ethiopia are used for treating about 300 medical conditions [18].

About one hundred fifty four plant species find applications by the traditional medical practitioners of the country to treat different types of mental disorders. Those plants were identified and distributed in 61 families. According to this report there is high species diversity of medicinal plants used which may be due to the climate variation that exists with the different parts of the country. Families, Fabaceae and Asteraceae each account 18 (11.7%) and 17 (11%), respectively [19]. In the traditional treatment of mental illnesses in Ethiopia, various plants parts either in combination, whole plant part or alone are employed. In the combination scenario, the practitioners may believe that the active therapeutic ingredients found at two or more parts of the plant. According to this review, root was the most commonly used plant part in the preparation of remedies as compared to other parts. But, the use of plants roots for various purposes has its own problems on the survival of the plant species [19].

CONCLUSION

Traditional Healers still play a great role in the primary health care systems in Ethiopia. The sparsely distributed forests were important resources of healers and repositories of medicinal plants gene pools.

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTION

GT and GG wrote and edited the manuscript. All authors read and approved the final manuscript.

REFERENCES

1. World Health Organization (WHO) (2008) Traditional medicine. Retrieved 3 July 2012.
2. World Health Organization (WHO) (2005) WHO traditional medicine strategy. Retrieved 3 July 2012.
3. Aboo C (2011) Profiles and outcomes of traditional healing practices for severe mental illnesses in two districts of Eastern Uganda. *Glob Health Action* 4: 7117-7131.
4. Birhan W, Giday M, Teklehaymanot T (2011) The contribution of traditional healers' clinics to public health care system in Addis Ababa, Ethiopia: A cross-sectional study. *J Ethnobiol Ethnomed* 7: 39-45.
5. Sucher NJ, Carles MC (2008) Genome-based approaches to the authentication of medicinal plants. *Planta Medica* 74: 603-623.
6. Calixto JB (2000) Efficacy, safety, quality control, marketing and regulatory guidelines for herbal medicines (phytotherapeutic agents). *Braz J Med Biol Res* 33: 179-189.
7. WHO (2002) Traditional medicine strategy 2002-2005. Geneva, World Health Organization, (WHO/EDM/TRM/2002.1).
8. (2004) Guidelines on registration of traditional medicines in the WHO African region. Brazzaville, World Health Organization Regional Office for Africa. (AFR/TRM/04.1).
9. (2003) AIDS epidemic update: December 2003. Geneva, Joint United Nations Programme on HIV/AIDS.
10. Holtz C (2007) Global health care: Issues and policies. Sudbury, MA, Jones & Bartlett Publishers.
11. Zerabruk S, Yirga G (2012) Traditional knowledge of medicinal plants in Gindeberet district, Western Ethiopia. *South Afr J Bot* 78: 165-169.
12. Teklehaymanot T (2009) Ethnobotanical study of knowledge and medicinal plants use by the people in Dek Island in Ethiopia. *J Ethnopharmacol* 124: 69-78.
13. Fitsumbirhan T, Mebrahtom M, Semere T (2017) Ethnobotanical survey of traditional medicinal practices in LaelayAdi-yabo district, Northern Ethiopia. *Int J Ophthalmol Vis Sci* 2: 80-87.
14. Mesfin F, Demissew S, Teklehaymanot T (2009) An ethnobotanical study of medicinal plants in Wonago Woreda, SNNPR, Ethiopia. *J Ethnobiol Ethnomed* 5: 28.

15. Abebe W (2016) An overview of Ethiopian traditional medicinal plants used for cancer treatment. *EJMP* 14: 1-16.
16. Abebe W (1984) Traditional pharmaceutical practices in Gondar region, north-western Ethiopia. *J Ethnopharmacol* 11: 33-47.
17. Abebe W (1986) A survey of prescriptions used in traditional medicine in Gondar region, north-western Ethiopia: General pharmaceutical practice. *J Ethnopharmacol* 18: 147-165.
18. Deffar G (1998) Non-wood forest products in Ethiopia. EC-FAO Partnership Program (1998-2000). Addis Ababa.
19. Wubetu M, Sintayehu M, Abdelwuhab M, Reta H, Derebe D (2018) Ethnobotany of medicinal plants used to treat various mental illnesses in Ethiopia: A systematic review. *Asian J Plant Sci Res* 8: 9-33.