

Review on Medicine Plant Uses in Selected Regions of Ethiopia

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Abstract

These reviewing paper assess medicinal plant uses in selected regions of Ethiopia. Over the centuries humans have relied on plants for basic needs. The beginnings of plants use as medicinal were instinctive and Medicinal plants are the “backbone” of traditional medicine. Ethiopia relies on traditional medicine where more than 95% of traditional medicinal preparations are of plant origin. There is a high expectation of enormous traditional knowledge and use of medicinal plant species in Ethiopia due to the existence of diverse cultures, languages and beliefs among the people. However, there is threat to the future well being of the population which has, for generations, relied on these resources to combat the ailments of both human beings and domestic animals.

Keywords: Medicinal plants, Ethiopia

Introduction

Over the centuries humans have relied on plants for basic needs such as food, clothing, and shelter, all produced or manufactured from plant matrices (leaves, woods, fibers) and storage parts (fruits, tubers). Plants have also been utilized for additional purposes, namely as arrow and dart poisons for hunting, hallucinogens used for ritualistic purposes, stimulants for endurance and hunger suppression [1].

Ever since ancient times, in search for rescue for their disease, people looked for drugs in nature. The beginnings of plants use as medicinal were instinctive, as in the case with animals. In view of the fact that at the time there was not sufficient information either concerning the reasons for the illnesses or concerning which plant and how it could be utilized as a cure, everything was based on experience [2].

The term medicinal plant includes a various types of plants used in herbalism and some of these plants have a medicinal activities. Medicinal plants are the “backbone” of traditional medicine, and consider as a rich resources of ingredients which can be used in drug development and synthesis. The reasons for the usage of specific medicinal plants for treatment of certain diseases were being discovered; thus, the medicinal plants’ usage gradually abandoned the empiric framework and became founded on explicatory facts [3] [4].

The plant- based human and livestock health care persists and remains as the main alternative treatment for different ailments in Ethiopia, largely due to shortage of pharmaceutical products, prohibitive distance of the health service stations, unaffordable prices by small holder farmers and pastoralists for conventional drugs, emergence and re-emergence of certain diseases and appearance of drug resistant microbes and/or helminthes [5]. About 80% of human population and over 90% livestock in Ethiopia rely on traditional medicine where more than 95% of traditional medicinal preparations are of plant origin [6].

Ethiopia is a country with regional differences in access to health services [7]. Medicinal plant knowledge is shaped by the ecological diversity of the country [8] known to be site-specific [9] and varies across peoples with different religious, linguistic and cultural backgrounds [10]. In Ethiopia, there are over 70 ethnic communities, residing in different ecological regions [11] and the studies so far have shown extensive medicinal plant knowledge, acquired through centuries of experience.

American botanists of the United States Department of Agriculture Research Service (F. G. Meyers, New Crops Research Branch, R. E. Perdue, Jr., Medicinal Plant Resources Laboratory, Beltsville, Maryland) have made an extensive collection of native Ethiopian medicinal plants, and from the preliminary screening tests the list of plants showing positive action against cancer has been encouraging. A similar screening program has been developed to test Ethiopian plants by some Institutes of Tropical Medicine in Great Britain. These preliminary efforts will no doubt reveal the need for more work in this line. No country in Africa enjoys as great a diversification of geology, land forms, soils, and climate as Ethiopia. There are more than forty five vegetation types where forests, savannas, woodlands, steppes and grasslands comprise 75% of the vegetation cover [12].

These medicinal plants are estimated to be over 700 species [13] and most of them are confined to the southwestern regions of the country [14]. There is a high expectation of enormous traditional knowledge and use of medicinal plant species in Ethiopia due to the existence of diverse cultures, languages and beliefs among the people. However, since cultural systems are dynamic the skills are fragile and easily forgettable as most of the indigenous knowledge transfer in the country is based on oral transmission [15].

The bulk of the plant matter used for medicinal purposes is collected from natural vegetation stocks that are shrinking with degraded environment and to substantial reduction or dwindling of species of medicinal plants. According to [16] and [17], habitat and species are being lost rapidly as a result of the combined effects of environmental degradation, agricultural expansion, deforestation and over harvesting of species and this is further enhanced by human and livestock population increase thus hastening the overall rural livelihood

impoverishment and loss of the biological diversity and indigenous knowledge which is also of global concern since some of this are endemic to Ethiopia.

According to the Health Sector Development Program (HSDP) of the Ethiopian Ministry of Health, the national standard is given as one hospital for 100, 000 people; one health centre is for 25, 000 people and one health post is for 5,000 people. On top of this, the country faces shortage of allopathic health professionals and the ratio of one doctor is for 10, 000 people; one nurse is for 5,000 people, one health extension worker is for 2,500 people [18].

Medicinal plant use in some part of Ethiopia

Medicinal plant use in Tigray Region

Study was conducted to document medicinal plants used to treat diseases of human and domestic animals in Kiltie Awulaelo District in the Tigray Region of Ethiopia revealed 114 medicinal plant species belonging to 100 genera and 53 families. The plants were used to treat 47 human and 19 livestock diseases. Of the species, the majority (74%) were obtained from the wild. Herbs were the most utilized plants, accounting for 44% of the species, followed by shrubs (29%). Leaf was the most commonly used plant part accounting for 42.98% of the plants, followed by roots (25.73%). Preference ranking exercise on selected plants used against abdominal pain indicated the highest preference of people for *Solanum marginatum*. Direct matrix ranking showed *Cordia africana* as the most preferred multipurpose plant in the community. Preference ranking of selected scarce medicinal plants indicated *Myrica salicifolia* as the most scarce species, followed by *Boscia salicifolia* and *Acokanthera schimperi*. According to priority ranking, drought was identified as the most destructive factor of medicinal plants, followed by overgrazing and firewood collection [19].

Medicinal Plant Use in Oromia Region

The study revealed a total of 49 medicinal plant species (belonging to 31 families and 46 genera) used to treat various human ailments, the majority of which 40 (81.6%) species were collected from wild while the rests from home garden. Herbs constituted the largest growth habit (18 species, 37%) followed by trees (16 species, 32%) and shrubs (15 species, 31%). Leaf 17 (35%) is the plant part widely used followed by root 13 (27%), leafy-stem 5 (10%), and seed 6 (12%). Oral administration was the dominant route (63%), followed by dermal route (22%) and nasal (11%). The highest number of plant species being used for infectious (48%) followed by two or more diseases and non-infectious disease. Of five and seven medicinal plants of preference ranking the highest ranks were given first for *Croton macrostachyus* used for malaria treatment and for *Prunus africana* as "rare" for immediate collection and use in the traditional treatment[20].

Medicinal Plant Use in Southern Ethiopia

Assessment done in Hawassa city, showed that A total of 83 traditional medicinal plant species distributed in 81 genera and 54 botanical families were collected and documented across the study areas, of which 25 (30.1%) were trees, 19 (22.9%) were shrubs, 35 (42.2%) were herbs and 4 (4.8%) were climbers and 11 medicinal animals were also recorded, among which 9 were mammals, 1 was vertebrates and 1 was insects. Fabaceae was the most dominant medicinal plant family reported (with 5 species), followed by Lamiaceae, Asteraceae, Rutaceae, Cucurbitaceae, Solanaceae (4 species each), Myrtaceae (3 species) and Acanthaceae, Melianthace, Rosaceae, Meliaceae, Malvaceae, Euphoribaceae, Apiaceae and Verbenaceae (2 species each), whereas most of the families (39) were represented by single species. Among the total traditional medicinal plants, 71 species (85.5%) were used against human ailments, 3 species (3.6%) were used to treat health problems of livestock and 9 (10.84%) species were used to treat both human and livestock ailments.

The majority of plant species reported in the study area (80.41%) were harvested from the wild, 14.59% were collected from home gardens and 5% were harvested both from the wild and home garden. Traditional practitioners reported that 45.45% of plants were very common, 26.7% were less abundant, 18.4% were very rare and 9.35% were endangered. Fifty three (53) different human and livestock health problems were reported in the study area Among 80 plant species used to treat human ailments, 13 (7.26%) species were used to treat stomachache, 12 (6.7%) species were used to treat malaria, 11 (6.15%) species were used to treat wound, and 10 (5.59%) species were used to treat gonorrhoea[21].

Table 1. Medicinal plants obtained from practitioners clinics in Ethiopia

<i>Scientific name</i>	<i>Medicine used for</i>	<i>Part used</i>	<i>Price per treatment (Eth Birr)</i>
<i>Calendula officinal</i>	Haemorroide	Leaf	150
<i>Eucalyptus globules</i>	skeletal musculo problem	leaf oil	250
<i>Matricaria chamomile</i>	Headache	Leaf	150
<i>Rosmarinus officinal</i>	nerve manipulation when partially paralyse	whole plant	300
<i>Datura stromnium</i>	chronic cough, asthma	Seed	150
<i>Taraxacum officinal</i> , <i>Lactuca spp.</i> , <i>Marubium vulgaris</i> , <i>Cynara scolymus</i>	Hepatitis	Leaf	250
<i>Verbascum</i>	haemorroide, eye disease	leaf, flower	250
<i>Coriandrums sativum</i> , <i>Taraxacum officinal</i>	Hepatitis	fruit, leaf	250
<i>Ricinus communis</i> , <i>Solanum giganteum</i>	skin disease	leaf, seed and fruit	100
<i>Marubium vulgares</i>	chronic cough, cold	leaf, bark	150

Source: Desalegne Desissa, 1997

Conclusion

Plant- based human and livestock health care persists and remains as the main alternative treatment for different ailments in Ethiopia. Medicinal plant knowledge is shaped by the ecological diversity of the country known to be site-specific and varies across peoples with different religious, linguistic and cultural backgrounds

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