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Ethno-Medicinal Plants in Northern Western Tigray

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Abstract

Background: In Africa about 80% of the population relies on traditional medicine to help meet health care needs. Ethno-medicine is the result of a long and dynamic interaction combined among Africa, Greece, Arab and Hebrew traditions. The people of tigray regional state in Ethiopia have a rich knowledge on traditional medicine which combines both cultural meanings and physical properties medicinal plants and herbs. Such knowledge is however, currently being threatened, as it is happening elsewhere in the country, due to environmental degradation and deforestation.

Methodology: The primary objective of the paper is to provide an ethnographic account of indigenous knowledge of ethno-medicine among the Tigray ethnic community. In order to attain the intended objective, both quantitative and qualitative approaches were used. Both primary and secondary sources of data are utilized in the study.

Results and analysis: Data was collected on diseases and 34 medicinal/herbal plants are identified and documented details corresponding to diseases prevalent. These medicinal plants are characterized as they are used in fresh status, water as additional ingredient is used mostly. Different challenges are identified for the extinction of medicinal plants i.e. alarming expansion of agriculture, plants are used as food source for animals, climate variability in different seasons are among the most commonly reported by informants.

Conclusion: The efforts for conservation of medicinal plants in the study area is very low, even there is no any effort to conserve the medicinal plants.

Keywords: Ethnographic account; Medicinal plants; Northern Tigray; Asgede Tsimbla

Introduction

In Africa about 80% of the population relies on traditional medicine to help meet its health care needs. Ethiopia is the land of high variation in land escape, flora and fauna, multiplicity of ethnic groups with complex multicultural diversity, language, cultures and beliefs which have in turn contributed to the high diversity of traditional knowledge and practices of the people including the use of medicinal plants. In Ethiopia, medicinal plants play important role in fulfilling human and livestock health care needs of different communities. Traditional use off medicinal plants has remained as the main alternative solution for different human and livestock health problems largely due to shortage of pharmaceutical products and modern health services stations, un-affordability price of conventional drugs and drug resistance [1].

Materials and Methods

Ethiopians ethno-medicine is the result of long dynamic interaction combined among Africa Greece, Arab and Hebrew traditions. These interactions combined with the variation in the countries unique ecology and diverse ethnic groups make the ethno-medicine in this country very rich and complex. As various records show that the existence of traditional health care traced back to peoples the 16th century. Due to this reason Ethiopians folk medicine is extremely complex and diverse.

Ethiopia is believed to be home for about 6,500 species of higher plants with approximately 12% endemic, hence making it one of the six plant biodiversity-rich countries of Africa. The greater concentration of medicinal plants are found in the south and south western Ethiopian parts of the country following the concentration of biological and cultural diversity [2].

The knowledge of ethno medicine in Ethiopia is transferred orally from one generation to the next generation. It extends from home remedies practiced as primary health care to those who specialize on traditional healing for various diseases. This practice involves the use of plants, animals and animal products, minerals, and various ritual and spiritual practice for healing different diseases. According to the WHO report, traditional healers such as herbalists, midwives and spiritual healers constitute the main source of assistance with health problems for at least 80% of rural population in developing countries. This unquestionably shows that the populations of developing countries rely heavily on traditional medicine to cope with their health problems [3].

Statement of the problem

Medicinal plants and knowledge of their use provide a vital contribution to human and livestock health care needs throughout Ethiopia. In Ethiopia, about 80% of human population and 90% of livestock rely on traditional medicine. Ethiopian plants have shown very effective medicinal value for some ailments of humans and domestic animals. The major reasons why medicinal plants are demanded in Ethiopia are due to culturally linked traditions, the trust the communities have in medicinal values of traditional medicine and relatively low cost in using them. The issue of medicinal plant conservation in northern Tigray today calls for aggressive studies and documentation before the accelerated ecological and cultural transformation distort the physical entities and the associated knowledge base. For most of the threatened and endangered medicinal plants, no conservation has been taken and there is no even a complete inventory of these plants much of the knowledge on the use of medicinal plants in the country is still held only by traditional society and is usually transmitted verbally [4].

The people of Tigray region in general and Asgede Tsimbla district in specific are also have rich knowledge on traditional medicine involving medicinal plants. Such knowledge is however, currently being threatened, as it is happening elsewhere in the country, due to environmental degradation and deforestation. No study has been conducted in the study area on the documentation of medicinal plants. Therefore this study aims at documenting the medicinal plants knowledge and explaining the threats of these medicinal plants.

Research objectives:

- To identify the types of medicinal plants and diseases they treat in the study area.
- To explain the threats of medicinal plants in the study area.

Sample size

The sample size of 34 informants are purposively selected, 5 of them are selected purposively for key informants, three group discussion is also conducted in this study in each group 8 participants are participated, as using the purposive sampling method 5 case studies are conducted.

Research design

Primary as well as secondary source of data employ to collect the necessary data and information from the study area. The researcher adopted non-probability sampling method. Purposive (judgment) sampling adopted to select the informants. The sample households are purposively taken purposively 34 informants were select for the overall operational pattern or framework of the research, a descriptive survey type and ethnographic research design adopted. A descriptive design is undertaken in order to find out and been able to describe the characteristics of the issue in a situation. In the study qualitative methods of data collection is used for the analysis purpose [5].

Data collection techniques

Anthropological data collection techniques are employed depending up on their suitability. The study was designed in such a way that data could be gathering on the local people perception and practices towards the indigenous knowledge of medicinal plants of people in rural areas of Tigray Regional state. A preliminary survey was carried out on the study site before the actual survey operation undertaken in order to obtain a general picture about the area. Prior to the actual research work and data collection, a preliminary survey conducted to have a general overview of the research sites. Details of local people perception towards Indigenous knowledge of curing diseases using the medicinal plants descriptive surveys conducted after the preliminary survey. So, with 5 key informant interview conducted. The researcher conducts three FGD covering 8 participants in each. The non-participant observation conducted to capture the day today activities of healers. The researcher had taken 5 case studies from the community to understand the day-to-day activities relating to activities relating to medicinal plant.

Strategies of data analysis

The information collected from both primary and secondary sources is analyzed through a descriptive way. The researcher has first transcribed qualitative data from local language to English and translated into meaningful concepts and pattern.

Results

Medicinal plants, diseases treated, plant parts, ingredients, condition of the medicinal plant and mode of delivery (**Table 1**).

S No.	Local name	Diseases treated	Parts	Ingredients	Condition	Mode
1	Agol	Evil spirits, dog bite	Leaf	Water	Fresh	Dermal
2	Aftuh (*Plumbago zeylanica*)	Evil and snake venom	Root and leaf	Water	Dry and fresh	Dermal

3	Dikala andel (*Capparistoment osa*)	Repel evil sprit	Leaf and stem	None	Dry	Dermal
4	Dikala kermed (*Boscia angustifolia*)	Evi sprit	Stem	None	Dry	Dermal
5	Tsaeda shigurt (*Allium sativum*)	Common cold	Leaf and root	Salt	Fresh	Oral
6	Andel	Evil sprit	Root	None	Dry	Dermal
7	Shitara	Evil sprit	Root	None	Dry and fresh	Nasal
8	Deki-daero (*Sida ovata Forssk*)	Wounds	Leaf	Water	Fresh	Dermal
9	Hanse	Abdominal pain	Bark	None	Fresh	Oral
10	Gindae	Wounds	Milk latex	None	Fresh	Dermal
11	Hafaflo (*Cucumis dipsaceus-Ehrenb.*)	Abdominal pain	Root	None	Fresh	Oral
12	Tsinquait (*Grewia ferruginea*)	Animal disease	Leaf	Water	Fresh	Oral
13	Shinfae (*Lepidium sativum*)	Abdominal, evil spirit and teeth problems	Fruit	Salt	Dry	Dermal/oral
14	Alendeya	Wounds	Leaf	None	Fresh	Dermal
15	Cheendog	Abdominal pain	Leaf	Honey	Fresh	Oral
16	Chena adam	Cough and cold	Leaf	None	Fresh	Oral
17	Hambo-hambo	Abdominal pain	Barks	None	Fresh	Oral
18	Engule (*Solanum incanum*)	Abdominal pain	Root	Water	Fresh	Oral
19	Adgi zana	Wounds	Bark	Non	Fresh	Dermal
20	Humer	Abdominal pain	Fruit	Water	Fresh	Oral
21	Enqua nedede	Fire burn body	Leaf	None	Fresh	Dermal
22	Hamot agualat	Snake bite	Root	Milk	Dry	Oral
23	Fewsi enkirbit	Scorpio bite	Root	None	Fresh	Oral
24	Fewsi gmay		Leaf	None	Fresh	Dermal
25	Fewsi zu'uta		Leaf	None	Fresh	Dermal

26	Tirnaka	Fire burned body	Leaf	None	fresh	Dermal
27	Machicho	Halafien (livestock ailment)	Leaf	Water	fresh	Oral
28		Wounds	milk latex	None	Fresh	Dermal
29	Tambok	Rabis/dog bite	Roots	Water	Fresh	Oral
30	Kinchib	Rabis	Root	Milk	Fresh	Oral
31	Chegoget	Gerefta/rikab	Stem	water		
32	Mezerbae	Dandruff	Leaf	water	fresh	Cream the hair
33	Gaba	Anti-fungal	Leaf	Water	Fresh	Creamed the infected part of the body
34	Chea	Snake and scorpion bite	Root	None	Fresh and dry	Cover the infected area

Table 1: Type medicinal plants, diseases treated, plant parts, ingredients, condition of the medicinal plant and mode of delivery.

List of frequently cited medicinal plants: Aftuh, Agol and Tsada Shigurti/garlic are frequently listed which they can treat and prevent many diseases. They use these medicines widely and commonly by the community. They believe that these are available and can get easily. Even we can say that the community have a common knowledge on these medicines and can prepare at home for prevention and treating different diseases [6].

Frequently listed diseases: Abdominal pain, head ache, snake bite and evil spirit are the mostly reported type of diseases which are treated by medicinal plants in the study area. The study area is found far from towns and cities and it is in low land area. The societies which are the living are Argo-pastoralist. According to the belief of the community, the above listed types of diseases are preferred to treat by traditional medicinal plants than bio-medicine. Especially the evil spirits and abdominal problems are advised to treat by traditional medicine [7]. They believed that these evil spirits course of diseases are not recommended to bio-medicine. If someone is believed to be affected by this evil sprit the next solution is perceived to be traditional medicine. According to the respondents of the key informant, these traditional medicinal plants are more successful to treat such evil spirit problems and abdominal health problems.

Last year I remember I was seek of abdominal pain. I talk to my son to bring the root of locally called hanse and I swallowed the water after I mixed the root on the water. After time recovered and now I am good now. Not only this, if someone is sick buda/we never recommend him to go to the clinic rather we treat him by giving the traditional medicine. I have in my home that medicine and I treat many my friends and family of my friends KII 3,63 years old man.

Condition of utilization of medicinal plants: Some medicinal plants are utilized in dry form whereas some others are fresh condition. This is due to the efficiency of the plants and their condition. Some plants are more increase their efficacy when they are in fresh form whereas others are dry. So, in the study area there are different form of utilization of these medicinal plants. Most of them are utilized in fresh form [8].

Ingredients: Different ingredients are supposed to add in traditional medicinal plants for the sake of strengthening the efficacy of theses medicinal contents. Water is the most common ingredient which is used by the community as ingredient. Next are milk, salt, sugar and honey. These ingredients are commonly used and reported by the respondents in the study area.

Plants parts: Selecting the plant part to use as medicinal plant is the most important, because different parts of a single plant can be used treat for different diseases. So knowing the plant part is very important. Leafs, roots and bark of the plants are commonly used and reported by the respondents.

Mode of delivery of the medicinal plants: Different medicine are delivered in different modes. Some of them are oral and dermal when others are delivered nasally. Delivery mode is different according to the nature of the diseases. Dermal disease are treated by Appling the medicine in our skin, eye some of the diseases which affect in our head are treated by nasal, whereas the diseases which affect abdominal and other body parts are treated by oral [9].

Major threats for medicinal plants

There are a lot of threats which are listed by respondents for uprooting in the time of using the plants, charcoal for household use, fuel, construction, agricultural expansion, fire, free grazing,

fence, fodder and scarcity of rain are the mainly listed threats for medicinal plants in the study area. In this case these threats are very serious and which needs urgent solutions for these medicinal plants. A lot of plants are vanished due to the unwise and improper utilization of these plants in the study area. According to the key informants respondents of the study area previously there were different species of medicinal plants near to my home but now these plants are vanished and unable to find [10]. I know these plants were very important to heal different diseases but due to the lack of protection and low awareness of the community now these are unavailable KII3, 69 years old man. The information from FGD of the study area also shows a congruency with the above finding (**Figure 1**).

Figure 1: Photo of medicinal plants.

The awareness of our community towards medicinal plant preservation is very low. Since we are living in village area we didn't care about the continuity of the plants than the function they give. In the village the function of plants depend on the nature of the plants. Some of them are used for fence where as others are used for food and fuel. Some plants are used their part where as others are used the whole parts and their roots. So the plants which are utilized their roots and the whole parts are at risk of extinct. Many plants are vanished I know which can used to heal diseases FGD 1,54 years old man.

Conclusion

In general this study identifies different types of medicinal plants which are used by the community in the study area. A total of 34 types of medicinal plants are listed by the respondents. These plants are used to treat different types of diseases. A single medicinal plant can be used to treat different diseases. This shows the multi-use of the medicinal plants. Not only this but also these medicinal plants are also used as source of food.

These medicinal plants are utilized their roots, leaves and barks of the parts. This way of utilizing of the plants is depend on the efficacy of the medicinal plants. Some plants are successful to treat diseases on roots whereas other is on their leaves. The condition of using of these plants are in dry or fresh forms. There are also different ingredients that added to the medicinal plants. Water, butter salt are the most common ingredients.

There are factors that threaten to medicinal plants availability. Climate change, way of utilization and deforestation are the leading factors. Ethical clearance was obtained from anthropology department research committee, Ethiopia and permission was sought from asgede tsimbla district head office. Informed consent was obtained from all participants after the study had been thoroughly explained to them in a language they understand. Participants were assured that they could withdraw at any point in the investigation without any repercussions and were at liberty to answer or refuse to answer any question put to them.

Acknowledgment

NA

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