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Ethno-Medicinal Survey of Important Plants of Samburu Community (Wamba)-Samburu District in Kenya.

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Research Article

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ABSTRACT

Ethno medicines are developed by the ethnobotanical and ethnopharmacological surveys. This study work revealed the use of traditional ethnomedicines by the Samburu community (Wamba). A total of 33 plant species belonging to 5 families and different species were reported of having ethnomedicinal utilizations were collected after carrying out simple interviews. The family of Mimosaceae had the highest number of the medicinal plants collected. Sixteen medicinal plants were collected at Namunyak Conservancy, twelve from Nkaroni Conservancy and five from West gate Conservancy. Most of the medicinal plants collected were used to treat diarrhoeal diseases but others treat yellow fever, mumps, malaria, sexually transmitted infections like gonorrhea, pneumonia, eye problems, wounds, dewormers, oral thrush, whooping cough, and ear infections amongst many other uses.

INTRODUCTION

Use of plant based drugs and chemicals for curing various ailments and personal adorment is as old as human cultivation. Plants and Plant-based medicaments are the basis of many of the modern Pharmaceutical we use today for our various ailments [1]. The history of discovery and use of different medicinal plants is as old as the history of discovery and use of plants for food [2]. Medicinal plants play a key role in traditional health care system for human and animals. Most of allopathic drugs used in the modern society also comprise extracts taken from medicinal plants [3]. Worldwide it is estimated that about 80% population of the world depends on the traditional system of health care [4] thus there is need to document the medicinal plants used by various communities.

The Samburu community is one of those communities that are marginalized in Kenya in terms of 'HEALTH CARE FOR ALL' as a basic human right and prerequisite to social-economic development. It is estimated that about 85% of the community medicare is from medicinal plants [5].The frequent use of medicinal plants by the Samburu for health care is as a result of the unavailability of health care services from the government in this remote region of Kenya. The problem is compounded by high poverty rate, poor sanitary conditions and inadequacy of clean water. For instance, pastoralism is a normal practice of the inhabitants' that leads to sharing of water with both domestic and wild animals. This leads to inhabitants using water without proper treatment since it is scarce most of the year. This has led to an increase in diarrhoeal and other vector borne diseases within the Samburu Community [6].

These herbal medicines have less side effects and man can get the herbs easily from nature. On the other hand scientists have proved that they do possess very active ingredients that have antimicrobial properties. The indigenous traditional knowledge of herbal plants of communities where it has been transmitted orally for many years is fast disappearing from the face of earth due to transformation of traditional culture [6]. The people, who are native to the area in which the plants occur, use around 90% of

the medicinal species [7]. This is indicative of the vast repository of knowledge of plant medicine that is still available for global use, provided of course that it does not get lost before it can be tapped or documented. Traditional and indigenous medical knowledge of plants, both oral and codified, are undoubtedly eroding [8].

Keeping in view the importance of medicinal flora, this study therefore aimed at documenting ethnomedicinal information of plants used by indigenous people of Wamba division, Samburu District - Kenya. The generated information will be used in future to explore ways of sensitizing the community on the sustainable utilization of the forest resources so as to minimize their genetic loss.

MATERIALS AND METHODS

Study site

This study was carried out at Wamba Division, Samburu District, Rift Valley Province that is 0.98°N and 37.34°E. The major inhabitants of Wamba Division are the Samburu community. The area is arid to semi-arid with annual rainfall of between 250 – 500mm. The only permanent river is the Ewaso Nyiro, but other occasional water sources include ephemeral laggas, man-made reservoirs and natural ponds which only contain water during the wet season. For most of the year, the area experiences high temperatures which vary with altitude and are generally between 24- 33 °C during the day with no cloud cover. The soil is dry and sandy with a poor vegetation cover.

Samburu District is situated in the northern half of the Rift Valley. It is bordered by five Districts in the Rift Valley and Eastern Provinces. To the north west is Turkana District while to the south west is Baringo District. Marsabit District is to the north east, Isiolo District to the east and Laikipia District to the south. The District lies within the semi-arid areas of the country and covers approximately 21,126.5 square kilometers (including 3,250 square kilometers of gazetted forest).

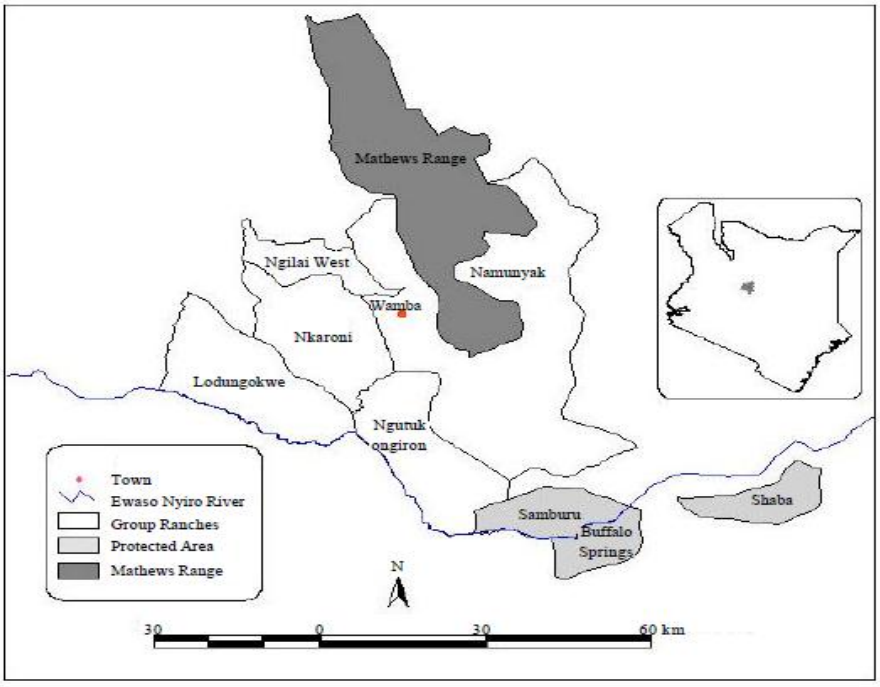

Figure1: Map of Kenya showing the location of Wamba Division and its conservancies

Ethnobotanical survey

A survey was carried out in Wamba division, Samburu district, Kenya on the major medicinal plants the community uses for the treatment of various diseases. Questionnaires were used to identify the plants used by the herbalists and the community in the treatment of various diseases. Information regarding the local names of the plant species, medicinal uses, parts used, methods of preparation, and

administration route were documented. The methods used in harvesting the plant materials from the wild were also recorded.

Collection of plant material

Fresh plants/plant parts used by the community for treatment of various diseases were collected from Samburu-Wamba Conservancies as shown in Fig 1. The taxonomic identities of these plants were confirmed by a taxonomist at the Kenyatta University herbarium where the voucher specimens were deposited for future reference. Descriptive statistics were used to analyze the ethno-medicinal data collected.

RESULTS

Ethnobotanical survey

A total of 33 medicinal plants used by the Samburu community were collected after carrying out simple interviews. The plants were collected from the various conservancies around the study area (Wamba- Samburu). Sixteen medicinal plants were collected at Namunyak Conservancy, twelve from Nkaroni Conservancy and five from West gate Conservancy. The species belonged to different families as shown in Table 1. The family of Mimosaceae had the highest number of the medicinal plants (six), Vetaceae, Boraginaceae, Capparaceae and Fabaceae families had two species each and the rest of the families had one medicinal species each.

Table 1: Summary of the medicinal plants used by the Samburu community.

Botanical name	Family name	Samburu name	Part used	Diseases treated	Area found
Acacia ethaaica Schweinf.	Mimosaceae	Lchakwai	Bark	Stomach ache	Namunyak
Acacia horrida (L.) Willd.	Mimosaceae	Lerai	Bark	Diarrhoea	West gate
Acacia nilotica (L.) Del.	Mimosaceae	Lkiloriti	Bark/ roots	Stomach ache	Namunyak
Acacia nubica Benth.	Mimosaceae	Ldepe	Bark	Diarrhoea	Nkaroni
Acacia senegal (L.) Willd.	Mimosaceae	Lderekesi	Bark	Stomach ache	Nkaroni
Acacia tortilis (Forssk.) Hayne.	Mimosaceae	Ndapes	Roots	Stomach ache	Namunyak
Acokanthera friesiorum Markgr.	Apocynaceae	Nchipilikwa	Roots/leaves	Diarrhoea	Namunyak
Albizia anthelmitica Brongn.	Leguminosae	Lumurtana	Roots/bark	Deworming/ Diarrhoea	Nkaroni
Aloe secundiflora Engl.	Aloaceae	Sukuroi	Whole	Stomach ache	Namunyak
Balanites aegyptiaca (L.) Del.	Balanitaceae	Sirai	Roots	Stomach ache	West gate
Boscia angustifolia Guill. and Perr	Capparaceae	Lororoi	Bark	Diarhoea, gonorrhea	Nkaroni
Cissus rotundifolia Forsk. Vahl.	Vitaceae	Raraiti	Root	Stomach ache	Nkaroni
Cissus quadrangularis L.	Vitaceae	Sukurtut	Stem	Diarrhoea	Nkaroni
Clerodendrum myriacoides (Hochst.) Vatke subsp. *napperae* Verdc.	Verbenaceae	Makutukuti	Roots	Diarrhoea, malaria, polio & STIs	West gate
Commiphora africana (A. Rich) Engl.	Burseraceae.	Lcheni-ngiro	Bark	Diarrhoea, eye problem	Nkaroni
Cordia monoica Roxb.	Boraginaceae	Seki	Roots	Diarrhoea	West gate
Cordia purpurea (Picc.) Aiton	Boraginaceae	Lgiriai	Roots bark	Diarhoea	Namunyak
Cordia sinensis Lam.	Boraginaceae	Silapani	Bark	Diarhoea	Nkaroni
Croton macrostachysus (A. Rich). Benths.	Euphorbiaceae	Ndoopa	Roots	Stomach ache, ear infection	Namunyak
Euclea divinoram Hiern.	Ebenaceae	Nchingei	Roots	Diarrhoea	Namunyak
Euphorbia scarlatica (L) O. Ktze	Euphorbiaceae	Mpopongi	Leaves/whole plant	Diarrhoea, Common cold	West gate
Gomphocarpus fruticosus (L) W.T. Aiton	Apocyneacea	Lekule	Whole plant	Diarrhoea	Namunyak
Grewia simi K. Schum.	Tiliaceae	Ngaliyoi	Roots	Stomach ache	Nkaroni
Jasminum abyssinicum Hochst. ex DC.	Oleaceae	Laresoro	Bark	Diarrhoea, Oral thrush	Namunyak
Kedrostis pseudogijef (Gilg) C. Jeffrey	Cucurbitaceae	Sakurdumii	Stem	Diarrhoea, Yellow fever	Nkaroni
Loranthus acaciae Zucc.	Loranthaceae	Lardenyei	Whole plant	Stomach ache	Nkaroni
Ocimum suave Willd.	Lamiaceae	Lemuran	Bark	Diarrhoea	Namunyak
Ormocarpum trachycarpum (Taub) Harms	Leguminosae	Lekweita	Bark	Diarrhoea, whooping cough	Namunyak
Plumbago dawei Rolfe.	Plumbaginaceae	Lkiriantus	Bark	Diarrhoea, Malaria	Namunyak
Salvodora persica L. var. *persica*	Salvadoraceae	Sokotei	Roots/ branches	Stomach ache, pneumonia	Nkaroni
Solanum incanum L.	Solanaceae	Ltulelei	Roots	Diarrhoea,Malaria	Namunyak
Teclea simplicifolia (Engl.) Verdc.	Rutaceae	Lgilai	Bark	Diarrhoea, malaria	Namunyak
Thylachium africanum Lour.	Capparaceae	Loimugi	Bark	Diarrhoea	Namunyak

Various parts were harvested depending on the parts the community used in the treatment of the various diseases. The bark, roots and the leaves were the ones that were harvested, but the part that is used most was found to be the bark of the stem mainly followed by the roots and then the leaves.

Most of the medicinal plants collected were used to treat diarrhoeal diseases but others treat yellow fever, mumps, malaria, sexually transmitted infections like gonorrhoea, pneumonia, eye problems, wounds, dewormers, oral thrush, whooping cough, and ear infections amongst many other uses as per the findings of the interviews. Most of the plant species were used to treat one disease, while some were used to treat two or more diseases.

DISCUSSIONS

Most of the medicinal plants collected were used to treat diarrhoeal diseases but others treat yellow fever, mumps, malaria, sexually transmitted infections like gonorrhoea, pneumonia, eye problems, wounds, dewormers, oral thrush, whooping cough, and ear infections amongst many other uses as per the findings of the interviews. This is a clear indication that the Samburu medicinal plants are extensively used in treatment of various ailments and therefore they could be rich in the active phytochemicals that have been found to possess various activities to the disease causing pathogens. Also given the fact that the Samburu community are pastoralists living in a region with less amounts of rain in a year may end up sharing water with their animals therefore they commonly use the medicinal plants to alleviate the common diarrhoeal infections amongst themselves [5].

On the other hand ethnobotany has evolved into a specific discipline that looks at the people plant relationship in a multidisciplinary manner such as ecology, economic botany, pharmacology and public health. With extensive uses of medicinal plants, numerous drugs have been introduced in the international markets as a result of exploring ethnopharmacology and traditional medicines [9] which have expressed different pharmacological actions [10]. Hence, the traditional use of low profile and less known medicinal plants should be documented to disseminate their therapeutic efficacy to pave the way for preparation of acceptable medicine and to reduce the pressure on overexploited species [11, 9]. Considering a sharp decrease in the biological species all across the globe and the increasing economic values placed on medicinal plants, documentation on ethno-botanical knowledge is a way to understand the use of different plant species to cure various ailments and means to conserve these natural resources. Globally, there is currently a renaissance of ethnobotanical surveys of medicinal plants and the need to screen specific parts of the plants.

Samburu District is a rich repository of flora and Indigenous traditional knowledge but have not extensively been subjected to the specific detailed studies on the various aspects of biodiversity and conservation. A detailed study is required to assess the status, utilization and conservation of the reported plant species. Also, there is urgent need to spread a highly motivated awareness and involvement campaign about the biodiversity conservation, and the role and need of the local people in the protection of the environment. For instance the harvesting of the barks, roots , whole plant e.t.c. that is common among the Samburu community may lead to extinction of the plant species which may be very promising in coming up with the next generation of drugs given the fact the aspects of multidrug resistance, drug toxicities e.t.c are at an increase [12].

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