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MEDICINAL FLORA OF KEBBI STATE: ASSESSING THE ROLE OF TREES IN TRADITIONAL MEDICINE

Hauwa Aminat Jega

Department of Forestry and Fisheries,
Faculty of Agriculture,
Kebbi State University of Science and Technology, Aliero, Kebbi State, Nigeria

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Abstract:
This study was carried out to assess the different medicinal values of tree species in Kebbi State. Structured questionnaires and direct field observation were used to collect data on the medicinal trees from three hundred and sixty respondents across villages in Kebbi State. The results obtained revealed a total of 45 medicinal trees belonging to 21 Families were identified as being used for treating different ailments in the study area in which Anacardiaceae is the most common Family whereby the leaves and the bark are mostly used for medicine. The medicinal trees identified had multiple uses while some were effective as mixtures. The respondents used to extract different parts of the trees for medicinal purposes to treat various ailments. Most of the respondents are male within the age range of 41-50 and married individuals constitute the highest number of respondents. The majority of the respondents are farmers and have low literacy in Western education and they got the idea of planting trees through self-initiative. In Kebbi South only 20.83% of the respondents have planted trees for medicinal purposes. 22.5% in Kebbi North and 25% in Kebbi Central. The majority of the respondents planted trees for environmental protection. Medicinal plants were highly utilized in the study area. The parts mostly used are the leaves, barks, fruits and roots through decoction and drinking once, twice or thrice daily depending on the nature, types or intensity of the ailments. The result of the study also shows that there is a high diversity of medicinal trees and traditional knowledge on the use, preparation and application, which is still maintained among local people in the study area. More trees, herbs and shrubs are used for medicinal purposes in the study area. And this shows that there is a need for urgent conservation of these medicinal trees for sustainability
Keywords: Medicinal Trees, Ethnobotany, Traditional Medicine

INTRODUCTION

Ethnobotany is the study of how communities of a particular region employ indigenous plants for food, clothing, medicine and other activities. The documentation of this is crucial for the conservation and utilization of

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biological resources. Plant materials have been a major source of natural therapeutic remedies and are used to treat various infectious diseases in many developing countries (Kayode and Omotoyinbo, 2009). Thus, African flora is greatly rich with a lot of medicinal plants which indigenous people are familiar with and used over time. In African countries, the majority of the population uses traditional medicine for the treatment of various diseases and ailments like malaria, typhoid, ulcers, skin diseases, diabetes, reproductive problems, aches, and pains and various socio-cultural and economic reasons (Aiyeloja and Bello, 2006). Medicinal plants are naturally grown plants which are commonly used in the prevention and curing of different illnesses affecting the health status of human beings. These plants grow as wild plant species in a spontaneous self-maintaining population in natural or semi-natural ecosystems. Sometimes it may be domesticated plant species through human actions such as selection or breeding with proper management for their existence (Anselem,2004) Medicinal plants play a key role in the development and advancement of modern studies by serving as a starting point for the development of novelties in drugs (Cowan, 1999). Nigerian is rich in biodiversity which is a veritable source of pharmaceuticals and therapeutic properties, though some of the plants are not adequately documented. However, in recent times, the pressures from deforestation, land degradation, unsustainable arable land use, urbanization and industrialization are taking their toll on the natural resources (Obute and Osuyi, 2002; Kayode, 2006).

Therefore the need for proper documentation of traditional medicinal practices among the people in Nigeria where published information has been scarce is immediately called for and this accounts for the rationale for undertaking the present study. Kebbi State is an area that is very rich in flora due to its location in the northern Guinea vegetation belt of the country. The use of plants for various purposes is widespread in this location. It is therefore the responsibility of the scientific community to unravel and document this information for the use of man. This study represents an attempt to document information on the traditional medicinal plants used in Kebbi state. A compiled checklist of these plants including their location, Latin names, families, parts used, uses, and names in the study area is the main purpose of this study. The documentation of medicinal uses of African plants is becoming increasingly urgent because of the rapid loss of the natural habitat for some of these plants due to anthropogenic activities.

MATERIALS AND METHOD

Study area

The study was conducted in Kebbi State. It is situated in the extreme northwestern part of Nigeria; the area lies between latitude 12º44’59’’N and longitude 4º32’45’’E. It covers approximately 18,591K^2, supporting a population of about 2,757,544 million people. The mean annual temperature is between 35^{o}c to 40^{o}c, annual rainfall range from 450-1050mm and relative humidity ranges from 51-79% and 10-25% during rainy and dry season respectively. The vegetation is Sudan savannah type, and the soil is the semi-arid type, characterized by frequent weathering and leaching due to poor soil structure and low organic matter content.

Sampling Technique and Sample Size

The study was conducted in the three senatorial districts in Kebbi State. Multistage sampling was used to select ten respondents from three villages from two districts each from two local governments of each of the senatorial districts in Kebbi state. Respondents will comprise local herb sellers, farmers, forest officers and hunters who provided information on different tree species, parts used and different modes of preparation for the treatment of different ailments in the study area.

Method of data collection

A structured questionnaire was used to collect data from the selected respondents based on the objectives of the study. In each of the villages’ interviews were conducted to determine group consensus on the medicinal plant species. Key informants made up of herb sellers and forestry officers were interviewed to identify plants and provide additional information on the use of medicinal plants in the study area.

Original Article

Data Analysis
Data collected from the respondents was analyzed using descriptive statistics such as Tables, Frequency, and

Percentages.

RESULT
A total of 45 medicinal tree species from 21 families are identified and used for treating different ailments in the study area. Most of these species were wild and harvested for their leaves and bark. The remedies were administered mainly through oral pain and baths. The family Anacardiaceae was represented by (6) species followed by Moraceae (5), Caesalpiniaceae (4), Fabaceae, Mimosaceae, Myrtaceae, and Combretaceae (3) and other families.

Table 1: Medicinal Trees Identified in the Study Area

S/No.	Botanical name	Common name	Family	Uses	Part used and preparation
1	*Khaya senegalensis*	African mahogany	Fabaceae	De	DysenteryBark soaked in water
2	*Sclerocarya birrea*	Manila	Anacardiaceae	Sore throat	Decoction of leaves is taken orally
3	*Balanite aegyptiaca*	Desert date	Balanitaceae	Dysentery and stomach pr	problemsDecoction of bark
4	*Azadirachta indica*	Neem tree	Meliaceae	Stomach ache, fever	dysenteryDecoction and de of leaves
5	*Vitex doniana*	Black plum	Verbenaceae	Increase milk flow	Fruits are eaten raw
6	*Moringa oleifera*	Moringa	Moringaceae	Hypertension and blood tonic	Boiled leaves and seeds
7	*Ficus glucose*	African mustard	Moraceae	Malaria	Boiled leaves
8	*Ficus polita*	Ficus	Moraceae	Stomach ache and chest pain	Boiled leaves, bark and roots
9	*CCassiasiebe riania*	African laburnum	Caesalpiniaceae	Dysentery and stomach ache	Boiled roots
10	*Khaya ivorensis*	Winter thorn	Meliaceae	Chronic dysentery and weakness of the body	Bark soaked in water
11	*Acacia nilotica*	Acacia	Mimosaceae	Dysentery and ulcer	Boiled leaves
12	*Ficus platypylla*	GGutta-peachtree	Moraceae	Malaria	Boiled bark
13	*Citrus aurantifolia*	Lime	Rutaceae	Typhoid	Boiled leaves
14	*Daniella oliveri*	African copaiba	Caesalpiniaceae	Dysentery	Boiled bark

Original Article

15 *Calatropis* SSodomap Asclepiadace Treat gonorrhoea Roots soaked in water *procera* ple ae
16 *Adansonia* Baobab Bombacacea Treat diarrhoea and Dried leaves are *digitata* e chest pain pounded into pap and
Fresh leaeatenare made raw
17 *Mangifera* Mango Anarcardiace Treat malaria Decoction of leaves *indica* ae typhoid and fever
18 *Psidium* Guava Myrtaceae Treat malaria Decoction of bark and *guajava* leaves
19 *Vitellaria* Shea Sapotaceae Treat malaria Boiled bark
paradox butter
20 *Ficus ovate* Ficus Moraceae Treat malaria Boiled leaves
21 *Prosopis* Iron tree Mimosaceae smallpoxllpoxx Boiled bark and *africana* leaves
22 *Diospyros* Jackal Ebenaceae General body pain Decoction of left *mespiliformis* berry with fatigue orally at
23 *Gueira* Moshi Combretacea Treat sore throat Boiled leaves *senegalensis* plant e and boost milk flow
24 *Pakia* Locus Mimosaceae High blood pressure Soaked bark
biglobosa bean tree
25 *Detarium* Tallow Fabaceae Stomach pain Decoction of leaves
microcarpum tree
26 *Ceiba* Fuma Malvaceae Stomach problems Boiled stem *pentandra* and diarrhoea
27 *Combretum* Bush Combretacea Treatment of Boiled leaves and root *molle* willows e asthma and chest
pain
28 *Jatropha* Termite Euphobiacea Treatment of Boiled root and leaves *curcas* plant e typhoid, malaria,
fever
29 *Neocarya* Plum tree Chrysobalan Treatment of Decoction of bark and *macrophylla* aceae toothache leaves
30 *Bombax* Red silk Bombacacea Malaria Boiled bark
Buonopolens cotton tree e
31 *Piliostigma* Camels Fabaceae Stomach pain Decoction and *thonningii* foot infusion of leaves and
bark
32 *Anogeissuss* African Combretacea Body pain Infusion and *leiocarpus* birth e associated with decoction of leaves
fatigue for bathing and
drinking
33 *Ficus* Ficus Moraceae Cold and sore throat Boiled bark
iteophylla
34 *Nauclea* African Rubiaceae Gonorrhea and Boiled roots
latifolia peach stomach pain
35 *Tamarindus* Tamarine Caesalpiniac Treatment of Skin Decoction of leaves *indica* eae cancer Stomach and roots taken orally
problems and and for bathing

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36	*BBauhiniaruf escens*	Orhid bush	Caesalpiniaceae	Fever and dysentery	Boiled roots with potash totally
37	*Sterculia setigera*	Gum tree	Malvaceae	Hypertension, blood tonic and body Weakness	Decoction of leaves and bark is taken orally
38	*Citrus sinensis*	Sweet orange	Rutaceae	Treatment of fever, Headache and toothache	Decoction of stem and leaves
39	*Holarrrhena floribunda*	Connessi	Apocynaceae	Treatment of dysentery, diarrhoea and skin infection	Decoction of bark and roots is taken orally and a bath
40	*Lannea acida*	Plum	Anacardiaceae	Treatment of pile In children	Decoction of fresh mango leaves is taken orally
41	*Gmelina arborea*	Gmelina	Verbenaceae	Treatment of fever Malaria and typhoid	Decoction of leaves, bark and stem
42	*TTerminaliam ollis*	Large leaves	Combretacea e	Cough and sore throat	Warm decoction of leaves
43	*Eucalyptus Citriodora*	Lemon scented scented	Myrtaceae	Treatment of cold, malaria and typhoid	Warm decoction of leaves
44	*Melaleucaleudendron*	Cajeput tree	Myrtaceae	Cough	Decoction of leaves
45	*Anacardium occidentale*	Cashew	Anacardiaceae	Fever and body weakness	decoction of fresh leaves

DISCUSSION

Most of the tree species identified in the study area were found to have multiple uses. The respondents use to extract different parts of the trees for medicinal purposes to treat various ailments. The leaves constituted the bulk of the parts used which is in line with the assertion of Kayode *et al*, (2009) that the leaves formed the major parts of the ethnobotanicals used in the traditional treatment of diseases. This was also in line with the report of Bello (2016) that leaves, seeds, barks and roots of plants were used to solve men's sexual problems. The findings of Kayode (2008) in his study on a survey of plant barks used in native pharmaceutical extraction also corroborate this result. The most common family is Anacardiaceae which is used for treating different ailments such as *Sclerocarya birrea* (manila) for the treatment of Sore throat, *Mangifera indica* for the treatment of malaria,

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typhoid and fever, *Lannea acida* for treatment of pile in children, *Ficus glumosa* for treatment of Malaria. This is mainly through the decoction of their leaves for drinking in the morning and/or evening.

The leaves, barks and roots of *Anacardiun occidentale* were found to be active in the treatment of fever and body weakness through decoction. *Mangifera indica* leaves and bark are also active as a cure for fever. The leaves, bark and stem of *Gmelina arborea* are found to be effective in the treatment of fever Malaria and typhoid. *Moringa oleifera* is good for curing wounds, boils, swellings, and low blood pressure, as a blood tonic, lowers blood sugar levels in diabetic patients.

Psidium guajava leaves mixed with *Mangifera indica* leaves and/or bark together with lemon grass and *Anacardium occidentale* leaves or bark is effective for the treatment of malaria according to the group interview conducted and key informants in the study area. Juice extracted from the leaves of *Azadirachta indica* is good for treating measles and pimples. The above discussions corroborate the findings of (Olanipekun and Kayode 2010), (Bello 2016) and (Fayemi and Kayode 2010) in their studies on using medicinal plants to treat different diseases.

Conclusion

Medicinal plants were highly utilized in the study area. The parts mostly used are the leaves, barks, fruits and roots through decoction and drinking once, twice or thrice daily depending on the nature, types or intensity of the ailments. The most commonly used family is Anacardiaceae. It was found that most of the trees have multiple uses and are prepared with different combinations of herbs for effectiveness. The result of the study also shows that there is a high diversity of medicinal trees and traditional knowledge on the use, preparation and application, which is still maintained among local people in the study area. More trees, herbs and shrubs are used for medicinal purposes in the study area. And this shows that there is a need for urgent conservation of these medicinal trees for sustainability.

Recommendation

Due to the continuous loss of diversity of medicinal tree species in the study area owing to pressure on them by the people as a result of deforestation, charcoal, fire, and farming, various methods of species conservation such as natural regeneration and afforestation should be given a priority through incentives and provision of nursery materials to the people. Various organizations such as governments and NGOs must ensure an integrated approach to tree multiplication and propagation through policies programs and enlightenment campaigns on the medicinal values of tree species in the study area.

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Original Article

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