E-mail: jrfwe2019@gmail.com; jfewr@yahoo.com
http://www.ajol.info/index.php/jrfwe

ISBN: 2141 – 1778
Ibrahim et al., 2020

A SURVEY OF MEDICINAL PLANTS IN BORGU LOCAL GOVERNMENT AREA, NIGER STATE, NIGERIA

***Ibrahim A.O, Adelakun K.M., Adebayo O.A., Ogialekhe P., Babatunde K.O. and Adeniji O.A**

Federal College of Wildlife Management of Forestry Research Institute of Nigeria
P.M.B 268, New Bussa, Niger State, Nigeria
***Corresponding Author:** *ibrahimazeez2015@yahoo.com;* +2348163274500

ABSTRACT

This study was carried out to identify the medicinal plants used for the treatment of different ailments in Borgu Local Government Area of Niger State. Structured interview guides and direct field observation were used to collect data on the medicinal plants from one hundred and twenty respondents. The results obtained revealed a total of 52 medicinal plants belonging to 30 Families were identified as being used for treating different ailments in the study area in which Fabaceae is the most common Family whereby the bark and the leaves are mostly used. The medicinal plants identified had multiples uses while some were effective as mixtures. Seventy percent of the respondents had informal training on herbal medicine for two years. Twenty percent had formal training through forestry courses offered during advanced studies while ten percent inherited the knowledge from their parents. It was recorded that medicinal plants are cheaper, locally available and easily accessible than western drugs. Therefore, the conservation of these medicinal plants will be highly imperative if mobilizing individuals and communities to participate actively in afforestation programme; extension workers should convince local herb sellers and herbalists of the value and importance of nature and biodiversity; and research and documentation of medicinal plants are carried out.

Keywords: Ailments, decoction, herbalists, medicinal plants, traditional, treatment.

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 which is crucial for the conservation and utilization of biological resources. Plants materials have been a major source of natural therapeutic remedies and 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, majority of the population used traditional medicine for the treatment of various diseases and ailments like malaria, typhoid, ulcer, skin diseases, diabetes, reproductive problems, aches, pains and for 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 plants species in a spontaneous self maintaining population in natural or semi-natural ecosystems. Sometimes it may be domesticated plants species through human actions such as selections 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 the recent time, 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).

In view of the above, there is the need to document plant species that are of medicinal importance in Borgu Local Government Area, Niger State with a view to identifying the endangered species and propose strategies that could enhance their conservation.

MATERIALS AND METHODS

Study Area

Borgu is a region in North-west Nigeria and in the Northern Republic of Benin. It was partitioned between Great Britain and France by the Anglo-French convention of 1898. People of Borgu were known as Bariba and Borgawa (Adekunle, 2004). Borgu Local Government Area is an administrative region in Niger state, Nigeria, one of the 25 Local Government Areas in Niger State. It was formerly part of Kwara State, but on 27th August, 1991, it was transferred to Niger State. It has a population of 1722,835 according to 2006 census conducted in Nigeria. The headquarters of Borgu Local Govrnment Area is in New Bussa with a latitude 9^0 55′ 11.2′′N and 9^0 89′ 95′′N and longitude 4^0 30′ 37′′E and 4^0 49′ 39′′E. The Local Government is bounded to the East by the River Niger/Kainji Lake and Magama Local Government Area, Kebbi State in the Northern part, Kwara state and Benin Republic in the West (Agboarumi, 1997).

Sampling Technique and Sample Size

A random sampling technique was used to select six wards out of the ten wards in Borgu Local Government Area of Niger state. The selected wards are New Bussa, Karabonde, Babanna, Wawa, Malale and Kabe for interview guide administration and direct field observations. Twenty respondents were selected in each ward using snowball method comprising of herb-sellers, farmers, old men and women. This gave a sample size of (120) respondents.

Method of data collection

A well structured interview guide was used to collect data from the selected respondents based on the objectives of the study. In each of the ward group interviews were conducted in order to determine group consensus on the medicinal plant species. Key informants made up of herbalists and forestry officers were also interviewed to confirm the identified plants and provide secondary information on the use of medicinal plants in the study area.

Data Analysis

Data collected from the respondents were analysed using descriptive statistics such as Tables, frequency and percentages.

RESULT

A total of fifty-two plants belonging to thirty families were identified in the study area (Table 1). Field observation revealed that the ethno-medicinal knowledge is being passed from one generation to another and had formed an integral part of the people's culture. It was gathered from group interviews and direct field observations that some medicinal plants identified were more effective as mixture by decoction.

Table 1: List of Medicinal Plants Identified in the Selected Wards in Borgu LGA of Niger State

S/No	Common Names	Botanical Names	Family	Uses	Part used and preparation
1	Cashew tree	*Anacardium occidentale*	Anacardiaceae	Fever and body weakness	Leaves and bark; decoction (through heating or boiling of fresh leaves
2	Plum mango	*Lannea acida*	Anacardiaceae	Treat pile	Leaves; decoction of leaves
3	Mango tree	*Mangifera indica*	Anacardiaceae	a) For fever b) Conjunctivitis of the eyes	Leaves, bark; decoction of leaves and bark
4	African birch(Chew stick)	*Anogeissuss leiocarpus*	Combretaceae	Body pain usually associated with fatigue, also for cough	Leaves and stem; infusion and decoction of leaves for bathing and drinking
5	Indian almond	*Terminalia catappa*	Combretaceae	Given to children to enhance fresh, smooth skin	Leaves; decoction of fresh leaves
6	Large-leaved terminalia	*Terminalia mollis*	Combretaceae	Cough and sore throat	Leaves; warm decoction of leaves
7	Large red-heart	*Hymenocardia acida*	Hymenocardiaceae	Dry throat and dry cough	Leaves; decoction and infusion of leaves.
8	Camel's foot	*Piliostigma thonningii*	Fabaceae	Stomach pain	Leaves and bark; decoction and infusion of the leaves and bark

S/No	Common Names	Botanical Names	Family	Uses	Part used and preparation
9	Candle brush	*Senna alata*	Fabaceae	Body pain and fever	Leaves and root; decoction and infusion of the leaves and root. Root decoction is used for menstrual pain
10	Negro coffee	*Senna occidentalis*	Fabaceae	Convulsion inchildren and hypertension	Leaves; infusion and decoction of leaves
11	Wild tamarind	*Leucaena leucocephala*	Fabaceae	a) For high fever b) Dyeing of animal skin or head	Leaves and stem; decoction of the leaves and stem
12	Paperback thorn	*Acacia sieberiana*	Fabaceae	Cough In Children	Leaves and bark; decoction of the leaves and bark
13	Indian rosewood	*Dalbergia sisso roxb*	Fabaceae	Skin irritations and diseases	Leaves; extract oil from fresh leaves
14	Tallow tree	*Detarium microcarpum*	Fabaceae	Stomach pain, menstrual pain	Leaves; warm decoction of leaves
15	Sickle pod	*Senna obtusifolia*	Fabaceae	Purification of blood and nourishment of the body	Leaves; decoction of leaves
16	Satin wood	*Pericopsis laxiflora*	Fabaceae	Arthritis	Leaves; decoction of fresh leaves and bark
17	African mahogany	*Afzelia Africana*	Fabaceae	Digestive problem and body pain	Bark and leaves
18	Horse radish, drum stick tree	*Moringa oleifera*	Moringaceae	Low blood pressure, serve as blood tonic, lower sugar level in diabetic patients	Leaves; decoction of leaves, dried leaves into powder form
19	African peach	*Nauclea latifolia*	Rubiaceae	Purify the milk of a lactating mother.	Leaves; Infusion and decoction of leaves
20	Common lettuce	*Grewia mollis*	Malvaceae	Dysentery	Leaves; decoction of leaves
21	Broom weed	*Sida acuta*	Malvaceae	To Heal Burns	Leaves; warm leaf extract
22	White fig, sycamore fig	*Ficus sycomorus*	Moraceae	a) To treat ringworm, especially in children. b) To increase breast milk production in lactating mother	Leaves and bark; decoction of leaves and bark
23	Wild fig, brush fig	*Ficus capensis*	Moraceae	Toothache in adults and swollen gums	Leaves; latex is extracted and applied to the teeth and gums
24	Sodom apple, grant milk weed	*Calotropis procera*	Asclepidiaceae	Heal and prevents contamination to the umbilical cord	Leaves; dried leaves are crushed and mixed with shea butter
25	African border tree, tree of life	*Newbouldia laevis*	Bignonaceae	High fever, pneumonia	Leaves; boiled leaf extracts
26	Pink jacaranda	*Stereospermum kunthianum*	Bignoniaceae	Dizziness and headache	Leaves and bark; decoction of leaves and bark
27	Cock's comb	*Heliotropium indicum*	Boraginaceae	Treat Fresh Wound It Aids Fast Healing	Leaves; extract leaves juice
28	Paw-paw	*Carica papaya*	Caricaceae	Typhoid, Fever	Leaves; juice of the leaves, its decoction in combination with mango leaves. Squeezed male leaves to cure stomach ache

S/No	Common Names	Botanical Names	Family	Uses	Part used and preparation
29	Cotton leaf	*Jatropha gossypifolia*	Euphorbiaceae	For Chicken Pox	Leaves; decoction of leaves.
30	Guava	*Psidium guajava*	Myrtaceae	Dysentery, Cough, Mixed And Boiled With Mango Leaves Or Bark For Malaria	Leaves; decoction of leaves
31	Lemon scented gum	*Eucalyptus citriodora*	Myrtaceae	Catarrh and fever	Leaves; decoction of leaves
32	Cajeput tree	*Melaleucaleu cadendron*	Myrtaceae	Cough	Leaves; decoction of leaves
33	Lemon grass	*Cymbopogon citratus*	Poaceae	Cough, Typhoid	Leaves; decoction of leaves mixed with honey, pure decoction
34	Baobab	*Adansonia digitata*	Bombaceae	Diarrhea, Chest Pain	Leaves; dried leaves are pounded into pap, fresh leaves are eaten raw
35	Asian spider flower	*Cleome viscose*	Capparidaceae	Earache	Leaves; juice of the leaves extracted
36	African ebony jackal berry	*Diospyros mespiliformis*	Ebenaceae	Body pain	Leaves; decoction of leaves
37	Melon	*Citrullus lanatus*	Cucurbitaceae	Constipation	Leaves; decoction of leaves
38	Monkey plum	*Cissus aralioides*	Vitaceae	Increase blood and improves health	Leaves; pounded juice leaves is mixed with water
39	Coconut tee	*Cocos nucifera*	Arecaceae	Erectile dysfunction, typhoid	Drupe(the fruit); decoction of drupe fibrous husk is drunk
40	Globe amaranthus	*Gomphrena alosoides*	Amaranthaceae	Toothache in children	Leaves; extraction of juice from fresh leaves
41	Pig nut	*Hyptis suaveolens*	Lamiaceae	Act as mosquito repellant	Leaves; fresh leaves are hanged on walls
42	African mahogany, Lagos mahogany	*Khaya ivorensis*	Meliaceae	Teething problems	Leaves, stem and root; warm decoction is used to rinse mouth
43	Dry zone cedar	*Psedocedrela kotschyi*	Meliaceae	Stomach ache and diarrhoea	Leaves, bark; decoction of leaves and bark
44	Khaya	*Khaya senegalensis*	Meliaceae	Arthritis	Leaves and bark
45	Neem tree	*Azadirachta indica*	Meliaceae	For treating pimples, malaria, body weakness and loss of appetite	Decoction of leaves
46	Devil's coach whip	*Stachytarpheta angustifolia*	Verbenaceae	Infants with teething problems	Leaves; macerations of leaves mixed with a little water
47	Gum tree	*Sterculia setigera*	Sterculiaceae	Blood tonic, body weakness	Leaves; decoction of leaves
48	Sleepy morning	*Waltheria indica*	Sterculiaceae	Teeth whitener, prevents mouth odour and enhances strong teeth.	Leaves; fresh leaves are chewed
49	False cotton	*Cochlospermum planchonii*	Cochlospermaceae	For urinary diseases such as gonorrhoea	Leaves; decoction of leaves
50	Tomato plant	*Lycopersicon esculentum*	Solanaceae	Dizziness and sore gums	Leaves and fruits; decoction of leaves and fresh fruits.
51	African mesquite	*Prosopis Africana*	Equinosae	Arthritis	Leaves; decoction of fresh leaves
52	Shear butter tree	*Vitellaria paradoxa*	Sapotaceae	Arthritis	Leaves and bark; decoction of fresh leaves

Respondents Knowledge of Herbs/Traditional Medicine

Table 2 revealed that 70% of the respondents had informal training on traditional medicine through apprenticeship for a reasonable number of two years, 20% had formal training on traditional medicine as a result of forestry courses they offered during their advanced studies. Field observations revealed that respondents have developed wide indigenous technical knowledge on the use of medicinal plants to prevent and cure different ailments affecting the wellbeing of people in the study area. This was as a result of the training and experience. It was also noted by informants that there was always yearly meetings of the herbalists and trade fair on herbal medicine where individuals relate or interact together to share knowledge on traditional medicine.

Table 2: Knowledge/Training of Traditional Medicine Practitioners Borgu LGA of Niger State

Training	Frequency	Percentage
Informal	84	70%
Formal	24	20%
Inheritance	12	10%

DISCUSSION

Most of the medicinal plants identified were found to have multiple uses in the study area. The leaves, barks, fruits, and roots are mostly extracted 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 ethno-botanicals 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. Findings of Kayode (2008) in his study on survey of plant barks used in native pharmaceutical extraction also corroborate this result.

The most common family is Fabaceae used for treating different ailments such as *Leucaena leucocephala* for healing of wounds of lesions, *Acacia sieberiana* for curing cough in children, Indian rosewood for skin irritations, *Detarium microcarpum* for stomach or menstrual pains. This is mainly through decoction of their leaves for drinking in the morning and/or evening. The leaves, barks and roots *of Anacardiun occidentale* was found to be active in the treatment of ringworm, fever and body weakness through decoction. *Mangifera indica* leaves and bark are also active as a cure for fever, erectile dysfunction and conjunctivitis of the eyes. The leaves of *Carica papaya* and the unripe fruit are good medicinal herbs for the treatment of typhoid. The unripe fruit is also used for meat tenderization.

Moringa oleifera is good for curing wounds, boils, swellings, low blood pressure, as blood tonic, lower blood sugar level 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.

From the group interview conducted, latex from *Carica papaya* is also used for treating pimples and ringworm. The fruit of *Anacardiun occidentale* also cures ringworm. It was also gathered that the bark of *Mangifera indica* and *Sida acuta* (whole plant) through decoction cures erectile dysfunction in men. This report is in line with the findings of Bello (2016) in his study on potentials of aphrodisiac plants in solving men's sexual problems.

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 Fabaceae. It was found that most of the herbs have multiple uses and prepared with different combination of herbs for effectiveness. There is therefore need to document

the medicinal plants for future generation knowledge and use.

REFERENCES

Adekunle, J. (2004). Politics and Society in Nigeria's Middle-Belt; Borgu and the Emergence of a Political Identity, Africa Word Press, Pp131-134

Agboarumi, B.U. (1997). Borgu Past, Present and Future, Ilorin, Dada Press Limited, Nigeria. 37p

Aiyeloja, A.A and Bello, A.B. (2006). Biodiversity Conservation of Medicinal Plants; Problems and Prospects. In Conservation and Sustainable Use of Medicinal Plants in Ethiopia. Proceedings of the National Workshop on Biodiversity Conservation and Sustainable Use of Medicinal Plants in Ethiopia. Edited by Zewdu M and Demissie A. Addis Ababa; IBCR, 198-203.

Anselem, A. (2004). Herbs for Healing Pax herbals Edo State, Nigeria. 85p

Bello, O.A. (2016).Potentials of Aphrodisiac Plants in Solving Men's Sexual Problems. Proceedings of the 5th Biennial National Conference of the Forests and Forest Products Society. Edited by Adekunle, V.A.J., Oke, D.O. and Emehri, E.A 25th - 29th April. 354-360

Cowan M.M. (1999). Plant products as antimicrobial agents. *Clinical, Microbiology Review*, 12(4): 564-582

Fayemi, E.O. and Kayode, J. (2010). Ethnomedicinal Plants Used in the Treatment of Skin Diseases in some Parts of Ekiti State, Nigeria. Proceedings of the 2nd Biennial National Conference of the Forests and Forest Products Society. Edited by Onyekwelu, J.C., Adekunle, V.A.J. and Oke, D.O. 26th -29th April. 304-311

Kayode, J. (2006). Conservation of Indigenous Medicinal Botanicals in Ekiti State, Nigeria. *Journal of Zhejiang University Science* –B 7 (9): 713-718

Kayode, J. (2008). Survey of Plant Barks Used in Native Pharmaceutical Extraction in Yoruba Land of Nigeria. *Research Journal of Botany* 3(1):17-22

Kayode, J. and Omotoyinbo, M.A (2009). Ethnobotanical Utilization of Chewing Sticks Species in Ekiti State, Nigeria. *Research Journal of Botany* 4(1): 1-9

Kayode, J., Olanipekun, K.M. and Tedela, P.O. (2009). Medicobotanical Studies in Relation to Veterinary Medicine in Ekiti State,Nigeria. Checklists of Botanicals Used for the Treatment of Poultry Diseases. *Ethnobotanical leaflets* 13.

Obute, G.C. and Osuyi, L.C. (2002). Environmental Awareness and Dividends; A Scientific Discourse. *African Journal of Interdisciplinary Studies.* 3 (1): 90-94

Olanipekun, M.K. and Kayode, J. (2010). Checklists of Botanicals Used for the Treatment of Ruminants Diseases in Ekiti State, Nigeria. Proceedings of the 2nd Biennial National Conference of the Forests and Forest Products Society. Edited by Onyekwelu, J.C., Adekunle, V.A.J. and Oke, D.O. 26th -29th April. 334-338.