Study on Traditional Medicinal Flora of Argungu Local Government Areas, Kebbi State, Nigeria, West Africa

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Article history: Received 16 December 2014, Received in revised form 19 January 2015, Accepted 10 February 2015, Published 21 February 2015.

Abstract: The study is to document and prepare traditional medicinal knowledge to treats different human ailments by traditional healers of Argungu Local Government Area, Kebbi state, Nigeria. Field work was conducted between December 2012 to January 2014 using questionnaires. Data were collected from many traditional healer in the study area using 51 plant species mostly herbs and shrubs for traditional medicine for disease like measles, diabetes, cancer, anti-pregnant, typhoid and yellow fever etc. The result showed high dependency of local inhabitants on medicinal plant in meeting their primary health care needs. Moreover, the traditional knowledge has been restricted to elder people, protection measures should be taken in order to conserve precious multipurpose species that are facing exploitation. Medicinal plants treat major ailments may be subjected to pharmacological investigation for the identification of bioactive.

Keywords: Traditional Medicinal Flora, Argungu, Kebbi State.

1. Introduction

The interest in natural products for use as medicine has acted as catalyst for exploring methods involved in getting required materials for pharmacological screening and drugs development. Traditional medicinal refers to the health practice, knowledge and beliefs incorporating plants, animals
and minerals based medicine, spiritual therapy, manual techniques and exercise applied singularly or in combination to treat, diagnose and prevent illness or maintain well-being (WHO, 2003). Traditional medical practitioner therefore engages in tradition medicine. Medicinal plant is therefore defined as any plant with one or more of its organs containing substances that can be used for therapeutically purpose or which can be used as precursors for the synthesis of anti-microbial drugs.

Since ancient time, medicinal plants have attracted considerable attention of man including professionals. The use of crude drug in medicine dated back to antiquity. Even with the dawn and the subsequent march of civilization, men have not been able to dissociate themselves from plants, rather the use of the plants have been wider, food and clothing, decoration or drug is unimaginable without taking plant in account. Even pharmacopeia of advanced nation like USSR, Great Britain and USA has approximately 25 to 40% of their medicines from plant origin (Singh et al, 2010 and Singh et al, 2011). In the present time due to the prevailing economic recession coupled with fake medicines and their adverse effects, a large number of populace is being forced to accept the traditional medicine based medicare of the world.

In Nigeria a large number of people die daily of curable disease just because of lack of simple health care (Sofowora, 2006). Traditional medical management of disease is simple as it involves the use traditional knowledge of indigenous communities about surrounding plants diversity and various people effort of using indigenous plants found in their localities and surroundings to prevent, treat or manage disease (Aiyeloja and Bello, 2006). Traditional medicine studies are now recognized as the most viable methods of indentifying new medicinal plants or refocusing on those earlier reported for bioactive constituents (Fansworth, 1996). Historically, plants not only provide man with food but also with means of healing.

The practice of traditional medicine has been in existence in Nigeria from time immemorial and it is upon it that the rural population, which form about 75% of the country depends (Ugbogu and Odewo, 2004). These medicines have fewer sides’ effects and can be obtain easily from nature. Over years, there has been alarming reports of multiple drug resistance in medically important strains of bacteria and fungi (Ozumba, 2003). This has led to the development of more potent synthetic antibiotic such the third and fourth generations; cephalosporin by pharmaceutical companies. These new antibiotics are scare, costly and affordable particularly in developing countries and therefore make compliance difficult. There is therefore need for continuous search for new effective and affordable antimicrobial drugs. Local medicinal plants provide a source of new possible antimicrobial drugs (Burkill, 1985, Singh and Abubakar 2013). This study was conducted by collecting the plant specimens and information from local people about the medicinal uses of native plants which has been transmitted orally from ancestors and knowledgeable persons.
2. Material and Methods

2.1. Study Area

Argungu Local Government is approximately located at latitude 12°N, 43°N and 59°N and longitudes 4°N, 31°E. Argungu is a Town in Kebbi State Nigeria, situated on the Sokoto River. Argungu is a place with very small population in the state, which is located in the continents of Africa. The topography of the area is flat and slightly undulating with compact stony brown soil. It has savanna type of vegetation with two major seasons (the dry season from November to April) and (the rainy season from May to October). Harmattan period (November to January) is characterized by heavy fog and dust as well as extreme cold. Among the town and place near Argungu include, Felende, Helande, Gabon Gari, nachini and Tasumbuka. The closest major cities include Sokoto, Gusau, and Katsina. The mean annual temperature vary considerably but usually stands at about 42°C. However March and April are usually the hottest month in the years (Kebbi State Statistical Year book, 2007).

Fig. 1: Map of Argungu Local Government area, Kebbi State
2.2. Data Collection

Traditional medicinal survey was carried out in the Local Government Area during the period of December 2012 to January 2014. Argungu, Felende, Alwasai, Dabire, Forest, College of Education and Garbon Gari, were visited during this study for the collection of data related to the medicinal uses of floral diversity of these areas. The occupants of the area including traditional healer, herdsmen, herbs seller, farmer, old people and other on age group basis were interviewed for the traditional aspect of medicinal plant in their respective areas.

The questionnaire method was used for this study. The local names, mode of treatment and parts of the plants used in the treatment of more disease were noted and recorded in the vouchers specimen were collected and put in herbarium. During the collection drives observations on habit and habitat, flower colour and fragrance, besides dominance and sociability of the collected plants, were entered in field books. At least five tagged specimens were pressed on spot for preparing herbarium sheets and a bundle of a few plant specimens, tagged with same field number, was also collected in polythene bag for study at laboratory. Macroscopic and microscopic studies on collected specimens, determination of their identity and preparation of the herbarium specimens were performed after Jain and Rao (1978), Okoli (2002), Tucker and Calabrese (2005). Duly processed herbarium specimens of plants have been housed in the herbarium of Department of Biological Sciences, Kebbi State University of Science and Technology Aliero, Kebbi State, Nigeria, for record and references.

3. Result and Discussion

The analysis of the growth habits of the traditional medicinal plant species revealed a total of 51 plants which were used by the local community to treat various human disease, a total of four villages were visited for collecting the plant and their information from local people about the medicinal uses of native which has been transmitted orally from ancestors and knowledgeable persons. The majority of species were collected from forest, while the rest from college of education field, home garden, road side, the trees species constituted the largest growth habit followed by shrubs species and herbs, leaf is the plant part widely used followed by root, stem and seed.

In present enumeration the taxa have been arranged in alphabetical order along with their botanical name, local names, voucher specimens number, localities, and mode of treatment of the disease.

3.1. Systematic Enumeration

(1) Botanical name : *Acacia ataxacantha* DC
Local name : *Gwadder*
Family : Mimosaceae
(2) Botanical name: *Acacia nilotica* (L.) Willd. ex Del.

Locality: College of Education Field

Voucher specimen number: 1301

Traditional uses: Roots, bark, and leaves are used for treating tooth decay, cough head ache and wound.

(3) Botanical name: *Adansonia digitata* L.

Local name: Bagaruwa

Family: Mimosaceae

Locality: Fallow field

Voucher specimen number: 1302

Traditional uses: Leaves are used as medicine for ulcer, stomach-ache, nausea, and tooth-ache.

(4) Botanical name: *Amaranthus spinosus* L.

Local name: Alewo

Family: Amaranthaceae

Locality: Fallow field

Voucher specimen number: 1303

Traditional uses: The whole plants is used for treating malaria, asthma, diarrhea, kidney and bladder, stone.

(5) Botanical name: *Annona squamosa* L.

Local name: Gwadder masar

Family: Annonaceae

Locality: Felende

Voucher specimen number: 1305

Traditional uses: Leaves and roots are used for milk increment stomach ache,
and aid delivery in woman.

(6) Botanical name: *Anacardium occidentalis* L.
Local name: *Kashu*
Family: Anacardiaceae
Locality: Forests
Voucher specimen number: 1307
Traditional uses: Leaves, fruits and bark as medicine for treating measles, cough, Nausea, liver disease, vomiting and jaundice.

(7) Botanical name: *Artocarpus altilis* Bechel, A.R
Local name: *Aki*
Family: Moraceae
Locality: Road side
Voucher specimen number: 1308
Traditional uses: Root and fruits are used for fever, astringent and sedative

Botanical name: *Aspilia africana* (Pers.) C.D. Adams
Local name: *Tozalin*
Family: Asteraceae
Locality: Road side
Voucher specimen number: 1309
Traditional uses: Leaves, flowers are used in treating stomach disorder, tuberculosis, nervous disorder, and gonorrhea and skin rashes.

(8) Botanical name: *Azadiractha indica* A. Juss
Local name: *Dogonyaro*
Family: Meliaceae
Locality: College of Education Field.
Voucher specimen number: 1310
Traditional uses: Leaves and bark are using as medicine for malaria, typhoid, stomach-ache, dysentery, jaundice and spinning

(9) Botanical name: *Balanite aegyptica* (L.) Del.
Local name: *Adua*
Family: Balanitaceae
Locality: Forest
Voucher specimen number: 1311
Traditional uses: Bark soaked in water and used for dysentery. Leave are dried and ground to powdered, add to pap or honey to treat stomach ache and yellow fever.

(10) Botanical name: *Boerhavia diffusa* L.
Local name: *Biye rana*
Family: Nyctaginaceae
Locality: Forest
Voucher specimen number: 1312
Traditional uses: The whole plant are used as pain reliever, lower blood sugar.

(11) Botanical name: *Borreria verticiliata* L.
Local name: *Marike*
Family: Rubiaceae
Locality: Forest
Voucher specimen number: 1313
Traditional uses: Whole plant are used for treating abortifacient anti bilharzias, whitlow, boils and dysentery.

(12) Botanical name: *Calotropis procera* W.T (Aiton)
Local name: *Tunfafiya*
Family: Asclepiadaceae
Locality: Fallow Field
Voucher specimen number: 1314
Traditional uses: Root is put in the cow milk for some hours, Small cup of the is taken in morning and evening for treating gonorrhea, yellow fever, jaundice and sexual desire stimulation.

(13) Botanical name: *Cassia siebernia* Oliv.
Local name: *Malga*
Family: Caesalpiniaceae
Locality: Fallow Field
Voucher specimen number: 1315
Traditional uses: Root are effectively used for dysentery and stomach disorder and bark are soaked in water and drunk to cure syphilis and leprosy.

(14) Botanical name: *Cassia occidentalis* L.
Local name: *Sanga sanga*
<table>
<thead>
<tr>
<th>Family</th>
<th>Caesalpiniaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locality</td>
<td>Road side</td>
</tr>
<tr>
<td>Voucher specimen number</td>
<td>1316</td>
</tr>
<tr>
<td>Traditional uses</td>
<td>The whole plant is extensively boiled, steam bath and water are drunk for treating malaria, typhoid, head ache and cold</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botanical name</th>
<th>Casuarina equisetifolia J.R A and G. Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Yeldo</td>
</tr>
<tr>
<td>Family</td>
<td>Casuarinaceae</td>
</tr>
<tr>
<td>Locality</td>
<td>Forest</td>
</tr>
<tr>
<td>Voucher specimen number</td>
<td>1317</td>
</tr>
<tr>
<td>Traditional uses</td>
<td>Bark and leave are use to treats stomach ache, nervous disorder, cough, and beriberi and powdered bark are use for pimples</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botanical name</th>
<th>Citrus aurantifolia (Christm.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Lemu tsami</td>
</tr>
<tr>
<td>Family</td>
<td>Rutaceae</td>
</tr>
<tr>
<td>Locality</td>
<td>Forest</td>
</tr>
<tr>
<td>Voucher specimen number</td>
<td>1318</td>
</tr>
<tr>
<td>Traditional uses</td>
<td>Leaves and fruits are use for treating malaria, typhoid whitlow and dysentery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botanical name</th>
<th>Combretum molle  R.Br.ex G.Don</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Taranniya</td>
</tr>
<tr>
<td>Family</td>
<td>Combretaceae</td>
</tr>
<tr>
<td>Locality</td>
<td>Sabon gari</td>
</tr>
<tr>
<td>Voucher specimen number</td>
<td>1319</td>
</tr>
<tr>
<td>Traditional uses</td>
<td>Leaves and root are boiled and consume for treating asthma, chest pain, constipation, bleeding, body pain itchiness and syphilis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Botanical name</th>
<th>Combretum collinum Fresen.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local name</td>
<td>Sabara</td>
</tr>
<tr>
<td>Family</td>
<td>Combretaceae</td>
</tr>
<tr>
<td>Locality</td>
<td>Forest</td>
</tr>
<tr>
<td>Voucher specimen number</td>
<td>1320</td>
</tr>
<tr>
<td>Traditional uses</td>
<td>Leaves, bark sand roots are in treating abdominal pain,</td>
</tr>
</tbody>
</table>
tuberculosis, chronic diarrhea and crushed roots and barks mixed with cold water are given to children as laxative

(19) Botanical name: *Crotalaria retusa* L.
Local name: *Taringsto*
Family: Fabaceae
Locality: Road side
Voucher specimen number: 1321
Traditional uses: The root used for treating cough, fever, stomatis, diarrhea, and the seed powdered with milk is useful in body strength also use in skin disease.

(20) Botanical name: *Combretum nioroense* L.
Local name: *Geza*
Family: Combretaceae
Locality: Road side
Voucher specimen number: 1322
Traditional uses: Roots, barks and leaves are used for abdominal pain, dysentery, eye problem

(21) Botanical name: *Citrullus colocynthis* (Christm.) Swingle
Local name: *Tchini da zugu/ Bagaruwa*
Family: Cucurbitaceae
Locality: Forest
Voucher specimen number: 1323
Traditional uses: Seed, root and fruits are used in treating bladder stone, anti inflammatory, contraceptive, and for pulmonary infection

(22) Botanical name: *Cissampelos owariensis* L.
Local name: *Yewo*
Family: Menispermaceae
Locality: Forest
Voucher specimen number: 1324
Traditional uses: The whole plant is used are used in treating lung diseases, skin diseases and as tonic.

(23) Botanical name: *Corchorus olitorius* L.
Local name: *Lalo/ Ariraa*
Family: Titiaceae
Locality: Fadama
Voucher specimen number: 1325
Traditional uses: The leaves are used as blood purifier, dysentery, pains, aches, tumors and pectorial pains.

(24) Botanical name: Eucalyptus camendulensis Dehnh. / Schlecht.
Local name: Turare
Family: Myrtaceae
Locality: Forest
Voucher specimen number: 1326
Traditional uses: Leaves are used as medicine for malaria, typhoid, fever and also used in perfume production.

(25) Botanical name: Euphorbia hirta L.
Local name: Nonon kurchiya
Family: Euphorbiaceae
Locality: Forest
Voucher specimen number: 1327
Traditional uses: Stem is used for treating asthma, worm, and dysentery.
Latex of the plant is used for cuts and conjunctivitis.

(26) Botanical name: Gueira senegalensis J.F Gmel
Local name: Sabara
Family: Combretaceae
Locality: Fallow field
Voucher specimen number: 1328
Traditional uses: Bark, leaves, root, and stem are used to treat ulcer wound, intestinal disorder, sore throat, and for milk flow.

(27) Botanical name: Ipomoea aquatica Forssk.
Local name: Taringsto
Family: Convolvulaceae
Locality: Forest
Voucher specimen number: 1329
Traditional uses: The leaves are a good source of vitamins, and is used to treat ringworm infection, asthma, food poisoning, it heals boils and applied to hardened pimples.
(28) Botanical name: *Ipomoea fistulosa* (Mart. Ex choisy) D.Austin.
Local name: *Duman kada*
Family: Convolvulaceae
Locality: Fallow field
Voucher specimen number: 1330
Traditional uses: Leaves are used for abdominal pain, stomach ache and intestinal disorder

(29) Botanical name: *Jatropha curcas* L.
Local name: *Bindazugu*
Family: Euphorbiaceae
Locality: Fallow Field
Voucher specimen number: 1331
Traditional uses: Latex used as drug for sore throat, ulcer and inflamed tongue, and root used for tooth ache and mouth wash for bleeding gum

(30) Botanical name: *Lawsonia inermis* L.
Local name: *Lalle*
Family: Lythraceae
Locality: Forest
Voucher specimen numbers: 1332
Traditional uses: Leave, bark and roots are used for leprosy, jaundice whitlow, skin infection, bronchitis, headache, and brain stimulant.

(31) Botanical name: *Lepidagathus hamiltoniana* Wall.
Local name: *Walkin tsofo*
Family: Acanthaceae
Locality: Forest
Voucher specimen number: 1333
Traditional uses: The whole plant is use for abdominal cramping and diarrhea

(32) Botanical name: *Maerua angolensis* DC.
Local name: *Kera-geza*
Family: Capparaceae
Locality: Road side
Voucher specimen number : 1334
Traditional uses : Leave is used for milk purification and increase child strength.

(33) Botanical name : *Mangifera indica* L.
Local name : Mangwaro
Family : Anacardiaceae
Locality : Road side
Voucher specimen number : 1335
Traditional uses : Their leave and bark are boiled and drunk are used for treating malaria, fever and also for treating convulsion.

(34) Botanical name : *Moringa oleifera* Lam.
Local name : Zogale
Family : Moringaceae
Locality : Forest
Voucher specimen number : 1336
Traditional uses : Its seed is use for stomach ache, asthma and ear disorder. Leave are boiled and water are drunk for fever, jaundice, hypertension, tonic and for sore throat medication

(35) Botanical name : *Peristrophi bicalyculata* (Retz.) Nees.
Local name : Tuanin dawaki
Family : Acanthaceae
Locality : Augie
Voucher specimen number : 1337
Traditional uses : The whole plant is use as antidote and in treating ear and eyes disease.

(36) Botanical name : *Pilostigma thoningii* (DC.) (Schumatch.)
Local name : Kalgo
Family : Caesalpiniaaceae
Locality : Fallow field
Voucher specimen number : 1338
Traditional uses : Young leave are taken for chest pain and nausea and it is boiled and drunk for joint pains
(37) Botanical name: *Psidium guajava* L.  
Local name: *Gwaiba*  
Family: Myrtaceae  
Locality: Forest  
Voucher specimen number: 1339  
Traditional uses: The leaves and bark is given to expel placenta after childbirth, an extract is given in epilepsy and is rubbed on spine of children in convulsion, crushed leaves are applied on wound, ulcers and rheumatic places.

(38) Botanical name: *Punica granatum* L.  
Local name: *Borai*  
Family: Lythraceae  
Locality: Forest  
Voucher specimen number: 1340  
Traditional uses: Seed and flower are used for treating stroke, heart disease, heart attack, weakness, dizziness, fatigue, hair loss also the flower is used for nose bleeding and skin treatment.

(39) Botanical name: *Ricinus communis* L.  
Local name: *Dankwasaro*  
Family: Euphorbiaceae  
Locality: Road side  
Voucher specimen number: 1341  
Traditional uses: The fruit when consume it serve as anti-pregnant.

(40) Botanical name: *Sclerocarya birrea* (A.Rich).  
Local name: *Loda*  
Family: Anacardiaceae  
Locality: Road side  
Voucher specimen number: 1342  
Traditional uses: Leaves and bark are use as medicine for measles, sore throat, syphilis and appetite stimulant.

(41) Botanical name: *Senna alata* L.  
Local name: *Hilisko*
Family : Caesalpinioiaceae
Locality : Forest
Voucher specimen number : 1343
Traditional uses : Leave and flower are used for treating dysentery
syphilis, and jaundice

(42) Botanical name : *Sida corymbosa* R.T. Fries
Local name : *Aduwa*
Family : Malvaceae
Locality : Fallow field
Voucher specimen number : 1344
Traditional uses : Paste of roots is used for treating inflammation and
also as tonic, it reduce body weight, fever, it improved
sexual strength in male.

(43) Botanical name : *Talinum triangulare* L.H.
Local name : *Alenyruwa*
Family : Talinaceae
Locality : Fadama
Voucher specimen number : 1345
Traditional uses : It boost blood when consume and it is taken by
nursing mother for secretion of milk and it serve as
anti ulcer.

(44) Botanical name : *Thymus vulgaris* M.
Local name : *Nch anwu*
Family : Lamiaceae
Locality : Road side
Voucher specimen number : 1346
Traditional uses : It serves as facial care, oral care, culinary cuts, cold
remedy and wound, relieve aches, sore throat and
serve as sleeping herbs

(45) Botanical name : *Urena lobata* L.
Local name : *Uhuhu*
Family : Malvaceae
Locality : Road side
Voucher specimen number : 1347
Traditional uses: Whole plant leaves is used for treating dysentery, emollient and expectorant.

(46) Botanical name: *Vitellaria paradoxa* Gaernt. F
Local name: Shiyyiri
Family: Sapotaceae
Locality: Road side
Voucher specimen number: 1348
Traditional uses: The fruits are used as ointment cream for rheumatism and general body pain

(47) Botanical name: *Viscum album* H.A
Local name: Kauchi
Family: Loranthaceae
Locality: Road side
Voucher specimen number: 1349
Traditional uses: The whole plant is used for treating cancer, diabetes stroke, high blood pressure and anemia

(48) Botanical name: *Vernonia amygdalina* Del.
Local name: Shiwaka
Family: Asteraceae
Locality: Forest
Voucher specimen number: 1350
Traditional uses: The whole plants are use to lower blood sugar Level and in treating pile.

(49) Botanical name: *Waltheria indica* L.
Local name: Rukubun turawa
Family: Sterculiaceae
Locality: Fallow field
Voucher specimen number: 1351
Traditional uses: Leave and bark are use in treating malaria, infection convulsion, epilepsy, syphilis and diarrhea.

(50) Botanical name: *Ziziphus mauritiana* Lam.
Local name: Magarya
Family: Rhamnaceae
Locality: Forest
Voucher specimen number : 1306
Traditional uses : Leave, fruits and bark is used for ulcer, wounds, scurvy, Cuts, intestinal disorder, and hemorrhage

4. Conclusion

In conclusion, the results of the present traditional medicinal plants survey reveals the rich Wealth of indigenous knowledge associated with the villagers of Argungu Local Government Area, a number of plants with high citation values have given some leads for further pharmacological research apart from these highly cited plants studies need to be done on some other promising plants like Moringa oleifera, Euphobia hirta and Mangifera indica etc.

Acknowledgement

Author is grateful to the Tertiary Education Trust Fund Abuja, Nigeria for financial support and also gratefully acknowledge to the working facilities provided by the Department of Biological Sciences, Kebbi State University of Science and Technology Aliero, Kebbi State, Nigeria

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