AN ETHNO-MEDICAL SURVEY OF THE FLORA OF KUMBOTSO LOCAL GOVERNMENT AREA OF KANO STATE

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ABSTRACT

An Ethno-botanical survey was carried out to obtain information on the ethno medical values of wide range of plants used by the people of Kumbotso Local Government area of Kano State, Nigeria in the practice of healing and cure of common ailments. Oral interviews were conducted because the literacy level of those involved in traditional medicine is very low and fifty five informants were consulted. The objectives of the study were to survey medicinal plants found and used in the local government, to present the recent and valid nomenclature of the plant species and investigate the scientific basis of the use of Nigerian plants as medicinal sources. A recent and valid nomenclature, along with local names (Hausa), family names, part of the plant used and the medicinal uses of fifty five plant species that are commonly used by the people in ethnomedical practice were tabulated. Those interviewed were traditional practitioners, family heads and local herb sellers. Specific questions were asked and informations supplied by informants were promptly documented. Results showed that the people of Kumbotso local Government Area of Kano State still depend on herbal medicine in the treatment of diseases and ailments.

Key words: Ethno-medical, Plants, Ailments, Traditional medicine.

INTRODUCTION

Plants have been used as medicines throughout history. Indeed, studies of wild animals show that they also instinctively eat certain plants to treat themselves for certain illnesses (Sofowora, 1982). Medicinal plants are widely and successfully used in every continent. Many people now take medicinal plant products on a daily basis, to maintain good health as much as to treat illness. This is supported through the use of variety herb preparations from different plants for example Azadirachta indica, Anacardium occidentale, Abrus precatorios etc to treat certain ailment, (Sofowora, 1982; Gills 1992) Ethonobot (2005) explains that, the valuable medicinal properties contained in certain plants are not, however, in doubt. In recent years, for example, the Chinese plant Artemisia annua, has become the essential ingredient in a new generation of anti-malaria drugs. The plant is now being grown in East African countries to supply pharmaceutical manufacturers in Europe. The bark of the tree Prunus africana is used in making treatments for prostate cancer (Igoli et al., 2003). Sutherlandia, a native plant of South Africa, is being increasingly recognized for its value to HIV/AIDS sufferers. Other African plants, such as Devil’s Claw and African Geranium, are also gaining popularity as herbal
medicines, particularly in Europe. Also among Igede people of northern Nigeria in which over thirty taxa of plants were used in treatment of thirty one different ailments were noted (Igoli et al., 2003).

The therapeutic potentials of *Acacia nilotica* Del. (Leguminoseae) extracts in herbal medicine have been widely reported. In Northern Nigeria, it is used in the treatment of malaria fever, gall bladder disease, indurations of the liver and spleen, hemorrhoids etc. (Jigam, 2008). According to Gbile and Adesina (1986), the Nigerian flora has made and would continue to make great contributions to health care of Nigerians. In fact the indigenous medicinal plants form an important component of the natural wealth and culture of Nigeria. In northern Nigeria, plant medicines still dominate preventive and therapeutic medicine (Okoli et al., 2007).

In Africa, up to 80% of the population uses traditional medicine for primary health care and the global market for herbal medicines currently stands at over US $60 billion annually and is growing steadily (WHO 2003). The most effective method of identifying medicinal plants today is Ethno pharmacological studies (Ghani and Agbejule, 1986). It has been estimated that up to seventy-five percent of the human population of the earth still use herbal medicine techniques and preparations as either their only source or as a major source of healing. Another lesser known fact is that a large amount of our traditional western medicines are derived from plants and herbs that exist in nature. Moreover studies into Nigeria ethno-medicine has shown that over sixty percent (60%) depend on traditional medicine for their health care needs (Ghani and Agbejule, 1986).

This study was carried out to survey medicinal plants found and used in Kumbotso local government area of Kano state; to present the recent and valid nomenclature of the plant species; and investigate the scientific basis of the use of Nigerian plants as medicinal sources.

**MATERIALS AND METHODS**

**Geographical Location**

Kumbotso is a Local Government weather Area in Kano State, Nigeria. Coordinates: 11°53′17″N 8°30′10″E. It has an area of 158 km² and a population of 295,979 at the 2006 census. The postal code of the area is 700.

**Sampling Method**

Fifty five individuals were interviewed; thirty three of them were men while twenty two were women. Traditional medicine practitioners and herbalists, village heads, elders in the locality and herb sellers were orally interviewed regarding the medicinal uses of plants collected in Kumbotso L. G. A. The information obtained on commonly used herbs and parts frequently used for particular diseases remedies were documented. If at least two or three informants independently reported the use of a plant or plant part in the treatment of a particular ailment, the information was considered reliable and thus documented.

During interviews, the plant names were given in vernacular (Hausa) and thereafter, the plants were taken to the herbarium of Biological Sciences Department, Ahmadu Bello University, for proper identification and naming. The scientific and family names were also documented.
RESULTS

Results of this survey indicated that there is a wide acceptability of plants for ethno medicine by the Kumbotso people of Kano State since most people have used it at one time or the other.

Table 1: Age Distribution and Sex of Respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td>Age</td>
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<tr>
<td>&lt;30</td>
<td>11</td>
<td>20.0</td>
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<tr>
<td>31-40</td>
<td>10</td>
<td>18.2</td>
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<tr>
<td>41-50</td>
<td>21</td>
<td>38.2</td>
</tr>
<tr>
<td>51-60</td>
<td>13</td>
<td>23.6</td>
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<tr>
<td>Total</td>
<td>55</td>
<td>100.0</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>33</td>
<td>60.0</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>40.0</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Fifty five plant species belonging to 33 families’ were identified as being used in the traditional medicinal system of Kumbotso local government area of Kano state. From these plants 55 prescriptions or recommendations were recorded for treatment of 12 ailments or therapeutic indications. Ailment with highest number of prescription includes fever (14), rheumatism (5), asthma (4), diarrhoea (4), hyper tension (4), pile (3), sexual enhancer (3), skin infection (3), head ache (1) and helminthes infection having (1) (Table 2).

DISCUSSION

Dependence on medicines derived from indigenous plants is predominant in developing countries where modern western medicine is often unavailable or too expensive. This study showed that majority of the people of Kumbotso use traditional medicine at one point or the other and they still rely largely upon herbal remedies from different array of plants found in the area. This signifies the efficacy and safety of the plant material used in ethno- medicine. They refused to be discouraged by the critics of traditional medicine because besides providing healthcare, medicinal plants are also important sources of nutrition, spices, therapy and chewing sticks and it has been working for them. Some of the plants form part of the diet of the indigenes that use them in various food preparations and these include *Euphorbia hirta*, *Vernonia amygdalina*, *Adansonia digitata*, *Allium cepa*, *Allium sativum* and *Hibiscus sabdariffa*.

It was observed from the study that most of the herbal prescriptions were compounded for treating cases like fever, which has the highest prescription, stomach ache, pile etc. The most widely used plant species belong to the family Fabaceae (Table 2). In this study, it was found that *Azadiracta indica* is use by the local people in the community in treatment of fever and this agrees with the work of Ajaiyeoba *et al* (2003) and Etkin (1997) in Nigeria, Mackinnon *et al*. (1997) in Africa, (Asase *et al*., 2005) in Ghana, (Njoroge and Bussmann, 2005) in Kenya and (Caraballo *et al*., 2004) in Venezuela. According to Schwikkard and Van Heerden (2002), Meliaceae family has been used from generations to generation in Africa, India and tropical America to treat fever.

The findings of the present investigations were compared with some previously published studies on traditional medicine in Southern Nigeria: Okoegwale and Omefezi (2001); Gill *et al*. (1993) and Gill (1992). From this survey, it was apparent that some of the plants, parts used and purpose of use cut across other cultures not only in Nigeria but other parts of the world with similar cultural and socio-economic background (Ayitey-Smith, 1989).
Table 1: Names and uses of Medicinal Plant in Kumbotso Local Government Area of Kano State.

<table>
<thead>
<tr>
<th>S/N</th>
<th>FAMILY</th>
<th>PLANT SPECIES</th>
<th>PART USED</th>
<th>Local name</th>
<th>Common name</th>
<th>DISEASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alliaceae</td>
<td><em>Allium cepa</em></td>
<td>Leaves</td>
<td>Albasa</td>
<td>Onion</td>
<td>Asthma</td>
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<tr>
<td></td>
<td></td>
<td><em>Allium sativum</em></td>
<td>Leaves</td>
<td>Tafarnuwa</td>
<td>Garlic</td>
<td>Asthma</td>
</tr>
<tr>
<td>2</td>
<td>Anacardiaceae</td>
<td><em>Sclerocarya birrea</em></td>
<td>Leaves</td>
<td>Danya</td>
<td>Cidar tree</td>
<td>Diarrhoea Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Mangifera indica</em></td>
<td>Leaves</td>
<td>Mangoro</td>
<td>Mango tree</td>
<td>Diarrhoea Fever</td>
</tr>
<tr>
<td>3</td>
<td>Anonaceae</td>
<td><em>Anona senegalensis</em></td>
<td>Leaves</td>
<td>Gwandar daijmarke</td>
<td>Wild custard apple</td>
<td>Stomach ache Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Anogeissus leiocarpus</em></td>
<td>Leaves</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>Araceae</td>
<td><em>Pistia stratiotes</em></td>
<td>Heart wood/ stem bark</td>
<td>Kainuwa</td>
<td>Water letus</td>
<td>Rheumatism</td>
</tr>
<tr>
<td>5</td>
<td>Asclepidaceae</td>
<td><em>Calotropis procera</em></td>
<td>heart wood/ stem bark</td>
<td>Tumfaifya</td>
<td>Sodom apple</td>
<td>Fever</td>
</tr>
<tr>
<td>6</td>
<td>Liliaceae (old)</td>
<td><em>Allium ascalonicum</em></td>
<td>Leaves</td>
<td>Runfu</td>
<td>White onion</td>
<td>Asthma</td>
</tr>
<tr>
<td></td>
<td>Alliaceae (new)</td>
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<tr>
<td>7</td>
<td>Asteraceae</td>
<td><em>Vernonia amygdalina</em></td>
<td>Leaves</td>
<td>Shuwaka</td>
<td>Bitter leaf</td>
<td>Stomach ache</td>
</tr>
<tr>
<td>8</td>
<td>Balanitaceae</td>
<td><em>Balanites aegyptica</em></td>
<td>Fruit</td>
<td>Adu’a</td>
<td>Thorn tree</td>
<td>Head ache</td>
</tr>
<tr>
<td>9</td>
<td>Bombacaceae</td>
<td><em>Adansonia digitata</em></td>
<td>Leaves</td>
<td>Kuka</td>
<td>Baoba tree</td>
<td>Pile</td>
</tr>
<tr>
<td>10</td>
<td>Caesalpinaceae</td>
<td><em>Senna tora</em></td>
<td>Leaves</td>
<td>Tafasa</td>
<td>Sickle senna</td>
<td>Helminthic infestations</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Tamarindus indica</em></td>
<td>Leaves</td>
<td>Tsamiya</td>
<td>Kily tree</td>
<td>Skin infection</td>
</tr>
<tr>
<td>11</td>
<td>Cardiaceae</td>
<td><em>Lannea microcarpa</em></td>
<td>Root</td>
<td>Faaruu</td>
<td></td>
<td>Sexual enhancer</td>
</tr>
<tr>
<td>12</td>
<td>Caricaceae</td>
<td><em>Carica papaya</em></td>
<td>Leaves</td>
<td>Gwanda</td>
<td>Papaya</td>
<td>Stomach ache</td>
</tr>
<tr>
<td>13</td>
<td>Cochlospermaceae</td>
<td><em>Cochlospermum planchoni</em></td>
<td>Root</td>
<td>Rawaya</td>
<td>Dye plant</td>
<td>Contraceptive</td>
</tr>
<tr>
<td>14</td>
<td>Cucurbitaceae</td>
<td><em>Citrullus lanatus</em></td>
<td>Fruit</td>
<td>Kankanata</td>
<td>Water melon</td>
<td>Stomach ache</td>
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<tr>
<td></td>
<td></td>
<td><em>Cucurbita pepo</em></td>
<td>Seed</td>
<td>Kabewa</td>
<td>Pumpkin</td>
<td>Hypertension Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Momordica balsamina</em></td>
<td>Leaves</td>
<td>Garahunii</td>
<td>Balsam apple</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Cyperaceae</td>
<td><em>Cyperus rotundus</em></td>
<td>Root</td>
<td>Aya</td>
<td>Nut grass</td>
<td>Stomach ache</td>
</tr>
<tr>
<td>16</td>
<td>Euphorbiaceae</td>
<td>Euphorbia hirta</td>
<td>Heart Wood/ stem bark</td>
<td>Nonan kurciya</td>
<td>Queens land asthma herb</td>
<td>Diarrhoea</td>
</tr>
<tr>
<td>17</td>
<td>Fabaceae</td>
<td>Acacia albida</td>
<td>Heart wood/ stem bark Fruit</td>
<td>kanya</td>
<td>Gum Arabic Babul</td>
<td>Asthma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acacia nilotica</td>
<td>Heart wood/ stem bark Seed</td>
<td>Bagarwua</td>
<td>Gum Arabic Paper back</td>
<td>Diarrhoea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acacia senegal</td>
<td></td>
<td>Dashi</td>
<td>Albizia Coffee sena</td>
<td>Rheumatism</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acacia sieberiana</td>
<td></td>
<td>Farar Kaya</td>
<td></td>
<td>Fever</td>
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<tr>
<td></td>
<td></td>
<td>Albitzia chevalieri</td>
<td></td>
<td>Katsari</td>
<td></td>
<td>Hypertension</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Senna occidentalis</td>
<td></td>
<td>Farar albasa</td>
<td></td>
<td>Stomach ache</td>
</tr>
<tr>
<td>18</td>
<td>Loganiaceae</td>
<td>Anthocleista</td>
<td>heart wood/ stem bark</td>
<td>kwari</td>
<td>Cabbage tree</td>
<td>Sexual enhancer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>djalonensis</td>
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<tr>
<td>19</td>
<td>Loranthaceae</td>
<td>Englerina gabonensis</td>
<td>Leaves</td>
<td>Kauchi</td>
<td>Misteletor</td>
<td>Hypertension</td>
</tr>
<tr>
<td>20</td>
<td>Malvaceae</td>
<td>Ceiba pentandra</td>
<td>heart wood/ stem bark Leaves</td>
<td>Rimi</td>
<td>Silk cotton tree</td>
<td>Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hibiscus sabdariffa</td>
<td></td>
<td>Yakuwa</td>
<td>Indian sorrel</td>
<td>Hypertension</td>
</tr>
<tr>
<td>21</td>
<td>Meliaceae</td>
<td>Azadirachta indica</td>
<td>Leaves</td>
<td>Darbegia</td>
<td>Neem tree</td>
<td>Head ache</td>
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<tr>
<td></td>
<td></td>
<td>Khaya senegalensis</td>
<td>heart wood/ stem bark</td>
<td>Madaci</td>
<td>Mahogany</td>
<td>Fever</td>
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<tr>
<td>22</td>
<td>Mimosoideae</td>
<td>Parkia biglobosa</td>
<td>heart wood/ stem bark</td>
<td>Dorawa</td>
<td>Locus beans tree</td>
<td>Stomach ache</td>
</tr>
<tr>
<td>23</td>
<td>Moraceae</td>
<td>Ficus platyphylla</td>
<td>heart wood/ stem bark Leaves</td>
<td>Gamji</td>
<td></td>
<td>Fever</td>
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<tr>
<td></td>
<td></td>
<td>Ficus polita</td>
<td>heart wood/ stem bark Root</td>
<td>Dirimi</td>
<td></td>
<td>Skin infections</td>
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<td></td>
<td></td>
<td>Ficus sycomorus</td>
<td></td>
<td>Baure</td>
<td></td>
<td>Stomach ache</td>
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<tr>
<td></td>
<td></td>
<td>Ficus thomningii</td>
<td></td>
<td>Chendiya</td>
<td></td>
<td>Rheumatism</td>
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<tr>
<td>24</td>
<td>Moringaceae</td>
<td>Moringa oleifera</td>
<td>Leaves</td>
<td>Zogale</td>
<td>Moringa</td>
<td>Fever</td>
</tr>
<tr>
<td>25</td>
<td>Myrtaceae</td>
<td>Eucalyptus</td>
<td>Leaves</td>
<td>Bishiyar turare</td>
<td>River red gum</td>
<td>Fever</td>
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<tr>
<td></td>
<td></td>
<td>camaldulensis</td>
<td></td>
<td>Goga</td>
<td>Guava</td>
<td>Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psidium guajava</td>
<td></td>
<td></td>
<td></td>
<td>Fever</td>
</tr>
<tr>
<td>26</td>
<td>Palmae</td>
<td>Borassus aethiopum</td>
<td>Fruit</td>
<td>Giginnya</td>
<td>Elephant palm</td>
<td>Asthma</td>
</tr>
</tbody>
</table>
| 27 | Rhamnaceae | Ziziphus mauritiana  
|     |           | Ziziphus spina christii  
|     |           | Leaves  
|     |           | Heart wood/ stem bark  
|     |           | Magarya  
|     |           | Chinese data  
|     |           | Fever  
|     |           | Pile  
| 28 | Rubiaceae | Borretia verticellata  
|     |           | Gardenia aqualla  
|     |           | Nuclea diderrichii  
|     |           | Leave  
|     |           | Heart wood/ stem bark  
|     |           | Heart wood/ stem bark  
|     |           | Karya garma  
|     |           | Gaudee  
|     |           | Tofashiya  
|     |           | African peach  
|     |           | Rheumatism  
|     |           | Sexual enhancer  
|     |           | Stomach ache  
| 29 | Rutaceae | Citrus aurantifolia  
|     |           | Citrus lemon  
|     |           | Leaves  
|     |           | Leaves  
|     |           | Lemun tsami  
|     |           | Lemun masar  
|     |           | Sour lime  
|     |           | Tangirin  
|     |           | Fever  
|     |           | Fever  
| 30 | Sapotaceae | Butyropermum vittellaria (old)  
|     |           | Vittellaria paradoxum (new)  
|     |           | Heart wood/ stem bark  
|     |           | Heart wood/ stem bark  
|     |           | Kadanya  
|     |           | Shea butter tree  
|     |           | Skin infections  
| 31 | Solanaceae | Solanum incanum  
|     |           | Fruit  
|     |           | Data  
|     |           | Garden egg  
|     |           | Stomach ache  
| 32 | Fabaceae | Tamarindus indica  
|     |           | Leaves  
|     |           | Tsamiya  
|     |           | Dorawa  
|     |           | Skin infections  
| 33 | Verbenaceae | Vitex doniana  
|     |           | Heart wood/ stem bark  
|     |           | Heart wood/ stem bark  
|     |           | Dinya  
|     |           | Black plum  
|     |           | Diarrhoea  

Hyphaene thebaica  
Phoenix dactylifera  
Goriba  
Dabino  
Dum palm  
Date palm  
Pile  
Stomach ache  
Rheumatism  
Sexual enhancer  
Stomach ache  
Rheumatism  
Sexual enhancer  
Stomach ache  
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CONCLUSION:

It has been clearly shown from the interviews conducted that knowledge of medicinal plants is limited to traditional healers, herbalists and elderly people who are living within the study area who have the knowledge of the ailments that can be treated with these medicinal plants. The use of medicinal herbs to cure common ailments would continue to be a major part of the health care delivery system in many societies. This may be related not only to cost and difficulty in obtaining modern orthodox medical care but also the proven efficacy and tolerability of these herbal preparations as a practice that has been with indigenous groups for ages.

There can be loss of information and wealth of knowledge on the medicinal plants in the near future or forever (Igoli et al., 2003). This is because, there is lack of interest in traditional medicine practices among the younger generation because they want a lucrative and more profitable jobs. Also, present day traditional healers and elderly people who are usually the custodians of such information and traditional knowledge of the plants are passing on. There is, therefore, the need to investigate these medicinal plants within the context of these reported claims.

References


