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Research Article

Documentation on Medicinal Plants Sold in Markets in Abeokuta, Nigeria

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Abstract

Purpose: To document the medicinal values, local names, method of preparation, dosage forms and parts of common medicinal plants sold in some markets in Abeokuta, Nigeria.

Methods: Ethnobotanical data were collected by oral interview and with the aid of a structured questionnaire administered to men, women and young girls. The data from respondents from the five local markets surveyed were documented.

Results: The results show that a total of 60 medicinal plant species are commonly used by the people of Abeokuta in their traditional health care system. Most of the plant materials were in dried form and sold singly or in combination with other plants and are used in the treatment of various ailments such as malaria, hypertension, typhoid, jaundice, hyperthermia, skin irritations, dysentery, anaemia, gonorrhoea, cough, measles and fibroid. A majority of the plants were trees. The respondents were women (64.3 %), young girls (28.5 %) and men (7.14 %).

Conclusion: The findings support the need to encourage domestication and cultivation of medicinal plants as well as put in place conservation measures to ensure sustainable source of medicinal plants.

Keywords: Ethnomedicine; Medicinal plants cultivation; Documentation; Traditional medicine.

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INTRODUCTION

Plants have been major sources of medicine and plant secondary metabolites has been attributed for most plants' therapeutic activities [1,2]. Phytomedicines have shown great promise in the treatment of intractable infectious diseases [3]. The local uses of plants and products in health care are even much higher particularly in those areas with little or no access to modern health services [4].

Traditional medicine practice is an important part of healthcare delivery system in most of the developing world [5] and is a source of primary health care to 80 % of the world's population [6]. Traditional medicine has been reported to be the first medical care known to Nigerians and herbal medicine, an aspect of traditional medicine, is becoming increasingly popular in both developing and developed countries [7]. Traditional medical knowledge of medicinal plants and their use by indigenous culture are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development now and in the future [8,9]

Global and national markets for medicinal herbs have been growing rapidly and significant economic gains are being realized with global sales of herbal products which totalled an estimated US \$60 million in 2000 [10]. Local markets form an integral part of the life and culture of the people of Abeokuta, Nigeria. The markets are also important socio-economic institutions. The traders in these markets sell large amounts of medicinal plants to the indigenes and foreigners who seek their help. Most of the plant parts (barks, roots, stems and leaves) are sold in dried form.

Market survey is an efficient means of acquiring data on local values and conservation status of indigenous species [11,12]. However, an understanding of the market profile, socioeconomic attributes

influencing trade, species traded and impact of trade on plant pollution is critical for effective resource management [13].

The present survey aims at documenting the common medicinal plants sold in some local markets in Abeokuta, Nigeria as well as their medicinal values, local names, parts used and dosage forms.

MATERIALS AND METHODS

Study area

The study was carried out in Omida, Itoku, Adatan, Kuto and Lafenwa markets in Abeokuta, Ogun State, Nigeria. Abeokuta is located within longitude 3° 21' East and latitude 7° 11' North. The city of Abeokuta covers the geopolitical areas of Abeokuta North and Abeokuta South Local Government Areas of the State. The Yorubas are the main ethnic group in the area but the original settlers are the Egbas who founded the historic city. The dialectical groups in the area include Egbado, Ijebu, Egba, Remo, Oyo (Owu), Awori, Ikale and Ilaje. The people are known for traditional arts, carving and sculpturing. Abeokuta is surrounded by large mass of rocks and has a population of about one million people.

Survey

This ethnomedicinal survey was conducted in October 2008 to obtain pertinent information about medicinal plants traded in the area. Ethnomedicinal data collected was based on oral interview with the aid of a structured questionnaire and only data from willing respondents were documented. It was observed that a majority of the medicinal plant traders were women. However, the responses of some the traders in the course of the interviews were unfruitful as they refused to give details of their average income, duration of trade, mode of collection and the problems encountered during sourcing of medicinal plants. They were very forthcoming in giving details of the local

names, medicinal use, method of preparation, parts used, and dosages of the medicinal plants they sell. All the herbal medicines were prepared by either decoction or maceration.

Collection and Identification of plant samples

Plant samples were collected from five randomly selected markets in Abeokuta, Ogun State after the oral interviews with the traders. The plant samples were immediately labelled with their local names with which they were purchased and placed in clean dry baskets. They were later transferred with polythene bags to the point of identification. Most of the plant samples were identified by one of the co-authors of this work (MI). Other samples were identified using their local names and standard texts [14,15].

Samples of the plants were kept in the herbarium of the Department of Plant Biology and Biotechnology, University of Benin.

RESULTS

The survey revealed a total of 60 commonly used plants distributed into 56 genera belonging to 31 families used among the people of Abeokuta in traditional healthcare. The plants are listed alphabetically in order of family names (Table 1a-e). Other information relating to their local names, medicinal uses, method of preparation, parts used and dosages were also documented.

DISCUSSION

The collection of minor forest products or non-timber forest products is the main source of the economy of tribal people [16]. The traders depend on the sale of medicinal plants for their source of income and livelihood.

Most of the plant materials in the market were in dried forms and sold singly or in combination with other plants (“concoctions”)

to the public. The concoctions consisted of chopped root and barks and fresh leaves and fruits and were prepared either by decoction, tincture or through maceration. Some of the medicinal plants were also in powdered form or in solutions and administered as such. Most of the remedies were prepared from a single plant source, e.g., *Alstonia boonei* (for treating malaria and body pain), *Garcinia kola* (for body pain relief), and *Ficus capensis* (as blood booster); a few others were in combination with other common plants such as *Cassia sieberiana* with *Allium sativum* and *Eugenia aromatic*(for dysentery). The concoctions were also generally provided on demand rather than prepared in advance, in order to prevent spoilage.

The major medicinal plants traded in the area were derived from trees and this accords with an earlier report about the predominance of tree species in Bachama ethnomedicine [17]. The collected medicinal plants were found to be very common among the people and were used in traditional healthcare for a variety of disease conditions such as malaria, typhoid, jaundice, hyperthermia, skin irritations, dysentery, anaemia, gonorrhoea, cough, measles, hypertension and fibroid.

It was observed that the majority of medicinal plant traders were women (64.29 %) between the age group of 40 – 60 years. Young girls make up 28.5 % within the age group of 17 - 26 years of the traders visited while 7.14 % were men in the age group of 28 – 38 years. The former accords with earlier reports [11] that the women constitute the major traders of medicinal plant materials.

CONCLUSION

The use of herbal medicine has always been part of human culture, including African culture. The rising demand for medicinal plants has led to increased pressure on wild plant populations and shrinking habitats. It is obvious that the bulk of the plants traded in the local markets are sourced from the wild which could result in local extinction. There

Table 1a: Enumeration of plants commonly used by the people of Abeokuta in traditional health care (Family alphabets A - B)

Family /Taxon	Voucher no.	Local name	Medicinal use	Part used	Dosage
ALLIACEAE					
<i>Allium ascalonicum</i> L.	BDHS 158	Alubosa elewe	Stomachic and stop vomiting	Root and leaves	1 small cup 3 times daily for 1 week.
<i>Allium sativum</i> L.	BDHS 107	Alubosa ayu	For stroke and pain in the eye	Root	The extracted juice by chewing is swallowed for as long as symptoms persist.
APOCYNACEAE					
<i>Rauwolfia vomitoria</i> Afzel.	BDHS 149	Asofeyeje	Anti insomnia	Root	1 small cup once daily (preferably evening) for 3 days.
<i>Alstonia boonei</i> De Wild.	BDHS 131	Awun	Anti malaria and body pain reliever	Bark	2 cups 3 times daily for 2 weeks.
ANACARDIACEAE					
<i>Lannea egregia</i> Engl. & K. Krause	BDHS 128	Eki dan	For blood supply	Bark	2 tablespoons twice daily for adults / 2 teaspoons once daily for children for 1 week.
<i>Lannea welwitschii</i> (Hiern) Engl.	BDHS 142	Orira	Purgative and anti purgative	Bark	1 small cup once daily for 2 days.
<i>Anacardium occidentale</i> L.	BDHS 115	Kaju	For oral infection	Bark	1 small cup once daily for 10 days.
ARACEAE					
<i>Anchomanes difformis</i> (Blume) Engl.	BDHS 122	Langbodo	Anti hypertamia	Root	1 small cup once daily
AMARYLLIDACEAE					
<i>Curculigo pilosa</i> Engl.	BDHS 120	Epa kun	For gonorrhoea	Root	1 small cup once daily
<i>Crinum jagus</i> (Thomson) Dandy	BDHS 114	Isumeri	For asthma and tuberculosis	Root and leaves	1 small cup once daily (can cause vomiting if taken in excess).
ARISTOLOCHIACEAE					
<i>Aristolochia repens</i> Mill.	BDHS 160	Ako igun	For deworming	Root	1 teaspoon 3 times daily for 3 days.
ANNONACEAE					
<i>Uvaria afzelii</i> Sc. Elliot	BDHS 153	Gbogbonse	For any ailment	Root	1 cup once daily.
<i>Uvaria chamae</i> P. Beauv.	BDHS 140	Eeruju	Anti malaria	Leaves	½ stainless steel cup twice daily for 2 weeks.
<i>Xylopi aethiopica</i> (Dunal) A. Rich.	BDHS 125	Eeru awon ri n ka	For skin irritation	Seed	1 small cup once daily
BORAGINACEAE					
<i>Heliotropium indicum</i> L.	BDHS 138	Atapari-obuko	Body pain reliever	Root	1 small cup 3 times daily

Table 1b: Enumeration of plants commonly used by the people of Abeokuta in traditional health care (Family alphabets C - E)

Family /Taxon	Voucher no.	Local name	Medicinal use	Part used	Dosage
CUCURBITACEAE <i>Citrullus colocynthus</i> Schrad.	BDHS 106	Baara	For dysentery	Fruit	½ stainless steel cup twice daily for 3 days.
<i>Adenopus breviflorus</i> Bth.	BDHS 113	Tagiri	For measles	Fruit	The fruits are placed in the patient's room for as long as symptoms persist.
CONNARACEAE <i>Agelaea obliqua</i> (P. Beauv.) Baill.	BDHS 145	Irohin	As an anti - convulsant	Root	1 teaspoon before eating (carry the victim because he/she will be too weak after the herbal remedy is administered)
<i>Cnestis ferruginea</i> DC.	BDHS 123	Gboyin gboyin	Aphrodisiac	Root	1 small cup once daily
COMBRETACEAE <i>Terminalia avicennioides</i> Guill. & Perr.	BDHS 144	Idi	For skin irritation	Bark	Drink in small quantity to avoid stomach
<i>Terminalia superba</i> Engl. & Diels.	BDHS 103	Afara	Anti malaria and for measles	Bark	1 small cup for adults twice daily / 2 teaspoons for children twice daily
DIOSCOREACEAE <i>Dioscorea cayenensis</i> Lam.	BDHS 109	Apepe	For blood supply	Bark	Administer in small quantity for 1 week.
EUPHORBIACEAE <i>Croton peduliflorus</i> Hutch.	BDHS 129	Iso ariwo	For cough	Seed	1 small cup 3 times daily .
<i>Euphorbia lateriflora</i> Schum. & Thonn.	BDHS 126	Enu opiri	For typhoid	Root	Administer in small quantity for 2 weeks.
<i>Securinega virosa</i> (Roxb. Ex Wille.) Pax. et Hoffm.	BDHS 112	Iranje	Pain reliever	Leaves	½ stainless steel cup 3 times daily

Table 1c: Enumeration of plants commonly used by the people of Abeokuta in traditional health care (Family alphabet F)

Family /Taxon	Voucher no.	Local name	Medicinal use	Part used	Dosage
FABACEAE					
<i>Acacia ataxacantha</i> DC.	BDHS 121	Aso bo ni	Stomachic and for dysentery	Pod and seed	Lick soup thrice daily for 1 week
	BDHS 139	Oko aja	Aphrodisiac	Root	1 small cup once daily for 5 days.
<i>Angylocalyx oligophyllus</i> Bak. f. <i>Cajanus cajan</i> (L.) Millsp.	BDHS 141	Otili	For measles	Leaves	1 small cup 3 times daily
<i>Calliandra haematocephala</i> Hassk.	BDHS 136	Tude	Stomachic and for ringworm treatment	Root	1 small cup for adults once daily / 1 teaspoon for children once daily
<i>Cassia sieberiana</i> DC.	BDHS 156	Aridan tooro	For dysentery	Root	1 small cup taken only in the morning for 2 days.
<i>Cynometra manii</i> Oliver	BDHS 134	Ekú	To suppress swelling on the cheeks	Seed	Use poultice to massage the cheek.
<i>Daniella oliveri</i> (Rolfe.) Hutch. & Dalz	BDHS 132	Iya	For rashes	Bark	1 teaspoon for babies
	BDHS 159	Ogbogbo	For dysentery	Bark	No dosage
<i>Detarium microcarpum</i> Guill & Perr.	BDHS 137	Dasa	For good sight and to stop excessive menstrual flow (Anti menorrhagia)	Leaves	No dosage
<i>Dioclea secandens</i>					
<i>Erythrophleum suaveolens</i> (Guill. & Perr.) Brenan	BDHS 101	Obo	For skin irritation	Bark	Concoction is used to bath twice daily.
<i>Indigofera pilosa</i> Poir.	BDHS 157	Ka se	Anti malaria	Bark	1 small cup twice daily
<i>Lonchocarpus cyanescens</i> (Schum. & Thonn.) Bth.	BDHS 152	Elu	For rashes	Root	1 small cup once daily for adults and bath once daily for children
<i>Tetrapleura tetraptera</i> (Schum & Thonn.) Taub	BDHS 124	Aridan	Anti convulsant	Fruit	2 small cups for adults / 2 teaspoons for children twice daily

Table 1d: Enumeration of plants commonly used by the people of Abeokuta in traditional health care (Family alphabets G - O)

Family /Taxon	Voucher no.	Local name	Medicinal use	Part used	Dosage
GRAMINEAE <i>Bambusa vulgaris</i> L.	BDHS 111	Oparun	For measles	Leaves	½ stainless cup 3 times daily
GUTTIFERAE <i>Garcinia kola</i> Heckel.	BDHS 116	Orogbo	Body pain reliever	Bark	1 small cup once daily (for adults only)
LYTHRACEAE <i>Lawsonia inermis</i> L.	BDHS 118	Laali	For typhoid	Leaves	½ stainless steel cup 3 times daily
MORACEAE <i>Bosqueia angolensis</i> Ficalho.	BDHS 135	Saworo	For blood supply	Bark	No dosage
<i>Treculia africana</i> Decne. Moraceae	BDHS 117	Afon	For skin irritation	Root	1 teaspoon for children 3 times daily
<i>Ficus capensis</i> Thunb.	BDHS146	Opoto	For blood supply	Leaves	½ stainless steel cup 3 times daily for adults and 1 teaspoon 3 times daily for children
MELIACEAE <i>Khaya ivorensis</i> A. Chev	BDHS 104	Oganwo	For blood supply	Bark	1 small cup once daily
MENISPERMACEAE <i>Sphenocentrum jollyanum</i> Pierre	BDHS 150	Akerejukpon	Anti malaria and typhoid	Root	1 stainless steel cup twice daily for 2 weeks.
MYRTACEAE <i>Syzygium guineense</i> (Wild.) DC.	BDHS 133	Ori	Purgative and anti purgative	Bark	1 small cup once for adults / 2 teaspoons once daily for children
OCHNACEAE <i>Lophira alata</i> Banks ex F. Gaertn.f.	BDHS 148	Ponhan	For typhoid	Bark	1 small cup 3 times daily
OLEACEAE <i>Schrebera arborea</i> A.Chev.	BDHS 127	Opele	For skin tear on a child's head	Seed	Place 9 seeds on male and 7 on female child (as seed closes the child's head heals)

Table 1e: Enumeration of plants commonly used by the people of Abeokuta in Traditional health care (Family alphabets P - Z)

Family /Taxon	Voucher no.	Local name	Medicinal use	Part used	Dosage
PAPAVERACEAE <i>Argemone mexicana</i> L.	BDHS 143	Ma fo wo kan omo mi	For measles	Leave	To be used in small quantity
PHYLLANTHACEAE <i>Bridelia atroviridis</i> Mull. Arg.	BDHS 102	Arasa	For eczema	Leaves	Rub on affected part for as long as conditions remains
POACEAE <i>Cymbopogon citratus</i> (DC.) Stapf.	BDHS 147	Ewe tea	Anti malaria	Leaves	2 small cups 3 times daily for 2 weeks.
PERIPLOCAEAE <i>Mondia whitei</i> (Hook.f.) Skeels	BDHS 105	Isirigun	For deworming	Root	1 teaspoon 3 times daily (for children)
RUBIACEAE <i>Nauclea latifolia</i> Sm.	BDHS 154	Egbesi	For jaundice (yellow fever)	Root	1 small cup once daily
STERCULIACEAE <i>Theobroma cacao</i> L.	BDHS 130	Koko	For blood supply	Bark	1 small cup 3 times daily
<i>Nesogordonia papaverifera</i> (A. Chev.) R. Capuron	BDHS 108	Oro	For fibroid	Bark	1 small cup once daily
<i>Cola gigantea</i> A. Chev.	BDHS 151	Oporoporo	For blood supply	Leaves	1 small cup 3 times daily for 1 week.
SAPINADIACEAE <i>Lecaniodiscus cupanioides</i> Planch. ex Benth.	BDHS 161	Aka	To heal fractures and wounds of the leg	Root	Rub on affected parts.
ZINGIBERACEAE <i>Aframomum melegueta</i> K. Schum.	BDHS 119	Ata ire	For measles	Leaves	1 small cup 3 times daily for 2 weeks.
<i>Zingiber officinale</i> Rosc.	BDHS 110	Atalekopa	For typhoid	Root	Eat hot once daily.

is, therefore, the need to encourage domestication and cultivation of medicinal plants as well as put in place conservation measures to ensure sustainable source of plant materials.

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