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Original Research Article

Investigation on the Indigenous Knowledge of Medicinal Plants Used in Treating Ailments in Ekiti-State, Southwest Zone, Nigeria.

Olanipekun, M.K. and Ajayi Babajide

Department of Plant Science, Ekiti-State University, Ado-Ekiti, Ekiti-State, Nigeria.

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The demograhic characteristcs reports showed that the respondents of 60 years old and above shown better interest in the identification and collection of medicinal plants to treat various ailments in the study area. 59.76% of the respondents were illiterates, but the vast experiences and the belief they have on the effectiveness of the medicinal plants made the use to be preferred. The study showed the identification and collection of 50 botanicals belonging to 29 families. The respondents were quite familiar with the various diseased symptoms whereby 15 diseases such as malaria, typhoid fever, pains of diverse kinds, hypertension, diabetes, dysentery, microbial diseases and several others were identified. 16 botanicals were found used as an individual without adding other botanicals in herbal preparation while the remaining 44 botanicals belonging to 13 families were found used as a combination of two or more plants in a single herbal preparation. The mode of administration was mostly oral while the methods of preparation was mainly by infusion and decoction. However, the dosage and precaution were not scientifically proved.

Keywords: Demographic, Medicinal plants, Illiterates, Diseases, Herbal.

INTRODUCTION

The practice of Herbal or alternative system of medicine has been in exisitence since historical times. During the last few decades, there has been an increase in the study of medicinal plants and their traditional usage in different parts of the world (Lev. 2006). Also, over the years, there has been steady increase in the dependence on the use of plants and herbs as medicine in health procurement i.e. the utilization of plant species to effect healing. Spiritually, it was supported in the holy bible where God said (Genesis 1:29) “I have given you every herb bearing seed and every tree, let the earth bring forth grasses and tree yielding fruit after his kind to you it shall be for meat”. Similarly before the availability of synthetic drugs, plant-based remedies formed the bases of primary health care system.

Herbal infusion and decoction were household methods of preparing herbal drugs for treating common ailments. This involves the use of herbs, improvement on diet taken or lifestyle changes, with a view to diagnose, prevent or treat diseases locally or traditionally. Incidentally, there are several active compounds which have been discovered from plants on the basis of Ethnobotanical information and used directly as potential or bases in the production of synthetic drugs (Ibe and Nwafor, 2005; Olanipekun *et al;* 2013, Olanipekun and Kayode, 2014). This makes the use of plant reliable and effective. Recently, the World Health Organization (WHO) introduced the complementary and alternative medicine (CAM) health practices which are the traditional medicine in various parts of the world.

However, the idea of using medicinal plants in treating diseases has been a source of controversy in some parts of the world. This days medical Practitioners and some health officials are trying to stop people from using medicinal plants, stating that it has various adverse and side effects on the body and that it is not as effective as synthetic drugs. Some also believed that these medicinal plants do not pass through due processes when produced, they do not have required dosage and as a result of this it could be detrimental to human health. Fortunately, studies done across the world demonstrated and reported the awareness and the use of herbal medicine among the general population.

According to the world health organization, majority of the poor and the less advantageous people living in the rural areas and urban centres are dependent on medicinal plants for curing some common diseases. Several factors are responsible for the dependance on the use of herbal medicines. These are; drug resistance, cost effectiveness and

Corresponding author: omarykenny@yahoomail.com

availabilty. Herbal drugs are safe and can be consumed over a period of time with minimal or without side effects of any scientific proof.

Incidentally, a number of factors which include forest degradation, deforestation, unsustainable land use, urbanization and industrialization (Obute and Osuji, 2002; Adegoke and Ayodele, 1988) are threatening the existence of most of these plant species both at present and future. Plants are not readilly available and scarce.

The efficacies of plants over the ages in all the countries of the earth are no longer in doubt. For example *Parquetina nigrescens* belongs to the family periplocaceae, it is a greenish soft plant. The leaves which, when ground and taken orally have been claimed to cure pile/dysentery conditions. Similarly, many other plants such as the roots of *Annona senegalensis* (Abo) along with *Ximenia americana* (Igo) (Dalziel, 1939, Iwu 1989), *Terminalia* avicennioides,(Idi) *Terminalia schimperiana* (Idi-odan) and *Aloe barteri* (Eti-Erin). Nwude and Ibrahim, (1980) as well as Ibrahim (1984) reported that to treat dermatophylosis, *Butyrospermum parkii* (Emiemi), *Parkia filicoides* (Igba) or with the infusion of *Fadogia agrestis* were used. Aggarwal, (1995) reported further that the leaves and roots of *Trichodesma indicum* (Igi kekere) are effective against snake bites both in man and livestock. The juice of *Fumaria indica, Verbascum thapsus, Ocimum gratissimum* (Efirin) and *Azardiracta indica* (Dongoyaro) are given in diarrhea and expulsion of worms in man and animals.

Also, there are various reports on the efficacies of several plants such as *Momordica charantia, Ageratum conyzoides, Vernonia amygdalina, Elaeis guineensis, Ficus exasperata, Anacardium occidentale, Boervia difusa, Azadirachta indica, Allium sativum, Aframomum melegueta*, etc (Iwu, 1993; Olanipekun *et al;* 2009; Olanipekun and Kayode 2014). In lieu of this, the study identified and documented the traditional methods of treating various ailments in the study area.

MATERIALS AND METHOD

The study was carried out in Gbonyin Local Government Area, Ekiti State. Ekiti State is situated in the South Western part of Nigeria. The Local Government Area has a population of about 147,999 (2006 census) in which the males are said to be approximately 75,342 and females 72,657. It covers a land area of about 378sq.km (EKSG 2008). The study was carried out between 2013 and 2014 in seven (7) villages which includes; Ijan, Iluomoba, Aisegba, Agbado, Ode, Egbe, and Imesi. The area has two climatic seasons in a year, which are rainy season that ranges from March to October and the dry season that ranges from November through February. The inhabitants living there are majorly Yorubas and largely involved in farming because the area is naturally endowed with large, thick and fertile forest soil. Hence, some of these plants are cultivated or present as wilds in the study area.

The socio-economic characteristics of the respondents were obtained through interviews using both semi-structured questionnaires and market surveys. From the interviews, Plant species used for the treatment of various diseases were identified and collected. The parts of the plants and the abundance status of the plants at the study area were identified and documented. The traditional methods of preparation and the mode of application of herbal medicine were also identified and documented. All the data collected were encoded in the Microsoft Excel spreadsheet and processed using Statistical Package for Social Sciences(SPSS). Descriptive Statistical analysis (percentages, frequencies, means and mode) were used to summarise the data.

RESULTS AND DISCUSSION

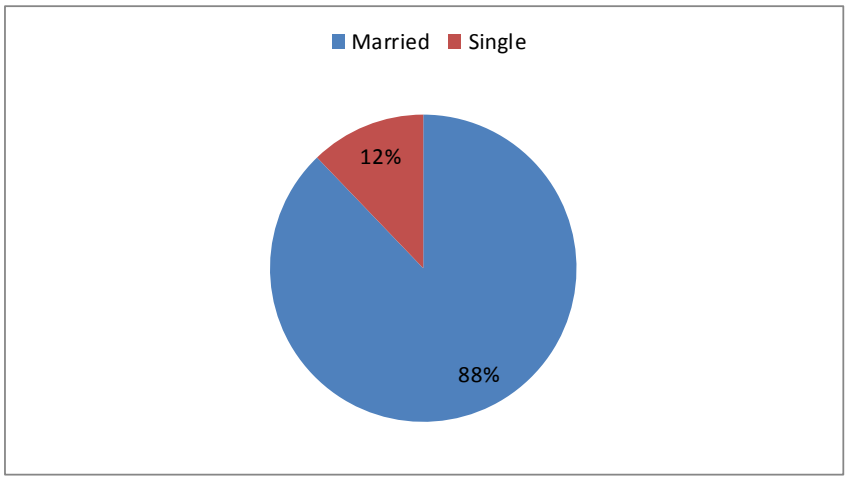
Results

The summary of the socio-economic characteristic of the respondents in the study area is shown in (Fig, 1a-e) where it was observed that out of the total number of respondents, 88 % respondents were married while 12 % were single (fig. 1a). 87.81% were women and they confirmed their dependance on the use of plants for healing their health chalenges. Similarly, greater number of female respondents 58.54% than male respondents 41.46% was involved in the identification of medicinal plants in the study area (fig. 1b). It was also shown that the educational status of the respondents was 59.76% for the illiterates while 40.24% were recorded to be literates (fig. 1c). Also, it was shown that 76.83% were Christians, 20.73% Muslims and 2.43% were traditional practitioners (fig. 1d)**.** The respondents of above 60 years old were observed to be more than the respondents of less than 60 years old in the identification and usage of medicinal plants in treating various ailments in the study area (fig. 1e).

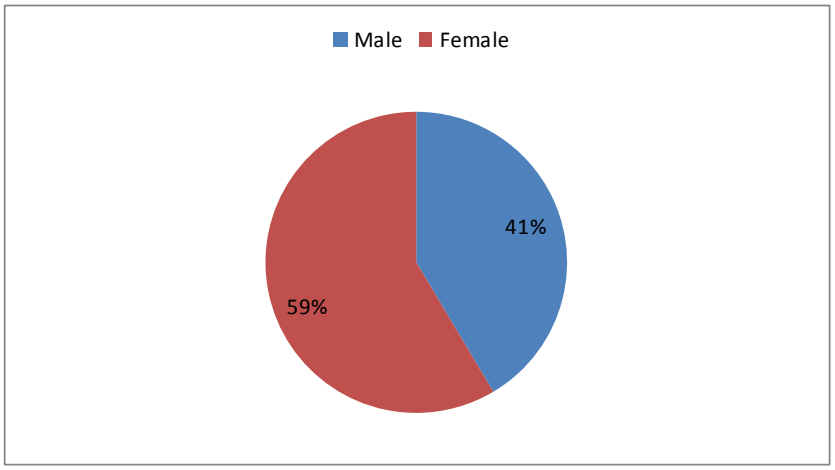
A total number of 50 botanicals belonging to 26 families were identified as being used for the treatments of several ailments in the study area (Table 1). Various plant parts such as roots, leaves, stems, aerial part and others were observed to be used in treating the various ailments. A detailed explanation of the list of the botanicals identified was recorded and arranged alphabetically showing their families, local names and the parts used in the table. However, leaves were found to be the most reported plant part used by the respondents for the preparation of various medications in the study area (Table1)

It was also observed that most of the respondents in the study area were quite familiar with the various diseases affecting people in the study area. Several diseased conditions such as malaria, typhoid fever, boil, gastroenteritis, hypertension, diabetes, dysentery, loss of appetites, microbial diseases and several others were identified and documented (Table 1). It was further observed in the table that the respondents have indigenous knowledge on different methods of treating diseases in the study area. Therefore a total of 15 diseases were identified. The various symptoms which are the first sign a patient will notice before the disease come fully into the body were documented in the table. Botanicals were observed used either individually or in combination of two or more in a single preparation to treat a particular ailment. Thus, 16 botanicals belonging to 16 families were observed to be used individually or singly.

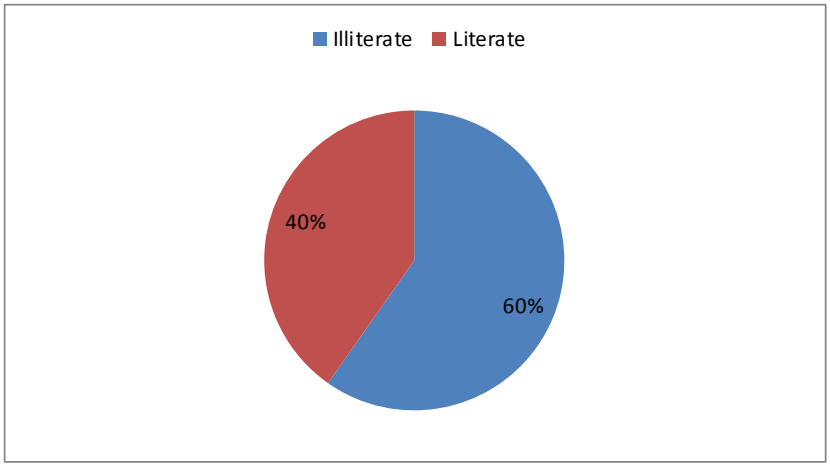
For example *Acanthus montanus* belonging to Acanthaceae family was found to be used to treat boil and malaria while *Moringa oleifera* belonging to moringaceae family was observed to treat malaria and stomach ache. Similarly, the remaining 44 botanicals belonging to 13 families have a combination of two or more botanicals for the treatment of various ailments. For instance, *Anarcadium occidentale, Mangifera indica, and Spondia mombin* belonging to the family Anarcadiaceae were used to treat fever and cough. Also, *Alstonia boonei and Rauwolfia vomitora* belonging to family Apocynaceae were used to treat fever and hypertension (Table 2).



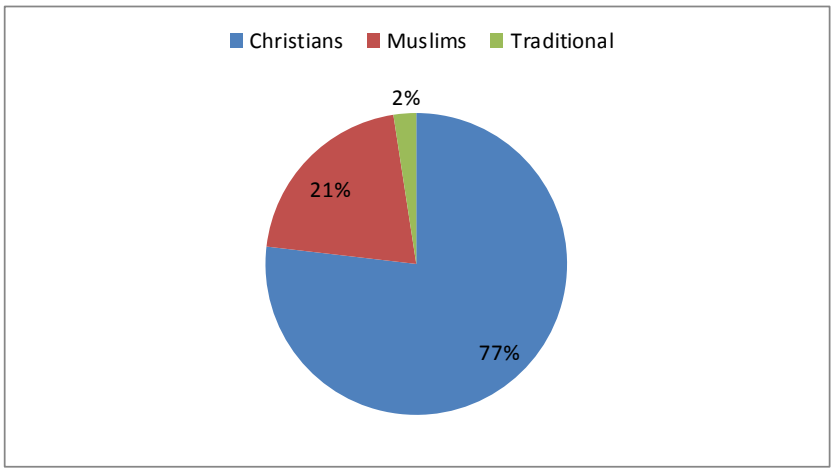
(a) Marital Status of the respondents



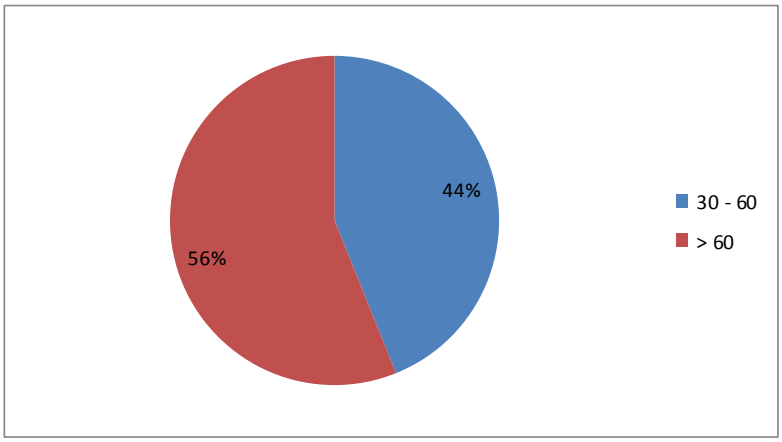
(b) Sex of the respondents



(c) Educational status of the respondents



(d) Religion of the respondents



(e) Age of the respondents

Fig. 1: The Chart Showing the Demographic Characteristics of The Respondents in the Study Area.

Table 1: List of Botanicals used in treating different ailments in the study area.

S/N	Name of Botanicals	Family Name	Parts Used	Diseases Treated
1	*Acanthus montanus* (nees) T. Anders	Acanthaceae	Leaves	Boil, malaria
2	*Aframomum meleguata* K.Schum	Zingeberaceae	Seeds	Cholera, mental disorder
3	*Albizia anthelmintica* Copiarawelw&Oliv.)	Fabaceae	Stem bark	Coted tongue
4	*Alchornea cordifolia* (Schum&Thonn)	Euphorbiaceae	Leaves	Gastroenteritis
5	*Alchornea laxiflora* (Benth)	Euphorbiaceae	Leaves	Dysentery
6	*Alstonia boonei* (De wild)	Apocynaceae	Stem bark	Malaria fever
7	*Anchomanes difformis* (Bl. Engl)	Aracaceae	Root tuber	Measles
8	*Bligha sapida* (Konig)	Sapindaceae	Seeds, Leaves	Rheumatism
9	*Byrsocarpus coccineus* (Schum&Thorn)	Connaraceae	Leaves	Dysentery
10	*Calliandra portoriscens* (Jaca. Benth)	Fabaceae	Root	Immune booster
11	*Carica papaya* (Linn).	Caricaceae	Leaves	Worms, yellow fever
12	*Chromolaena odorata* (L. King & Robinson)	Asteraceae	Stem	Cuts, malaria
13	*Chrysophylum albidium* (G.Don.)	Sapotaceae	Leaves	cough., malaria
14	*Combretum* racemosum P. Beauv)	Combretaceae	Stem juice	Eye problems, worms
15	*Culcasia lancifolia* (N.E.Br)	Aracaceae	Leaves	Loss of appetite
16	*Deinbollia pinnata (*Schum&Thonn)	Sapindaceae	Leaves	Gastroenterites
17	*Deinbollia pinnata (*Schum&Thonn*)*	Sapindaceae	Leaves	Stomach pain
18	*Diospyrus monbuttensis* (Gurke).	Ebenaceae	Leaves	Microbial infection

19	*Euphorbia heterophylla* (Linn.)	Euphorbiaceae	Leaves	Typhoid fever
20	*Ficus exasperate* (Vahl.)	Moraceae	Leaves	Hypertension
21	*Globimetala braunii* (Engl. van Tiegh)	Loranthaceae	Leaves	Hypertension
22	*Glyphaea brevis (*Spreng). Monachino*)*	Tiliaceae	Leaves	Backache
23	*Harugana madagascariensis* (Lam ex poir)	Clusiaceae	Stem bark	Fever
24	*Lonchocarpus cyanensis* (Schum&Thonn.)Benth	Fabaceae	Stem bark	Dysentery
25	*Luffa cylindrica* (M.J. Roem*)*	Cucurbitaceae	Leaves	Stomach pains
26	*Mangifera indica* (Lam.)	Anarcardiaceae	Stem bark	Fevers
27	*Moringa oleifera* (Lam.)	*Moringaceae.*	Leaves	Stomach pains
28	*Momordica charantia* (Linn.)	Cucurbitaceae	Leaves	Diabetes
29	*Myrianthus arboreus* (P. Beauv.)	Moraceae	Leaves	Gastroenteritis
30	*Napoleona vogelis* (Hook &Planch)	Lecythiadeae	Leaves	Microbial infection
31	*Newboulda laevis* (P. Beauv) Seeman ex Bureau	Bignonaceae	Stem bark	Yellow fever
32	*Parquetina nigrescens* (Afzel) Bulluck	Periplocaceae	Leaves	Dysentery
33	*Persea americana* (Mill.)	Lauraceae	Leaves	Hypertension
34	*Phyllanthus muellerianus (*O. ktze)	Euphorbiaceae	Leaves	Dysentery
35	*Physalis angulata* (Linn.)	Solanaceae	Stem bark	Stomach pains
36	*Pneumaptopteris afia* (C. chr.) Holttum	Thelypteridiaceae	Leaves	Microbial infection
37	*Psidium guajava (Linn.)*	Myrtaceae	Leaves	Fevers e.g fever
38	*Pycnanthus angolensis* (Welw) Warb	Myristicaceae	Stem bark	Fevers
39	*Rauvolfia vomitora* (Afzel.)	Apocynaceae	Leaves	Hypertension
40	*Sarcocephalus latifolus (*Sm)*,* Bruce	Rubiaceae	Leaves	Dysentery
41	*Senna alata* (Linn.) Roxb	Fabaceae	Leaves	Ringworm
42	*Sida garckeana* (Polak).	Malvaceae	Leaves	Gastroenteritis
43	*Solanum erianthum* (D. don)	Solanaceae	Leaves	Gastroenteritis
44	*Spondia mombin.* (Linn).	Anarcardiaceae	Leaves	Cough
45	*Terminalia schimperiana* (Hochst)	Combretaceae	Twigs	Gastroenteritis
46	*Terminalia superba* (Engl. & Diels)	Combretaceae	Stem bark	Loss of appetite
47	*Tithornia diversifolia (*Hemsl*)* A.Grray	Asteraceae	Leaves	Typhoid fever
48	*Trema orientalis* (Linn.)	Ulmaceae	Roots	Cough
49	*Vernonia amygdalina* (Del.)	Asteraceae	Leaves	Diabetes
50	*Vitex doniana* (Sweet.)	Verbenaceae	Leaves	Dysentery

Table 2: The Respondents Indegenous Knowledge on the synegistic effect on the combined use of plants to treat Disease Symptoms in the study area

S/N	FAMILY	BOTANICAL NAME	SYMPTOMS	Usages
1	Anarcardiaceae	*Anarcadium occidentale; Mangifera indica and Spondia mombin.*	Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches	i. Stem bark powdered of *Anarcadium occidentale* + *Mangifera indica*+ is mixed with the powdered leaves of *Spondia mombin* and given in pap and drink in abdominal pain and weaknesses. ii. Fresh leaves mixed with *Anarcadium occidentale* is used in Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches. iii. Powdered leaves is mixed with hot pap and drink against Runny or stuffy nose, Cough and Fever
2	Acanthaceae	*Acanthus montanus*	High temperature, lymph nodes may become swollen.	Leaf extract is given to supress high body temperature and body fatigue.
3	Apocynaceae	*Alstonia boonei , Rauvolfia vomitora*	Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches	Concoction of the plant with the leaves of *Rauvolfia vomitora* used to treat Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches, severe headaches, fatigue, vision problem, chest pain, breathing difficulty
4	Aracaceae	*Anchomanes diffformis, Culcasia lancifolia*	frequent urination excessive thirst, increased hunger, weight loss, tiredness, slow healing of wounds	Leaf decoction used in frequent urination excessive thirst, increased hunger, weight loss, tiredness, slow healing of wounds
5	Asteraceae	*Tithonia diversifolia, Chromolena odorata, Vernonia amygdalina, Ageratum conyzoides*	Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches	Leaf decoction in severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches; Leaf paste on cut or allergic inflammation; Leaf decoction in frequent urination excessive thirst, increased hunger, weight loss, tiredness, Leaf paste on wounds/cut; Leaf paste on nosebleeds, wounds. Leaf decoction on body weakness, bloody stool, muscle aches.
6	Bignonaceae	*Newboulda laevis*	Severe fatigue, abdominal	Stem bark decoction on severe body fatigue, pains,

			pain, bloody stool, nosebleeds, weakness, muscle aches	body weakness and muscle aches.
7	Caricaceae	*Carica papaya*	itchy scalp, sore, patchy hair loss	Dry Leaf and fruit decoction is given in Typhoid fever; Fruits juice applied on itchy scalp, sore and patchy hair loss.
8	Combretaceae	*Terminalia superba, Combretum racemosum, Terminalia schimperiana*	Fatigue, constipation, Decreased vision light sensitivity, headaches, Watery stool	Stem decoction against watery stooling, vomiting, abdominal pain
9	Connaraceae	*Byrsocarpus coccineus*	Abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss	Leaf conction on Abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss
10	Cucurbitaceae	*Luffa cylindrical, Momordica charantia*	High temperature, fatigue, vomiting, frequent urination excessive thirst, increased hunger, weight loss, tiredness, slow healing of wounds	Leaf decoction is given in high temperature, fatigue, vomiting, ii.Whole plant decoction is given against frequent urination, excessive thirst, reduced appertite, weight loss, tiredness.
11	Ebenacea	*Diospyros monbuttensis*	High temperature, stomach upset, swollen lymph nodes, headaches.	Leaves juice on high temperature, stomach upset, swollen lymph nodes, headaches.
12	Euphorbiaceae	*Alchornea cordifolia, Phyllianthus muellerianus, Euphorbia heterophylla, Alchornea laxiflora*	Watery stooling, vomiting, abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss, Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches	Leaf juice on watery stooling, vomiting, abdominal pain, Leaf decoction on abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss
13	Fabaceae	*Albizia copiaria, Calliandra portoricens, Desmodium velutinum*	High temperature, white spots. ii High temperature, running stomach. iii. Severe headaches, fatigue, vision problem, chest pain, breathing difficulty	Fever
14	Fabaceae	*Senna alata*	Itchy scalp, sore, patchy hair loss.	Itchy scalp, sore, patchy hair loss.
15	Lauraceae	*Persea americana*	Severe headaches, fatigue, vision problem, chest pain, breathing difficulty	Severe headaches,
16	Loranthaceae	*Globimetala braunii*	Severe headaches, fatigue, vision problem, chest pain, breathing difficulty	Severe headaches; respiratory diseases.
17	Malvaceae	*Sida garckeana . Theobroma cacao*	Watery stooling, vomiting, abdominal pain, Severe fatigue, abdominal pain, bloody stool, nosebleeds, weakness, muscle aches	Leaf decoction on watery stooling, vomiting, abdominal pain
18	Moraceae	*Myrianthus arboreus, Ficus exasperate*	Severe fatigue, high temperature, abdominal pain, weakness, muscle aches	Leaf juice rub on the body to reduce severe fatigue, reduce high temperature, abdominal pain, weakness, muscle aches
19	*Moringaceae.*	*Moringa oleifera*	Severe fatigue, high temperature, abdominal pain, weakness, muscle aches	Leaf decoction against severe fatigue, high temperature, abdominal pain, weakness, muscle aches
20	Myristaceae	*Psidium guajava, Pycnanthus angolensis*	Abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss	Leaf decoction to reduce abdominal pain, reduce high body temperature, loss of appetite, fatigue, vomiting and weight loss
21	Periplocaceae	*Parquetina nigrescens*	Watery stooling, vomiting, abdominal pain	Leaf juice to stop watery stooling, vomiting, abdominal pain
22	Rubiaceae	*Sarchocephalus latifolus*	Swelling, fatigue, joint pains, high temperature and stiffness	Leaf concoction three times daily.
23	Sapindaceae	*Deinbollia pinnata, Blighia sapida*	Runny or stuffy nose, hoarseness, High temperature, weakness.	Leaf juice applied on the nose and taken orally.
24	Sapotaceae	*Chrysophylum albidum*	Watery stooling, vomiting, abdominal pain	Leaf decoction, tbree times daily.
25	Solanaceae	*Physalis angulata, Solanum erianthum*	High temperature, stomach upset, swollen lymph nodes, headaches.	Stem decoction three times daily.
26	Thelypteridiaceae	*Pneumaptopteris afia*	Abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss	Leaf decoction three times daily.

27	Tiliaceae	*Glyphaea brevis*	Fatigue, reslesness and lack of concentration, loss of energy, movement changes.	Leaf concotion to be taken day and night.
28	Verbanaceae	*Vitex doniana*	Abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss	Leaf concotion on abdominal pain, high temperature, loss of appetite, fatigue, vomiting and weight loss
29	Zingeberaceae	*Aframomum meleguata*	change in sleep, poor concentration, loss of energy, movement changes.	Powdered seed added to pap or taken as concoction.

Table 3: The Respondents Indigenous Knowledge on the Preparation and Administration of Plants Used in Treating Different Ailments in the Study Area.

S/N	Name of botanicals	Methods of preparation	Mode of application	Diseases treated
1	*Acanthus montanus* (nees) T. Anders	Ground into powder and takes as tea	Orally by drinking	Boil, malaria
2	*Aframomum meleguata* K.Schum	Seeds ground as ingredients	Chewed or consumed as soup orally	Cholera, mental disorder
3	*Albizia* (Copiarawelw&Oliv.)	Bark infusion and decoction	Orally	Coted tongue
4	*Alchornea cordifolia* (Schum&Thonn)	Leaves infusion	Infusion taken orally	Gastroenteritis
5	*Alchornea laxiflora* (Benth)	Leaves infusion	Enema through the anus or orally	Dysentery
6	*Alstonia boonei* (De wild)	Stem-bark infusion	Orally through the mouth	Malaria fever
7	*Anchomanes difformis* (Bl. Engl)	Root tuber is soaked in water	Bathing with the water	Measles
8	*Bligha sapida* (Konia)	Prepare as liniments	Rub the liniments on the affected part	Rheumatism
9	*Byrsocarpus coccineus* (Schum&Thorn)	Leaves infusion and decoction	Enema through the anus or orally	Dysentery
10	*Calliandra portoriscens* (Jaca. Benth)	Root infusion	Take orally through the mouth	Immune booster
11	*Carica papaya* (Linn).	Fallen brown leaves decoction	Decoction taken orally	Worms, yellow fever
12	*Chromolaena odorata* (L. King & Robinson)	Shoot decoction	Decoction taken orally, leaves liquid squeezed on cuts	Cuts, malaria
13	*Chrysophylum albidium*	Leaves decoction	Decoction taken orally	Cough., malaria
14	*Combretum* (Racemosum P. Beauv)	Stem juice and leave juice dropped in the eye	Apply externally by dropping in the eye	Eye problems, worms
15	*Culcasia lancifolia* (N.E.Br)	Leaves ground for making herbal soap	Use it to bath	Loss of appetite
16	*Deinbollia pinnata (*Schum&Thonn)	Leaves decoction	Decoction taken orally	Gastroenterites
17	*Deinbollia velutinum* (wild) Dc	Leaves used as soup ingredients	taken as soup orally	Stomach pain
18	*Diospyrus monbuttensis* (Gurke).	Leaves infusion	infusion taken orally	Microbial infection
19	*Euphorbia heterophylla* (Linn.)	Leaves decoction and the water used in making eba	Decoction taken orally or eaten e.g in making eba.	Typhoid fever
20	*Ficus exasperate* (Vatil.)	Leaves infusion by boiling.	Infusion taken orally	Hypertension
21	*Globimetala braunii* (Engl. van liegh)	Leaves ground and used to prepare tea	Orally as tea	Hypertension
22	*Glyphaea brevis (*Spreng. Monachino*)*	Leaves infusion and decoction	Infusion and decoction used to bath and taken orally	Backache
23	*Harugana madagascariensis* (Lam ex poir)	Bark decoction	Decoction taken orally	Fever
24	*Lonchocarpus cyanensis* (Schum&Thonn.)	Bark decoction	Enema through the anus or orally	Dysentery
25	*Luffa cylindrica* (Rocm*)*	Leaves infusion and decoction	Infusion and decoction taken orally	Stomach pains
26	*Mangifera indica* (Linn.)	Bark decoction	Decoction taken orally	Fevers
27	*Moringa oleifera* (Lam.)	Leaves as soup ingredients	Could be taken orally as soup	Stomach pains
28	*Momordica chorantia* (Linn.)	Leaves infusion and fruit decoction	Infusion and decoction taken orally	Diabetes
29	*Myrianthus arboreus* (P. beauv.)	Leaves cooked as soup	Taken orally by eating as soup	Gastroenteritis
30	*Napoleona vogelis* (Hook &Plandi)	Leaves ground, leaves decoction and infusion	Grinded leaves rubbed on the body. Also taken orally.	Microbial infection
31	*Newboulda laevis* (P. beauv)	Bark decoction	The decoction taken orally	Yellow fever
32	*Parquetina nigrescens* (Afzel)	Leaves as soup ingredients, leaves also	Could be taken as	Dysentery

		ground.	soup orally	
33	*Persea americana* (Mill.)	Leaves infusion, seed ground as liniments.	Use to bath or take orally, rub the liniment on the body	Hypertension
34	*Phyllanthus muellerianus (*O. ktze)	Leaves infusion	Enema through the anus or orally	Dysentery
35	*Physalis angulata* (Linn.)	Shoot decoction	Drink the decoction orally	Stomach pains
36	*Pneumaptopteris afia* (C. chr. Holttum)	Ground and use as cream	Rub on affected parts	Microbial infection
37	*Psidium guajava (F.L)*	Leaves decoction	Take Orally the water extracts from the decoction	Fevers e.g fever
38	*Pycnanthus angolensis* (Welw warb)	Bark decoction	Orally in liquid form	Fevers
39	*Rauvolfia vomitora* (Afzel.)	Leaves decoction	By bathing and drinking orally	Hypertension
40	*Sarcocephalus latifolus,* (Bruce)	Leaves infusion by boiling in water	Drinking the infusion orally	Dysentery
41	*Senna alata* (Linn.)	Ground the stem or leaves to paste	Rub on the affected part of the body	Ringworm
42	*Sida garckeana* (Polak).	Leaves infusion	Drink the infusion orally	Gastroenteritis
43	*Solanum erianthum* (D. don)	Leaves infusion and decoction	Infusion and decoction taken orally	Gastroenteritis
44	*Spondia mombin.* (Linn).	Leaves infusion and decoction	Infusion and decoction taken orally	Cough
45	*Terminalia schimperiana*	Twigs decoction	Decoction also taken orally	Gastroenteritis
46	*Terminalia superba* (Engl. & Diels)	Stem-bark decoction	Decoction taken orally by drinking	Loss of appetite
47	*Tithornia diversifolia*	Leaves ground, leaves decoction and infusion	Infusion and decoction for bathing and drinking	Typhoid fever
48	*Trema orientalis* (Linn.)	Root decoction, leaves infusion	Infusion and decoction taken orally	Cough
49	*Vernonia amygdalina* (Del.)	Leaves as soup in ingredients	Soup taken orally as food	Diabetes
50	*Vitex doniana* (Sweet.)	Leaves as soup ingredients	Soup eaten as food	Dysentery

Table 3 shows the methods of preparation and the mode of application of these botanicals. From the table, it was observed that the mode of application was mainly through the mouth (orally) and the method of preparation was by infusion and decoction. It was also noted from the table that more than one plant species have been reported to be used by the respondents as remedy for the treatment of various ailments. Following the interview with the respondents, it was observed that majority were found to have poor knowledge of dosage and precautions needed to be taken while prescribing the remedy to the patients.

DISCUSSION

This study revealed that people of the rural area commonly used plant based materials as remedies for the treatment of several ailments. The use of plants have resulted in the totality of experiences that the rural or poor people have gathered together over the years as a result of continuous use of botanicals to treat ailments by trial and error. Plants are found naturally highly effective in treating various ailments. The involvement of the married people in the identification and collection of medicinal plants gave the indication that they are the custodians of medicinal plants. The use of plant is cheaper and available. Also the preparation does not involve a skilled practice. They use it to treat their family members. The unmarried people or the young people might not be concerned or sensitive in searching for the plants to treat sicknesses, thus they depend on the use of synthetic drugs to treat their personal ailments.

The greater percentage of the female respondents (Fig.1) may be as a result of the intimacy or closeness they have on the family members. Women are mothers and nursing mothers, the cared and always concerned with the health of the members of the family than the males in the study areas. Also, people of above 60years were observed to be greater in the identification and usage of medicinal plants in treating various ailments in the study area than the young people. This coroborate with the findings of Rathman et al; (2002) who reported that this age range is the economically active age and as such will respond positively to any intervention aimed at improving their productive capacities and well being. This was observed to be as a result of the belief and the vast experiences they have accumulated about the efficacies of the use of plants. However, the percentage of illiterates are more than the percentage of the respondents that were literate. This is because the study areas are relatively urban-rural. Though they are closer to the state capital,there are still quite a number of poor and illitrates that do not have the financial capability to send their children to school neither to purchase synthetic drugs because of affordability and availability. Based on this, they would rather engaged in farming and harvesting of plants which are at their custody and almost without cost.

The reliance of respondents on the use of the various parts of plants as herbal remedies for prophylactic and therapeutic purposes has been reported (Aiyeloja and Bello, 2006; Olanipekun *et al,* 2013). This corresponds with the findings of

other ethnomedicine studies in Africa like Uganda, Ethiopia and Mali where it was reported that most plant parts used in different preparations for remedy were leaves (Tagola, and Diallo 2005). This is because the leaves are more available and easily collected. They are just like the kitchen of a plant (that is, the part of the plant responsible for photosynthesis), leaves contain more of bioactive ingredients required in treating various diseases such as alkaloids, saponins, tannins etc. that makes them more effective in their usage.The respondents in the study area expressed a good knowledge of different diseases and correspondence treatment with the use of plants, thus, supporting the findings of Eisenberg *et al;* 1998 that medicinal plants have a wide range of application in the treatment of different diseases.

The use of more than one species of plants in treating a particular ailment could be attributed to additives or synergistic effect that they could have during treatment (Adegoke and Ayodele (1988); Haile and Delenasaw 2007; Olanipekun and Kayode 2014). The botanicals are known for their anti-bacterial, antiseptics and healing properties thus, confirmed the reports of Ibe and Nwafor (2005) that the use of C. odorata leaves extract aids the treatment and healing of cuts and wound. The method of preparation by infusion and decoction is because through these processes, the active ingredients could be fully extracted. Herbal medicines are mostly taken orally because it is easily taken and effects quick reaction that resulted to immediate healing effects. Most of the preparations are said to have no side effects except on rare cases where vomiting and watery stool were recorded and this may be attributed to the bitter taste and low toxicity of these medicinal plants. (Haile and Delenasaw, 2007).

In conclusion, the roles of plants cannot be over emphasized. Medicinal plants however are endowed by God and are naturally available in our immediate environment. The study provided an ethno botanical data and evidences that medicinal plants will continue to play an important role in the healthcare system by the rural people in the study area. It has also created a link between scientific institutes and local inhabitants, valuable not only in view of new drug discovery findings, but also for sending back indigenous healers to the scientific findings. Incidentally, it is quite unfortunate that man through his daily activities knowingly or unknowingly worked towards the extinction of these valuable plants.In lieu of this, the phytochemical screening of these plants is suggested to further study so as to find out and to validate the potential and widely acceptability of the plants thus promoting its practical and wider use.

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