Int.J.Curr.Microbiol.App.Sci (2014) 3(1): 675-683

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 3 Number 1 (2014) pp. 675-683**
http://www.ijcmas.com

Review Article

A review of the Ethnotherapeutics of medicinal plants used in traditional/alternative medicinal practice in Eastern Nigeria

Ikeyi Pauline Adachukwu[1*] and Omeh Ndukaku Yusuf[2]

[1]Department of Science Laboratory Technology, Institute of Management and Technology, Enugu, Nigeria
[2] Department of Biochemistry,Michael Okpara University of Agriculture, Umudike, Nigeria
Corresponding author

A B S T R A C T

Some selected common medicinal plants used among the Igbo (Ibo) people of Eastern Nigeria in Traditional/Alternative medicinal practice were reviewed. These medicinal plants were catalogued based on visits to the traditional medicine practitioners in this part of the country. The plants were described according to their names, parts used. Their therapeutic potentials were provided by the traditional medicine practitioners. Their names, taxonomy and phytochemistry were provided by literature and the department of Biological Sciences, Michael Okpara University of Agriculture Umudike, Abia State, Nigeria. Results revealed that most of the plants studied were Angiosperms, some were found growing in the wild, some were cultivated while others were found growing in the wild as well as being cultivated. The leaves and roots were the highest proportion of plant parts being used. All the plants were observed to contain the following phytochemical agents in common among others, viz: Alkaloids, Tannins, Flavonoids, Saponnins, Glycosides, Phenolic compounds and Phytosterols.

Keywords

Medicinal Plants; Ethno-therapeutics; phyto-chemicals.

Introduction

The United Nations Biodiversity Treaty of 22nd May, 1992 in Rio de Janeiro sought to encourage conservation of indigenous natural resources. Implicit in the Biodiversity treaty is the realization of the need to protect such natural resources from becoming endangered (Nwankwo, 2011). WHO defined Traditional Medicine as the sum total of all knowledge and practical application, whether explicable or not, used in diagnosis, prevention and elimination of physical ,mental or social imbalance, and relying exclusively on practice, experience and observations handed down from generation to generation, whether verbally or in writing.

The United Nations through WHO programmes sought to promote and develop traditional medicine in Health care systems, to integrate traditional medicine and modern/orthodox medicine and to promote manpower development

and research in traditional Medicine (WHO 1978).

Plants constitute a major economic resource of most countries. They have taxonomic classes which enable their classifications with respect to their role in economic development. In Nigeria and in Eastern Nigeria in particular, the medicinal plants are considered by several researchers to form an important component of the natural wealth of the country (Egharevba and Ikhetua, 2008) (Ekanem and Udo, 2009).

The use of medicinal plants for the treatment of disease and infections is as old as mankind. Therefore, many indigenous plants are used in Traditional medicine to cure diseases, heal injuries and infections (Okwu and Josiah, 2006). These ancient and indigenous medicinal practices were discovered but then could not be proven by scientific theories, but the results have been beneficial and efficient to the people. A large majority of these plants are herbaceous, while some are trees, weeds and shrubs. These indigenous plants are found in the wild, semi wild and in cultivated habitat. Many of these indigenous medicinal plants are consumed as foods (Faleye and Ogundaini, 2012) (Edoga, *et al*., 2005).

The use of plant extracts or chemicals derived from plants have become the base for the development of a medicine- a natural blue print for the development of new drugs (Khan *et al.,* , 2011) .The medicinal values of these plants lie in their phytochemical constituents, which produce definite and diverse physiological and pharmacological response in the human body. (Ekanem and Udo, 2011)(Edoga, *et al.,* . 2005). Across the continent, many medicinal plants have gone into extinction before documentation. There is rapid depletion of these natural plant resources due to over exploitation, large scale deforestation, unsustainable arable land use, urbanization, industrialization and lack of conservation programmes. Also, due to fear of lack of patronage and to mystify their trade, the traditional medicine practitioners hide the identity of medicinal plants and discourage its cultivation, leading to a huge loss in the knowledge of these plants (Obute, 2005).

The aim of this work is to document some selected common medicinal plants used in the practice of Traditional/Alternative medicine in Eastern Nigeria, to stimulate and renew interests in their phytochemicals and therapeutic potentials, to draw attention to threats posed by lack of conservation, highlighting strategies to enhance conservation thereby integrating orthodox and traditional medicine.

Materials and Methods

Field trips were taken to some popular traditional medicine practitioners and Herbalists at the Local Government levels in the states that make up (Igbo) Eastern Nigeria.

Though, with a lot of reservations, the herbalists related orally the plant materials they use. They detailed the various plants parts used in their cures.

Information from the literate/semi literate herbalists corroborated relatively with details from the illiterate ones. Literature on medicinal plants was used to authenticate the claims made by these herbalists in their cures and also for proper identification of the plants. Samples of

Tables.1 Showed a catalogue of these medicinal plants, names, botanical names, plant parts used, Therapeutic /medicinal uses and phytochemicals.

S/No	BOTANICAL / NAMES	COMMON/ /(IGBO) NAMES	PLANT PARTS USED	MEDICINAL USES	PHYTOCHEMICALS
1	Afromomum melegueta (Zingiberaceae). A Perenial, herbacious plant, narrow green leaves, purple flowers, pods containing reddish brown seeds with aromatic, spicy, peppery taste.	Alligator pepper, Guinea pepper, ose-oji, ose -ikerike.	Seeds	Used as Food spice to boost metabolism, calm indigestion, heartburn, intestinal infection, Antihelmintic, Purgative, Increase breast milk and boost fertility.	Alkaloids, Glycosides, Tannins, Sterols, Resins, Flavonoids.
2	Amaranthus hybridus(L) (Amaranthaceae) Perennial flowering plant with Over 10 species, simple leaves and dense green, reddish flowers bearing seeds.	Pigweed, African-spinach, Inine.	Leaves	Cooked leaves eaten as Haemostatics and as An Astringent.	Alkaloids, Flavonoids, Phenols, Saponins, Tannins, Phytic acid.
3	Azadirachita indica. (Maliaceae).A tree in the mahogany family. Evergreen leaves, small white flowers, Hard cracked bark.	Neem. Dogo-nyaro.	leaves ,bark, root	Extracts of roots and bark are Anti fungal, antibacterial, anti-helminthe, Sedative .leaf decoction and infusion for chicken pox, small pox, malaria. Twig chewed for toothache.	Saponin, Steroids, Tannins, Flavonoids, Cyanogenic, glycosides.
4	Chromolaena odorata (Asteraceae). Perennial shrub with simple leaves. Pale blue - white flowers and Stem with	Siam- weed, Obiarakara, Obiaraohuru	Leaves, Roots.	Leaf extract is used for Indigestion and stomach upset, heals wounds/ injuries,	Flavonoids, polyphenols, Methoxy-flav-one.

	characteristic smell.			Skin diseases, burns, infections, Haemostatic-arrests bleeding.	
5	Citrus aurantifolia. (Rustaceae) Perennial Tree, branched with evergreen leaves, thorny stem, whitish flowers,globase fruits, green when unripe and greenish-yellow when ripe, sour taste with many seeds.	Lime Oroma-nkirisi	Juice, from fruit	Juice extract mixed with honey for catarrh, cough and respiratory problems, stomach aches, flatulence, nausea and anemia	Alkaloids, Vitamin C, Flavonoids, Tannins, Phenols, Saponins, Niacin ,carotenoids, P, K, Mg, Na, Ca.
6	Chorchorus olitorius (Tilaeceae) An herbaceous plant, simple evergreen leaf, green stem, white/yellowish flowers, fruits in pods with black seeds.	Bush okra, Ahihara, Kerenkere.	Leaves.	Leaf water extract is for fevers, irregular menstrual flow, a purgative, a Tonic.	Cardiac- glycosides, Tannins, Flavonoids, Anthraquinones.
7	Chrysophyllum albidum (sapotaceae) A Tropical woody tree, long green leaves small dense, purplish white flowers, round edible fruit light brown seeds, chewy, gummy sap (latex), hard brown skin.	Africa star apple. Udara.	Fruits.	Fruits are sources of antioxidant,food,and snacks	Vitamins C,B_2 & Ca, Alkaloids, Tannins, Saponins, Phenols, Flavonoids.
8	Curcubita pepo (cucubitaeae) An annual plant, a climber, monoecious flower and pollinated by insects, large green fruits with many seeds, large evergreen leaves. All	Pumpkin, Anyu, Anyi.	fruits, leaves, Seeds.	It is used in treatment of UTI, an anti-helminthes, Rheumatism, BPH, Nourisher/Energizer, gout, enhances milk flow in new mothers, in post	Fatty acid, Steroids, Vitamins E & B,Fe,Zn,Mg,K,P,Cu, Niacin, folic acid, riboflavin, thiamin

	plant parts are edible.			partum swelling. It is also used as an aphrodisiac.	and pantothenic acid.
9	Dennettia tripetala (Annonaceae) A small tree, fruits, leaves, roots and bark have peppery, spicy taste and aroma. Fruits are red when ripe & green when unripe.	Pepper fruit, Mmimi.	Fruit, Leaves.	Leaf extract is a stimulant, for treatment of cough; convulsion and fever .Fruit is eaten as fruit/snack and as a spice. Oil extract is an analgesic, an antihelminthe, for vomiting and stomach upset	Ca,P,K,Mg,Fe,Cu,Zn, Vitamin C,thiamine riboflavin, niacin Alkaloids, phenols, flavonoids,saponins,steroids,tannins
10	Elaeis guineensis (jaca) (Aracaceae) A tall to medium branchless erect tree. Long, pinnate green leaves, inconspicuous flowers, orange to red fruits when ripe and greenish when unripe, borne in dense masses.	Oil palm tree Nkwu	Oil from seeds and kernel fruits	Oil is an antidote for poisons, venoms, stings, bites and healing wounds. Oil from kernel is an anti-convulsion, for skin infections, irritations and blemishes. It is a Diuretic, antioxidant and Laxative.	Tannin, Alkaloids, steroids,saponin,flavonoids, palmitic acid, oleic acid,linolenic,linoleic acid,stearic acid, lauric acid, myristic acid and palmitoleic acid.
11	Garcinia kola (Heckel) (Gultiferae) An evergreen small tree. Stem and bark are brown, small, oval, green leaves greenish/white flowers. Fruits are orange to red pods when ripe with brown seeds embedded inside.	Bitter cola, Aku-ilu.	Seeds	For the treatment of bronchitis, cough, catarrh, throat infections-Asthma.	Bioflavonoid, Kolarivon.
12	Gangronema latifolium (Benth) (Asclepiddaecea) A climbing shrub/vine, with hollow stem, hardy root. Simple green leaves	Bush buck, Utazi.	Leaves, Stem.	Tonic controls loss of blood, controls blood pressure and blood sugar, stabilizes the womb after	Saponins, Essential oils.

	with bitter sweet taste, yellowish green, bisexual flowers. Fruits are narrow and lobed pendants with many seeds.			birth.	
13	Newbouldia leavis(seem) (Bigononiaceae) A deciduous tree, with compound and opposite leaves. Purple, bisexual flowers. Fruits are capsules with numerous indehiscent seeds.	Smooth Newbouldia, Ogirisi.	Leaves Roots Barks	Squeezed Leaves extract is for treating eye problems. Leaves, roots and barks extracts are for treating constipation and septic wound.	Alkaloids, Tannin, Flavonoids, Saponin.
14	Ocimum gratissimum(L) (Lamiaceal) Aromatic perennial dicotyledonous shrub, erect stem with barnacles and woody base, scented green and opposite leaves, small white flowers in a bunch. Greenish fruits consisting of 4 seeds.	Scented leaf, African-Basil, Nchuanwu, Ahuji.	Leaves.	Water or oil extract of leaves treats constipation, worms/GIT disorder, and Diabetes mellitus.	Fats/oil, reducing sugars, terpenes, steroids, Alkaloids, Saponins, Tannins, Cyanogenic, glycoside.
15	Piper nigrum (schum and Thorin) (piperaceae) A flowering perennial woody vine, alternate leaves, small white flowers, fruits are drupes with single seed. Red when mature and ripe, green when unripe and black when dried.	Black pepper, Uziza.	Leaves, seeds stem.	Used to stabilize womb after childbirth. Constipation and indigestion.	Essential oils, Alkaloids, proteins, Tannins, coumerins, phenols.
16	Telfairia occidentalis (Hook)(curcubitaceae)A perennial herbaceous vine,with	Fluted pumpkin, Ugu.	Leaves, roots.	Squeezed leaves extract is used to treat Anaemia, roots extracts are used as	Saponin, tannins, Flavonoids, Alkaloids, Phenols.

	evergreen edible leaves,whitish flowers,fruits are gourds with large seeds			poisons.	
17	Vernonia amygdalina (DEL) (asteraceae) A small perennial shrub or small tree, leaves long, and green with bitter taste, stem and back are rough and butter whitish flower-no fruits or seeds produced.	Bitter leaf, Onugbo, Olugbo.	Leaves, Roots, Stem.	Squeezed aqueous leaves extracts are used to treat malaria and pile. It is also used as a pugative, ant diabetes and antifungal agent. Root extract is used to treat diarrhea.	Saponins, Terpenoids, Alkaloids, tannins, Proteins, Carbohydrate, steroids, flavonoids, Glycosides.
18	Xylopia aethiopicum (Dunal) (Annonaceae) A tall perennial woody, evergreen aromatic tree or shrub with main trunk and branches, Fruits are green when mature, are black, with pungent, aromatic scent when dried. Fruits are like peapods, long and thick and contain small seeds -aromatic and slightly bitter.	African pepper, Uda.	Leaves, seeds, Roots.	Leaves and seeds are chewed, squeezed or drank to treat eye problems, Bronchitis, to cleanse and stabilize womb after birth. Root extract is a good bitter. Seeds are good food spice and flavor.	Saponin, glycoside, tannin, essential oil, flavonoids, steroids, terpenes.

some of the medicinal plants were readily identified by the Department of Biological Science, Michael Okpara University of Agriculture Umudike, Abia State, Nigeria.

Results and Discussion

This work reviewed some selected common plants of ethno therapeutic value to the people of (Igbo) Eastern Nigeria. Results showed these plants are found within the Angiosperms. Some selected plants sampled were found growing in the wild, some were cultivated while some were found growing in the wild as well as cultivated. The highest proportion of plant parts used was the leaves and the roots. All the plants were observed to contain potential chemo preventive agents, viz: Alkaloids, Glycosides, and Saponins, Phytosterol, flavonoids and phenol compounds in varying quantities. Tables below show a catalogue of these medicinal plants, names, botanical names, plant parts used, therapeutic/medicinal uses and phytochemicals. The results of this study show the diverse indigenous medicinal plants of Eastern Nigeria of which majority are herbaceous shrubs, weeds and trees. Many are sourced from the wilds while some are cultivated for their domestic and ethno medicinal importance. However, the cultivation of these plants of medicinal importance are still rudimentary and many are disappearing due to human activities. There is little or no conservation strategies in place to safeguard these plants, and efforts by scientists are shrouded in Government tardiness and bureaucracy (Obute and Osuji, 2002).

The results further highlighted the need to harmonize orthodox medicine and traditional medicine, in view of the atmosphere of helplessness among the Nigerian poor, the Global attention on alternative medicine and the successes in China and India.

The use and practice of Traditional Medicine in Eastern Nigeria is as old as the people and have been beneficial to the people in the treatment of diseases, infections and to heal injuries. The documentation of these plants of medicinal value is a first step towards evaluation of their efficacy, refinement, easy communication, and assist in making information available on how drugs obtained from these plants are prepared and administered .As a first step towards the conservation of these plant species, farmers and traditional medicine practitioners maybe encouraged to cultivate and propagate these fast eroding plant species (Obute and Osuji,2002).They are easy, economical, less sophisticated, less time consuming and practical (Dar,et al,2006) : (Ibeh and Nwafor 2005).

Herbariums, botanical gardens and seed banks maybe established as a more scientific approach (Anifoweshe and Kalu, 2003) towards experimental invitro preparations, and for high genetic diversity and variability. There is need therefore to draw attention to the threat posed by the loss of these curative plants if preventive action is not taken.

References

Adegoke,A.A., and Adebayo,B.C 2009."Phytochemical Composition and Antimicrobial Effects of *C. olitorus* Leaf Extracts on Four Bacteria Isolates. J. Med. Plant Res. 3 (3) : 155 – 159.

Afolabi,F., and Afolabi,J.O. 2013."Phytochemical Constituent of some Medicinal Plants of Southwest Nigeria. J. Appl. Chem. 4(1) : 76 – 78

Akobundu, I.C., and Agyakwa. 1998. A handbook of West African Weeds.2nd Ed.African Book builders,Ibadan Nigeria.

Anifowoshe, E.I., and Kalu ,C 2003."Ethnomedical uses of Plants Among the Ekiti's in Irepodum/Ifelodum L.G.A Ekiti State. J. Trop. Agricult. Res. 6: 69 – 73.

Anowi,C.F., Umeokoli,B.O., Onyegbule,A.F, Okonkwo, C and Chibueze, I. 2012."Analgesic, Phytochemical and Acute Toxicity, Evaluation of the Methanol Extract of the Leaves of *Pterocarpus santalinoides*- Family Fabacea. Inter. J. Pharma. Sci. Res. 3(7) : 2018 – 2023.

Burkhil, H.M., 1985. The useful Plants of West Tropical Africa 2nd Ed.Royal Botanical Gardens. Pp 203 – 215

Brunken ,U., Schmidt,M., Dressler,S., Jansen,T., Thiombiano, A and Zizika, G. 2008."West African Plants A photoguide".African. J.Res. 5(7)87 – 90

Dar, A.R., Dar, G.H and Reshi, Zafar. 2006."Recovery and Restoration of some critically endangered endemic Angiosperm of Kashmir Himalaya endangered species. J. Biol. Sci. 6(6): 985 – 991

Edoga, H.O., Okwu,D.E and mbaebie B.O .2005."Phytochemical constituents of some Nigerian Medicinal Plants".African. J. Biotechnol. 4(7):685 – 688

Egharevba, R.K.A., and Ikhetus, M.I. 2008."Ethno-Medicinal uses of Plants in the Treatment of Skin Diseases in Ovia – North East,Edo State Nigeria. *Res. J. Agricult. Biological Sci.* 4(1):58 – 64

Ekanem,A.P and Udo,F.V 2009. African Natural Plant Products. New Discoveries and Challenges in Chenistry and Quality.ACS publications. Pp 135 – 147

Faleye,F.J., and Ogundaini,O.A. 2012."Evaluation of Anti-Oxidant and Antimicrobial activities of two Isolates From Aspilia Africana. Inter. Res. J. Pharmacy. 3(7): 135 – 138

Ibe,A.E., and Nwufo,M.I 2005."Identification,Collection and domestication of Medicinal Plants of South Eastern Nigeria. J. Phytotherapy Res.17(7) : 807 – 810

Khan ,M.E.,Amupitan,J.O and Ndukwe,I.G. 2011."Bioactive Evaluation and phytochemical Screening of the roots of Aristolochia albidis against some bacterial Pathogens."Continental J. Appl. Sci. 6(1) :7 – 14

Nwankwo ,J.O., 2011. Potential Anti - cancer and Antiviral Agents from West African Phytochemicals. University of Nigeria Press. Pp 156 – 162

Obute, G. C., 2005. "Ethno – Medicinal Plant Resource of South Eastern Nigeria". .African J. Ethnol. Leaflets ;2(5) 78 – 79

Obute,G.C., and Osuji,L.C. 2002."Environmental Awareness and Dividends : A Discourse".African. J. Interdisciplinary studies. 3(1) : 90 - 94

Odugbeme, John. 2008."Medicinal Plants of Nigeria. University of Lagos Press, Akoka, Yaba, Lagos, Nigeria

Ogbonnia, S.O., Mbaka,G.O, Anyika,E.N, Osegbo,O.N and Igbokwe, N.H. 2010. "Evaluation of Acute Toxicity in Mice and Sub - Chronic Toxicity of hydro Ethanolic Extracts of C.Odorota in Rats".Agricult. Biol. J. America. 1(5):859 – 865

Okoli,C., Akah, P.,Onuoha, N.J.,Okoye, T.C.,Nwoye, A.C and Nworu, C.S. 2008."*Acanthus monatus* : An Experimental Evaluation of the Antimicrobials, Anti – inflammatory and Immunological properties of a traditional remedy for furuncles".Bio-Medicals of Complemen. alternative Med. 4(8):27

Okwu,D.E., 2008."Citrus Fruit : A Rich Source of Phytochemicals and their Roles in Human Health.*International* J. Chem. Sci. 6(2):451 - 471

Okwu, D.E., and Jossiah, C. 2006."Evaluation of the Chemical Composition of Two Nigerian Medicinal Plants. African. J. Biotechnol. 5(4):357 - 361

Trivedi,M.N., Achana, K., Urmila, D.V., Charmi, P.S and Santini, D.D 2011."Pharmacognostic, Phytochemical analysis and Antimicrobial activity of two Piper species. African. J. Pharma.Globale. 7(4):1- 4

WHO. 1778a. The Promotion and Development of Traditional Medicine. Technical Report Series, No 622.Geneva.

WHO. 1991a. Guildlines for assessment of Herbal Medicine. WHO Geneva .

WHO.1991b. Traditional Medicine and Modern Health Care. WHO Geneva