

Ethnobotanical Study of Obagi Community, Ogba/Egbema/Ndoni Local Government Area of Rivers State, Nigeria

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Available online at: www.isroset.org

Received: 02/July/2020, Accepted: 24/July/2020, Online: 31/July/2020

Abstract— This paper reports an ethnobotanical study that focused on the documentation of traditional medicinal plants used by Obagi Community in Egi clan, Ogba/Egbema/ Ndoni Local Government Area (ONELGA) of Rivers State, Nigeria, to treat different human ailments. The study of medicinal plants was carried out from March 30 to August 21, 2019. Data were collected using semistructured questionnaire, interviews, group discussion, guided field walks, and observations with participants. The elderly people in the community and those with good knowledge of medicinal plants were the ones interviewed. This study documented a total of 56 plant species distributed into 52 genera and 37 families as plants used in the study area. The most dominant plant families were Euphorbiaceae (14%), followed by Fabaceae (11%), Asteraceae (11%), Malvaceae (8%), Araceae (8%), Arecaceae (5%), Zingiberaceae (5%), Anacardiaceae (5%), Poaceae (5%) and Musaceae (5%). . The highest plant habit recorded was herbs (48%), followed by trees (29%), shrubs (20%) and woody vines (4%). Leaves (77%), were the most frequently utilized plant parts for preparation of traditional herbal medicines. Decoction was the widely used mode of preparation of traditional remedies where oral administration was the dominant route. The highest diseases cured were malaria and rheumatism. The information generated from this study is encouraging and should be given a thorough investigation and clinical trials. Since this area of study experiences more of gas flaring and over exploitation of land, there should be need for conservation of other non-targeted species for further studies.

Keywords— *Ethnobotany, Obagi Community, Rivers State, Medicinal plants, Conservation*

I. INTRODUCTION

Ethnobotanists aim to document, describe and explain complex relationships between culture and uses of plants, focusing primarily on how plants are used, managed and perceived across human societies. This includes use of food, clothing, currency, ritual, medicine, dye, construction, cosmetics and a lot more [1].

The traditional medicine system, as well known, is a cultural practice of various communities around the world and encompasses all kinds of folk medicine, unconventional medicine, and indeed any kind of therapeutical method that has been handed down by the tradition of a community or ethnic group. The knowledge and use of indigenous plants in human medicine is well documented [2]. By the World Health Organization [3] definition, traditional medicine is the sum total of all knowledge and practices whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experiences and observations handed down from generation to generation, whether verbally or in writing. With these description, various forms of medicinal

massage, homeopathy, mud bath, music therapy, wax bath, reflexology, dance therapy, hydrotherapy, mind and spirit therapies, self exercise therapies, radiation and vibration, osteopathy, chiropractic, aromatherapy, preventive medicine, radiant heat therapy, therapeutic fasting and dieting, spinal manipulation, psychotherapy, etc are a few elements of traditional medicine. Plants provide lots of ingredients with wide range of medicinal properties [4,5]. It does show that a country of the size of Nigeria with diverse cultures and traditions should be rich in traditional medicine and should have eminent and respected traditional healers to take care of the teeming population. A traditional healer may be able to perform many functions thereby becoming more versatile as a healer. The various categories of traditional healers, perhaps specialists known in traditional medicine today include [6].

In Africa, up to 80% of the population uses traditional medicine to help meet health care needs [7,8,9]. Therefore, the number of recommended plants for use as herbal medicines has increased [10,11]. Medicinal plants have gained more recognition particularly in areas where there is perceived high cost of medical care, especially in Asia and Africa [12,13]. Traditional healers are especially

significant in developing countries because they are more accessible and affordable [14,15].

In addition, they are more socially accepted as compared to formally trained health workers from the urban areas [16].

Knowledge of the use of traditional medicinal plants was mainly through written traditional documentation of knowledge, pharmacopoeias for doctors and institutions, and Traditional Medical Knowledge (TMK) among households, communities, and/or ethnic groups. There are suggestions for the use of suitable strategies which will enhance sustainable usage and management of medicinal plants and it is focused on local approaches involving traditional medicinal knowledge [17,18].

Indigenous knowledge of medicinal plants in Obagi Community are not documented, rather, they are passed down orally from generation to generation due to lack of understanding and ignorance. This knowledge needs to be documented for taxonomical purposes. So, the present study was undertaken. Information on ethnomedicinal plants used by the the people of Obagi Community in Ogba/Egbema / Ndoni L.G.A of Rivers State, Nigeria for various diseases and disorders recorded during field trips is presented in this study.

II. RELATED WORK

Ethnobotanical Inventory of Oguru-ama Town, Degema Local Government Area, Rivers State, Nigeria was carried out by [19]. The paper aimed at showing the different ways medicinal plants are used by the indigenous people of Oguru-ama town in Degema Local Government Area of Rivers State, Nigeria, and also to enumerate the need for conservation of these important plants. The results showed that a total of 41 plant species distributed into 38 genera and 28 families were recorded and classified according to their botanical, common, local, and family names. Also, plant parts used, mode of preparation, administration, and ailment cured were recorded. The family with the highest number of species was the Poaceae, followed by the Rutaceae and Fabaceae families. The plant parts mostly used were leaves, followed by bark, fruit, seed, and root. The ethnobotanical uses of the plants include treatment of malaria, typhoid, cough, eczema, dysentery, catarrh, boil, wound, convulsion, etc. From the study, it was discovered that herbal knowledge is in the custody of traditional healers or native doctors and most of them die with this knowledge without passing it down. It was recommended that special attention should be given to the medicinal plants in this area through conservation because of their significant role in healthcare system, and environmental protection.

In 2012, a research titled "Ethno medicinal survey of plants used by the indigenes of Rivers State of Nigeria" was carried out by [20]. The paper was aimed at identifying and documenting the plants used amongst the indigenes of Rivers State. A total of 188 Medicinal plant

species representing 169 genera and 82 families used in the ethno medicine of the people of Rivers State were recorded from 460 households. The most important categories of diseases were those that showed the highest Informant consensus factor (ICF) value of 0.99, such as dermal or digestive problems and fever/malaria. The most used plant part was leaves (42%), while decoction was the main method of drug preparation (36%). These medicinal plants gathered may bring about drug discovery and may also be incorporated into the healthcare delivery system of the country.

Despite this interest, no one to the best of my knowledge has carried out the ethnobotanical research of Obagi Community in Ogba/Egbema/Ndoni Local Government Area of Rivers State, Nigeria.

III. METHODOLOGY

Study Area

The Ndoni-speaking people of the Ogba–Egbema–Ndoni LGA (ONELGA), Rivers State, Nigeria occupies the area within the geographical coordinates: 5° 33' 0" N and 5° 20' 18.00" N, and 6° 35' 0" E and 6° 39' 11.99" E. Ogba–Egbema–Ndoni is a Local Government Area of Rivers State, Nigeria, with its capital at Omoku. It is part of the Ogba / Ebgema / Ndoni / Ahoada West constituency of the Nigerian House of Representatives. Ndoni people are proud of their heritage. As Nigerian Citizens, they are patriotic to the core. Although ONELGA is the number one oil producing local government in Nigeria and contributes a great percentage to the oil mono economy of Nigeria, this area is bereft of any governmental infrastructure.

Obagi Community is located in Ogba Egbema- Ndoni Local Government Area (ONELGA), Rivers State, precisely in Ogba clan which is about 120 kilometers away from the Capital City of Rivers State. The community consists of two families which are Umu- Okporo and Umu-ache, and other sub families. The major occupation of the people is farming. The community gets income from an oil company situated 10km away from the community.

Obagi Community is endowed with many plants that can be used for medicinal purposes to which they have taken full advantage. Infact, out of approximately 70 plant species used in Obagi Community, more than 40 are used as medicinal plants. Medicinal plants are used in the treatment of many diseases and illnesses, the uses and effects of which are of growing interest to the neighbouring communities. Not only are plants used and chosen for their healing abilities, they also often have symbolic and spiritual significance.



Figure 1. Map of Rivers State showing Ogba/Egbema/Ndoni LGA

Selection of Participants

A total of 52 knowledgeable traditional medicine practitioners (31 men and 21 women) were selected randomly from the community. They were from ages 45 years and above representing the age group with good knowledge of herbal remedies. They were selected based on the recommendations of knowledgeable elders and local authorities. Traditional healers automatically qualified as key participants being guardians of indigenous knowledge on medicinal plants. For every informant we recorded personal information about age, gender, education level, profession, and population group. The informants had personal experience in self-medication using herbs and had ethnobotanical knowledge because of family tradition or personal interest. All information was obtained after receiving an oral prior informed consent from the participants. During the interviews, the informants were requested to indicate vernacular names of plants, parts of the plant used, association with other plants, folk uses, and preparation procedures. Specimens of the plants were either given to us by the informants or collected from the wild, according to their instructions.

Ethnobotanical Data Collection and Analysis

Ethnobotanical data were collected from March 30 to August 21, 2019. The techniques involved use of semistructured interviews, group discussion, guided field walks, and observations with participants. Information was carefully recorded during an interview with a participant. Field observations were performed with the help of local guides on the morphological features and habitats of each medicinal plant species in the field. Brief group discussions were made with participants regarding the medicinal plants in the study area. Data collected included common, local, botanical and family names, plant parts used, wild or cultivated plants, mode of preparation of drugs, dosage, administration, plant habit, plant parts used in combination with others, etc. Data collected were analyzed using descriptive statistics and utilization of tables.

Collection of Voucher Specimen

Voucher specimens collected during guided field walk were numbered, pressed and dried for identification which took place both in the field and in the herbarium. The Flora of West Tropical Africa was also used for identification. The specimens were deposited at the Rivers State Herbarium, Port Harcourt, Nigeria.

IV. RESULTS

Medicinal Plants of the Study Area

A total of 56 medicinal plant species, belonging to 52 genera and 37 families were used by the indigenous people of Obagi Community to treat 35 human ailments (Tables 1-3). The most used plant families were Euphorbiaceae (14%), followed by Fabaceae (11%), Asteraceae (11%), Malvaceae (8%), Araceae (8%), Arecaceae (5%), Zingiberaceae (5%), Anacardiaceae (5%), Poaceae (5%) and Musaceae (5%). The most ailments cured were malaria and rheumatism. Most of the plants were collected wild. The highest method of preparation was decoction and fluid extract where oral administration was the dominant route.. The highest plant habit recorded was herbs (48%), followed by trees (29%), shrubs (20%) and woody vines (4%). Leaves were the most frequently utilized plant parts (77%) for preparation of traditional herbal medicines

Table 1. Summary of medicinal plants used in Obagi Community.

S/N	Local name	Common name	Botanical name	Family name	Part used	Medicinal use(s)	Plant habit
1	Edeta	Resurrection plant	<i>Kalanchoe pinnata.</i> <i>Adans.</i>	Crassulaceae	Leaves	Cough, treatment of children navel	Herb
2	Ububie	Christmas bush	<i>Alchornea cordifolia.</i> <i>Schum & Thonn Muell.</i> <i>Arg.</i>	Euphorbiaceae	Leaves, root	Wounds, malaria chest pain	Shrub
3	Oyibo	Banana	<i>Musa sapientum.</i> Linn.	Musaceae	Leaves, root	Artrist, pains	Herb
4	Okinima	Plantain	<i>Musa paradisiacal.</i> <i>Linn.</i>	Musaceae	Leaves, decayed part, root, young part	Heavy flow of blood, fever	Herb
5	Ururea	Scent leaf	<i>Ocimum gratissimum.</i>	Lamiaceae	Leaves	Convulsion,	Herb

			<i>Linn.</i>			headache	
6	Nkpuroku-shaje	Bush cane	<i>Costus lucanusianus</i> A. Braun. & Schum.	Costaceae	Leaves	Rheumatism	Herb
7	Ntiele	Emilia plant	<i>Emilia sonchifolia</i> . (Linn.) DC	Asteraceae	Leaves	Vaginal discharge, Frigt in children	Herb
8	Ukpotuo	Bush cane	<i>Costus afer</i> . Linn	Zingiberaceae	Stem	Measles, bleeding	Herb
9	Eneda	Lime	<i>Citrus aurantifolia</i> . (christin) swing.	Rutaceae	Leaves, fruit	Malaria, whitlow, stomachache	Tree
10	Abieda Oyiebo	Lemon grass	<i>Cymbopogon citratus</i> . (DC.) stapf.	Poaceae	Leaves	Malaria, catarrh	Herb
11	Ehiahia eshie	Goat weed	<i>Ageratum conyzoides</i> Linn.	Asteraceae	Leaves	eye problem, wound	Herb
12	Erie nkita	Paw paw	<i>Carica papaya</i> Linn.	Caricaceae	Leaves, fruit	Malaria	Herb
13	Ekuowohie	Fluted pumpkin	<i>Telfairia occidentalis</i> . Hook .F.	Cucurbitaceae	Leaves	Blood tonic, eye	Herb
14	Uziza	Uziza	<i>Piper nigrum</i> Schum & Thonn.	Piperaceae	Leaves	Diarrhea	Herb
15	Omieyie	Mango	<i>Mangifera indica</i> Linn.	Anacardiaceae	Leaves, bark	Malaria	Tree
16	Dongoyaro	Neem	<i>Azadirachta indica</i> (A. Juss).	Meliaceae	Leaves, bark	Malaria, man power	Tree
17	Akimbo	Coconut	<i>Cocos nucifera</i> Linn.	Arecaceae	Root	Arthritis, Rheumatism	Tree
18	Ekuo	Palm tree	<i>Elaeis guineensis</i> . Jacq.	Arecaceae	Leaves, root	Arthritis Rheumatism	Tree
19	Ehiahia Gbariukura	Touch & die	<i>Mimosa pudica</i> Linn.	Fabaceae	Whole plant	Internal heat for women	Herb
20	Gova	Guava	<i>Psidium guajava</i> Linn.	Myrtaceae	Leaves	Diarrhea	Tree
21	Ede wijie	New cocoyam	<i>Xanthosoma mafaffa</i> . Schott	Araceae	Leaves	Internal heat	Herb
22	Ose oji	Alligator pepper	<i>Aframomum melegueta</i> . K. Schum.	Zingiberaceae	Seed	Cancer	Herb
23	Akiamie	Bitter cola	<i>Garcinia kola</i> Heckel.	Clusiaceae	Seed	Dermatitis	Tree
24	Eshia	Cassava	<i>Manihot esculenta</i> . Crantz	Euphorbiaceae	Tuber, leaves	Cancer, eye problem /snake bite	Shrub
25	Nchea	Newbouldia	<i>Newbouldia laevis</i> (P. Beauv.) seem ex Bureau	Bignoniaceae	Bark	Body pain weight pain	Tree
26	Ngiro	Cabbage tree	<i>Anthocleista vogelii</i> Planch.	Potaliaceae	Root	Still birth rheumatism	Tree
27	Eniae	Purslane	<i>Portulaca oleracea</i> Linn.	Portulacaceae	Leaves	Craw craw	Herb
28	Eshite	Spiny amaranth	<i>Amaranthus spinosus</i> Linn.	Amaranthaceae	Leaves	Craw craw	Herb
29	Ebilaojie	Mistletoe	<i>Viscum album</i> Linn.	Loranthaceae	Flowers	High blood pressure	Herb
30	Ezidibia	Broom weed	<i>Sida acuta</i> Burm .f.	Malvaceae	Root	Purgative (evacuation)	Herb
31	Ukeshie	Napoleona plant	<i>Napoleona imperialis</i> P. Beauv.	Lecythidaceae	Leaves & stem	Stomachache chest pain	Shrub
32	Origarri	Four o'clock plant	<i>Mirabilis jalapa</i> Linn.	Nyctaginaceae	Leaves	Abortion & purgative	Herb
33	Ukurobi	Chenille plant	<i>Acalypha hispida</i>	Euphorbiaceae	Leaves	Children fever	Shrub
34	Orjie	Kola	<i>Cola acuminata</i> schott & Endl.	Sterculiaceae	Root	Appendicitis	Tree
35	Uhae	African nutmeg	<i>Monodora myristica</i> Dunal.	Annonaceae	Leaves	Appendicitis	Tree
36	Ejikirika	Bauhinia plant	<i>Bauhinia monandra</i> Kurz	Fabaceae	Leaves	Typhoid, headache	Tree

37	Nbubuuru	Iron weed	<i>Vernonia cinerea (L.) Less.</i>	Asteraceae	Leaves	Headache, malaria	Herb
38	Ogbokie	Copperleaf	<i>Acalypha wilkesiana</i>	Euphorbiaceae	Leaves	Poison	Shrub
39	Okololo	Ring worm bush	<i>Senna alata (L.) Roxb.</i>	Fabaceae	Leaves	Ringworm	Shrub
40	Ede	Taro or old cocoyam	<i>Colocasia esculentum (L.) Schott.</i>	Araceae	Fruit	Wound	Herb
41	Urue	Umbrella tree	<i>Musanga cecropoides R. Br. & Tedlie.</i>	Urticaceae	Resin from the root	Chicken pox	Tree
42	Okonwa	Gulf leaf flower	<i>Phyllanthus amarus schumach & Thonn.</i>	Euphorbiaceae	Leaves	Abortion, man power	Herb
43	Ugbor	Akee	<i>Bligha sapida K. Koenig</i>	Sapindaceae	Leaves	Purgative	Tree
44	Ulubue	Bitter leaf	<i>Vernonia amygdalina (Del.)</i>	Asteraceae	Leaves	Stomachache	Shrub
45	Eka-tor	Spider plant	<i>Cleome ciliata Schumach. & Thonn.</i>	Cleomaceae	Leaves	Headache	Herb
46	Owu	Tree cotton	<i>Gossypium arboreum L.</i>	Malvaceae	Leaves	Craw craw	Tree
47	Apie	Black nightshade	<i>Solanum nigrum L.</i>	Solanaceae	Leaves	Convulsion	Herb
48	Ehia-army	Bhurat	<i>Cenchrus biflorus Roxb.</i>	Poaceae	Leaves	cough	Herb
49	Upor	Caesarweed	<i>Urena lobata L.</i>	Malvaceae	Leaves	Cough, typhoid	Shrub
50	Chanchangolo	Rosary pea	<i>Abrus precatorius L.</i>	Fabaceae	Leaves	Insanity	Woody Vine
51	Eru-ukazi	Icacinia plant	<i>Icacina trichantha Oliv.</i>	Icacinaceae	Leaves	Rheumatism	Shrub
52	Ijikirika	Hog plum	<i>Spondias mombin Linn.</i>	Anacardiaceae	Roots	Appendicitis	Tree
53	Akirakira	Smilax	<i>Smilax anceps Willd.</i>	Smilacaceae	Leaves	Irregular menstrual flow	Woody Vine
54	Agamebu	Bear's breech	<i>Acanthus montanus (Nees.) T. Anders.</i>	Acanthaceae	Leaves	Headache	Shrub
55	Oso-abanali	Culcasia	<i>Culcasia scandens P. Beauv.</i>	Araceae	Leaves	Children fever	Herb
56	Chichirimini	Pink lady	<i>Dissotis rotundifolia (Sm.) Triana</i>	Melastomataceae	Leaves	Convulsion	Shrub

Table 2. Summary of plant families, Number of genera, species, and plant part(s) used for this study.

S/N	Plant family	No. of genera	No. of species	Plant part used
1	Crassulaceae	1	1	Leaves
2	Euphorbiaceae	4	5	Leaves, root, fruit
3	Musaceae	1	2	Leaves root & decayed part
4	Lamiaceae	1	1	Leaves
5	Costaceae	1	2	Leaves
6	Asteraceae	3	4	Leaves
7	Zingiberaceae	2	2	Stem, seed
8	Rutaceae	1	1	Leave, fruit
9	Poaceae	2	2	Leaves
10	Caricaceae	1	1	Leave, fruit
11	Cucurbitaceae	1	1	Leaves
12	Piperaceae	1	1	Leaves
13	Anacardiaceae	1	2	Leaves & bark
14	Meliaceae	1	1	Leaves, bark
15	Araceae	2	2	Root, leaves, fruit
16	Fabaceae	4	4	Whole plant, leaves
17	Myrtaceae	1	1	Leaves
18	Clusiaceae	1	1	Fruits

19	Bignonaceae	1	1	Bark
20	Potaliaceae	1	1	Root
21	Potulacaceae	1	1	Leaves
22	Amaranthaceae	1	1	Leaves
23	Loranthaceae	1	1	Flower
24	Malvaceae	3	3	Root
25	Lecythidaceae	1	1	Leaves & stem
26	Nyctaginaceae	1	1	Leaves
27	Sterculiaceae	1	1	Root
28	Annonaceae	1	1	Leaves
29	Urticaceae	1	1	Resin from the roots
30	Sapindaceae	1	1	Leaves
31	Araceae	3	3	Corm
32	Cleomaceae	1	1	Leaves
33	Solanaceae	1	1	Leaves
34	Acanthaceae	1	1	Leaves
35	Melastomaceae	1	1	Leaves
36	Icacinaceae	1	1	Leaves
37	Smilacaceae	1	1	Leaves
	Total	52	56	

Survey: Recorded 37 families of plant species, 52 genera and 56 species. The plant part used ranges from the leaves, bark, root, fruit, stem, seed, whole plant, and decayed part of the plant.

Ailment cured, Mode of Preparation, Dosage, Mode of administration and mode of Collection (Cultivated or Wild).

Cough, Treatment of Umbilicus of Children

Leaves of *kalanchoe pinnata* are placed in the fire to soften it and are mixed with the shell of periwinkle which is grounded for the treatment of umbilicus of a new born baby. It is also used fresh by squeezing and pressing into the mouth for the cure of cough. It is a cultivated plant and a herb.

Wounds, Malaria, Chest pain

The tender part of the root of *Alchornea cordifolia* is cut and the juice pressed into the wound as first aid, the leaves are boiled in water and the solution drunk and bathed for the cure of malaria. The root also is cut into same pieces and in a mortar. Native chalk is added and together, it is pounded; water is added to the mixture which is filtered and taken for chest pain. It is a shrub and collected in the wild.

Arthritis, Pains

Root of *Musa sapientum* is cut into a bottle and mixed with local gin for the cure of pains and Arthritis. Half a glass is taken in the morning and evening. It is a cultivated plant, and a herb.

Heavy Menstrual Flow, Severe bleeding, Malaria fever

Decayed of *Musa paradisiaca* is washed and placed in the vagina to stop bleeding. The dried leaves are boiled and

bathed for the cure of malaria, morning and night. It is a cultivated plant and a herb.

Convulsion, Headache

Leaves of *Ocimum gratissimum* are squeezed and pressed into the eye to cure headache. They are also squeezed into a container mixed with palm kernel oil and rubbed all over the body to treat convulsion. Also, they are chewed for tooth and gum disorder. It is a cultivated plant and a shrub.

Rheumatism, Hunchback

Leaves of *Costus lucausianus* are boiled together with leaves of *Mangifera indica* to treat hunchback. The leaves are also boiled and used to pressing the muscles, joints, to cure rheumatism. It is a wild, herbaceous plant.

Vaginal Discharge, Treatment of Fright in Children

Leaves of *Emila sonchifolia* are squeezed and the fluid in applied to the vagina to stop itching. The are also squeezed and administered into the eye of a little child to stop fright in a child that is about to walk or new born baby. It is a wild, herbaceous plant.

Measles, Bleeding

The stem of *Costus afer* is cut and the liquid is pressed out and applied all over the body for the treatment of measles; the liquid is also used to stop bleeding. It is a wild, herbaceous plant.

Malaria, Stomach-ache, Whitlow

Fruits of *Citrus aurantifolia* are cut and the fluid taken for the treatment of stomachache and as worm expeller. They

are also cut into two and worn as a ring in the affected finger to treat whitlow. It is a cultivated plant and a tree.

Malaria, Catarrh

Leaves of *Cymbopogon citratus* are boiled and inhaled for the treatment of catarrh., the leaves and fruits are also combined with the leaves of *Carica papaya*, *Citrus aurantifolia*, and boiled together to be bathed and drank morning and evening for the treatment of malaria. They are cultivated plants and grass, herb, and tree respectively.

Eye Problem, Wound, Treatment of Umbilical cord in babies

Leaves of *Ageratum conyzoides* are squeezed and administered the eye, the problem could be as a result of flies entering into the eye or the nail of witches. They are also squeezed and applied to wound. They are also used for the treatment of serious pains in the navel whether adults or children by applying it to the navel. It is a wild, herbaceous plant.

Malaria

Leaves and unripe fruits of *Carica papaya*, are boiled together with the leaves of *Mangifera indica*, *Citrus aurantifolia* and bathed for the treatment of malaria. *Carica papaya*, *Mangifera indica*, *Citrus aurantifolia* are cultivated herb, and trees respectively, while *Alchornea cordifolia* is a wild, shrubby plant.

Blood Tonic, Eye Problem

Leaves of *Telfairia occidentalis* are squeezed and taken as blood tonic. They are also used for the treatment of eye problem by squeezing the juice into the eye. It is a cultivated herbaceous plant.

Malaria, Typhoid Fever

Leaves of *Mangifera indica*, together with the leaves of *Carica papaya*, *Citrus aurantifolia* and dried leaves of *Musa paradisiaca* are boiled and the mixture bathed for the treatment of malaria. The bark of *Mangifera indica* is also soaked for 24 hours and the water extract is bathed and drank for the treatment of typhoid fever. They are cultivated plants.

Diarrhea

Roots of *ugbena*(unknown) and *Piper nigrum* are pound together with potash and then mixed with local gin and drank to stop stooling. They are wild and cultivated plants respectively. They are climbing shrubs.

Malaria

Leaves of *Azadirachta indica* are boiled and used in treating malaria by drinking and bathing. It is a tree and a cultivated plant.

Arthritis, Rheumatism

Roots of *Musa sapientum*, *Elaeis guineensis* and *Cocos nucifera* are cut into pieces and placed in a container, mixed with palm kernel oil, allowed to ferment for 3 days and then is used for massaging the affected place. They are

cultivated plants. Also, they are herbaceous and tree plants respectively.

Internal heat

Whole plant of *Mimosa pudica* is boiled for 2 hours, the water extract is transferred into a bottle to be taken in the morning, afternoon and night for the treatment of heat/internal hotness. It is a wild, herbaceous plant.

Diarrhea

Leaves of *Psidium guajava* and *Dacryoides edulis* are pound together, mixed with little water and filtered, and is drank for the treatment of diarrhea. They are cultivated plants and trees.

Cancer

Seeds of *Aframomum melegueta* and the leaves of *Manihot esculenta* are pounded together and administered into the particular spot or the affected place. They are cultivated herbaceous and shrubby plants respectively.

Body Pains

The bark of *Newbouldia laevis* is cut and pounde. It is mixed with palm wine, shaken well, and one glass shot is taken in the morning and evening to relief body pains. It is a wild plant and a tree.

Still Birth

Leaves of *Anthocleista vogelii* and *Elaeis guineensis* are pounded together, boiled, and allowed to cool for sometime, then the mixture is taken. They are trees and grow in the wild.

Craw –Craw

Leaves of *Portulaca oleraceae*, *Amaranthus spinosus* and urea (bothanical name unknown) are squeezed together and the fluid is rubbed all over the body for the treatment of craw craw. They are wild, herbaceous plants.

Chicken Pox

Roots of *Musanga cecropoides* are cut and a container is place under it overnight, resin from it is used for bathing and is drank morning and evening for the treatment of chicken pox. It is a wild tree plant.

High Blood Pressure

Viscum album is a parasitic plant that grows mostly on orange trees. It is cut down and dried in the sun for three days after which it is used as tea every morning to reduce high blood pressure. It is a wild parasitic plant.

Purgative

Roots of *scoparia dulcis* is cut into pieces and put into a small bowl, then water is added, and it is covered and allowed to ferment overnight. A small spoon is used to stir it for about 5 times, and the liquid is administered to a new born baby. Also, it is used to bath the child for three days. It is a wild, shrubby plant.

Leaves of *Mirabilis jalapa* is plucked, boiled and the liquid used for baking of garri to be eaten with any soup, as

purgative, but can cause abortion in pregnant women. It is a wild, herbaceous plant.

Chest Pain, Stomachache

Leaves of *Napoleona imperialis* are plucked, pounded, and half a cup of water is added, mixed, filtered and taken for the treatment of stomachache. For chest pain, the stem is cut, chewed and the liquid is swallowed. It is a wild tree plant.

Wound Healing

The corn of *Colocasia esculenta* is harvested, peeled and placed on the wound. The wound dries up after 3 days. It is a cultivated, herbaceous plant.

Children Fever

Leaves of *Acalypha hispida* are boiled, and mixed with sand. This is used in bathing the child. Also, the decayed part of *Musa paradisiaca* stem is rubbed all over the child's body for the treatment of fever. They are cultivated shrub and herbaceous plant respectively.

Appendicitis

Roots of *Cola acuminata* are cut into pieces and placed in a pot, boiled for 1 hour, and allowed to cool. It is drunk for the cure of the ailment. It is a wild tree plant.

Leaves of *Monodora myristica* are sliced and placed in a bowl. Water is added and the leaves are squeezed, filtered and the fluid is taken as many times as possible. It is a wild tree plant.

Typhoid, Headache

Leaves of *Argentinian jacaranda* is cut into a pot, water (4 litre) is added. They are until the liquid colour changes, then bathed and drunk morning and evening for three days for the treatment of typhoid. Also, the leaves are placed in the fire, squeezed and the fluid is placed in eye for the treatment of headache. It is a wild tree plant.

Malaria, Headache

Leaves of *Vernonia cinerea* are squeezed and the liquid is dropped into the eye for the treatment of malaria and headache. It is a cultivated herbaceous plant.

Poison

Leaves of *Acalypha wilkesiana* is placed inside the pot, and place on the fire, allowed to burn into ashes. They are mixed with palm oil and taken to neutralize the effect of poison. It is a wild tree plant.

Ringworm

Leaves of *Senna alata*, are squeezed the fluid placed on the affected part after scratching with razor blade or stick. This is done regularly. It is a wild or cultivated plant and a shrub. Also, leaves of *Alchornea cordifolia* and tender part of *Elaeis guineensis* stem are pounded together and applied to the affected area. They are wild shrubby and tree plant respectively.

Cough

Stems of *Ubiriba* (unknown) and *Akiaka* (unknown), chewed and the fluid is swallowed for the treatment of cough. They are wild tree and shrubby plants respectively.

Dermatitis

The fruits of *Garcinia kola* is peeled and rubbed between the affected toe nail regularly for the treatment of dermatitis of the leg. It is a wild tree plant.

Purgative

Leaves of *Bligha sapida* is squeezed and the fluid pressed into the mouth of the child for cleansing of the stomach. It is a wild tree plant.

Table 3. Summary of Ailment cured, individual species used, and most frequently used plant parts.

S/N	Ailment	individual species	Most frequently used plant part
1	Malaria	<i>Alchornea cordifolia</i> , <i>Citrus aurantifolia</i> , <i>Cymbopogon citratus</i> , <i>Carica papaya</i> , <i>Mangifera indica</i> & <i>Azadirachta indica</i> .	Leaves, roots, fruits, barks
2	Cough	<i>Kalanchoe pinnata</i>	Leaves
3	Treatment of umbilical cord of children	<i>Kalanchoe pinnata</i> , <i>Ageratum conyzoides</i>	Leaves
4	Wounds	<i>Alchornea cordifolia</i> , <i>Ageratum conyzoides</i> <i>Colocasia esculenta</i>	Leaves, root, fruit
5	Chest pain	<i>Alchornea cordifolia</i> <i>Napoleona imperialis</i> .	Root and stem
6	Arthritis	<i>Musa Sapientum</i> , <i>Cocos nucifera</i>	Roots
7	Bleeding (During menstrual flow or child birth or cut)	<i>Musa paradisiaca</i> , <i>Costus afer</i>	Decayed part, stem
8	Children fever	<i>Musa paradisiaca</i> , <i>Acalypha hispida</i> .	Decayed part, leave

9	Convulsion	<i>Ocimum gratissimum</i>	Leaves
10	Headache	<i>Ocimum gratissimum, Bauhinia monandra, Vernonia cinerea</i>	Leaves
11	Rheumatism	<i>Costus lucaustianus, Cocos nucifera, Elaeis guineensis.</i>	Leaves, roots
12	Vaginal discharge	<i>Emilia Sonchifolia</i>	Leaves
13	Fright	<i>Emilia sonchifolia</i>	Leaves
14	Measles	<i>Costus afer</i>	Stem
15	Whitlow	<i>Citrus aurantifolia, Musa paradisiacal</i>	Fruit, decayed part
16	Stomachache	<i>Citrus aurantifolia, Napoleona imperialis, Vernonia amygdalina</i>	Fruit, leaves
17	Catarrh	<i>Cymbopogon citratus</i>	Leaves
18	Eye problem	<i>Ageratum conyzoides, Manihot esculenta, Telfairia occidentalis</i>	Leaves
19	Blood tonic	<i>Telfairia occidentalis</i>	Leaves
20	Diarrhea	<i>Piper nigrum, Psidium guajava</i>	Leaves
21	Internal heat	<i>Xanthosoma mafaffa, Mimosa pudica</i>	Leaves, whole plant
22	Cancer	<i>Aframomum melegueta, Manihot esculenta.</i>	Seed, leaves
23	Snake bite	<i>Manihot esculenta</i>	Tuber
24	Body pains	<i>Newbouldia laevis</i>	Bark
25	Still birth	<i>Anthocleista vogelii,</i>	Root
26	Craw-craw	<i>Portulaca oleracea, Amaranthus spinosus.</i>	Leaves
27	High blood pressure	<i>Viscum album</i>	Flower
28	Purgative	<i>Sida acuta, Mirabilis jalapa, Bligha sapida</i>	Root, leaves
29	Abortion	<i>Mirabilis jalapa, Phyllanthus amarus</i>	Leaves
30	Appendicitis	<i>Cola acuminata, Monodora myristica</i>	Root, leaves
31	Typhoid	<i>Bauhinia monandra,</i>	Leaves
32	Poison	<i>Acalypha wilkesiana</i>	Leaves
33	Ringworm	<i>Senna alata</i>	Leaves
34	Dermatitis	<i>Garcinia kola</i>	Fruit
35	Chicken pox	<i>Musanga cecropoides</i>	Resin from the root.

Survey: Recorded 35 Ailment cured, individual species and most frequently used plant parts. The most ailment cured was malaria and rheumatism. For malaria, the individual plants used included *Alchornea cordifolia*, *Citrus arantifolia*, *Cymbopogon citratus*, *Carica Papaya*, *Mangifera indica* and *Azadirachta indica*. For rheumatism, the individual plants used included from, *Cocos nucifera* and *Musa sapientum*. The most frequently plant parts used are the leaves, root, fruit and stem.

V. DISCUSSION

The result showed that 56 plant species, distributed into 52 genera and 37 families are used as medicinal plant in Obagi Community. For each species, botanical, family, local, and common names, part(s) used, methods of preparation, administration and ailments cured were noted. These plants were used by the villagers to cure many diseases like malaria, cough, treatment of umbilicus of children, wounds, chest pain, arthritis, bleeding, children fever, convulsion, headache, rheumatism, vaginal discharge, fright, measles, whitlow, stomachache, catarrh,

eye problems, as blood tonic, diarrhea, internal heat, cancer, snake bite, body pains, still birth, craw-craw, high blood pressure, purgatives, abortion, appendicitis, typhoid, poison, ringworm, dermatitis and chicken pox.

This work conforms to a similar research carried out by [21] on medicinal plants used in the treatment of sexual diseases in ten (10) communities of Ogba/Egbema/Ndoni LGA, Rivers State. They reported the use of 119 plants belonging to 47 families and 71 genera. The most used plant part was the leaves. It indicated the reliability of these rural inhabitants on traditional medicine for their health care needs.

In this research, *Costus laucausianus* was used for the treatment of rheumatism. [22] reported that *Xylopiya aethiopicana* is used for the treatment of rheumatism. The study also recorded that *Kalanchoe pinnata* leaves are used for the treatment of cough. [22] reported that *Zingiber officinale* Rosc is used in the treatment of cough. They also recorded that *Azadirachta indica* is used for malaria treatment. [23] reported that *Microglossa pyrifidia* is used for the treatment of malaria. The study recorded *Carica papaya* to be used for the treatment of malaria. [24] reported *C. papaya* root decoction to be taken as a means of birth control and uterine contractions after child birth. The study recorded *Cymbopogon citratus* to treat malaria and catarrh.

The result also showed that 85% of the medicinal plants were sourced from the wild while 13% were cultivated, and 2% were both wild and cultivated. The plant products are consumed raw or in the form of a decoction, as infusion for oral treatment and as burnt product, ointments or raw paste which was applied externally. Parts of the plants mostly used were the leaves, followed by the root, fruit and stem. It is believed that leaves contain more concentration of the active ingredients. The finding of the leaves as the most used plant part for medicinal purpose than other plants parts is in line with similar study conducted by [21]. [25] indicated that traditional medicinal preparations mainly involve the use of leaves. As leaves of medicinal plant species were also reported to be harvested for most remedy preparations next to roots, collection of leaves could be promoted as a more sustainable method since in most cases at least many leaves are left over on the parent plant [26].

In the study area, fluid extract and decoction were the main methods of preparation and the substantial proportions of prescriptions were administered orally followed by external application. This result is in line with the findings of [27,28,29].

Most of the plants were used in combination with other plants, especially for the treatment of malaria and arthritis. The potency of a mixture of different plant or plant parts is higher compared to using a single plant to cure a disease. These plants are *Cymbopogon citratus*, *Citrus aurantifolia*, *Carica papaya*, *Mangifera indica*, *Musa paradisiaca* for malaria and *Cocus nucifera*, *Musa sapientum*, *Elaeis guineensis* for the treatment of arthritis.

In a study carried out by [22], It was reported that plants like *Citrus limon*, *Cymbopogon citratus*, *Mangifera indica*, *Psidium guajava*, *Carica Papaya* and *Azadirachta indica* are being used for malaria treatment. They also noticed in their study that *Xylopiya aethiopicana* is used for the treatment of eczema (skin diseases) and cough, *Vernonia amygdalina* is used for the treatment of stomachache, itching conditions and ring worm, while *Azadirachta indica* is used for the treatment of pile. Similarly, [30] reported that *Vernonia amygdalina* and *Azadirachta indica* are also used locally in treating malaria.

The findings in this study revealed that, 56 plant species are used for medicinal purposes in Obagi Community ONELGA, Rivers State Nigeria. It also recorded the mode of preparation and administration in order to cure a particular ailment using the various parts of the plant.

V. CONCLUSION AND FUTURE SCOPE

The survey has shown the various medicinal plants employed in the traditional medicinal practice of Obagi Community in Rivers State. The main threat on medicinal plants in the study area arises from gas flaring and over exploitation of land for agricultural purposes. Thus, conservation of medicinal plants by local communities and responsible bodies is vital to avoid further loss. The medicinal plants highlighted in this survey may constitute additional source of drugs for the nation. In fact, it can lead to a source of absolutely new drugs. Further studies should also be carried out on these plant species to obtain more information on their bioactive properties.

Since most of these plants are sourced from the wild, there should be a sustainable use of land resources so that it will not impact negatively on the flora in this region. Since this area of study experiences more of gas flaring and over exploitation of land which can lead to incidental disappearance of a particular species, there should be a further research on how to conserve other non-targeted species. Since this study has not been done in this area, it could also be carried out in other local governments in order to conserve the species in those areas.

The main conclusions of the study may be presented in a short Conclusion Section. In this section, the author(s) should also briefly discuss the limitations of the research and Future Scope for improvement.

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