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Ethnobiological survey of traditional medicine practice for Women's health in Oyo State

Borokini T.I¹, Ighere D.A¹, Clement M¹, Ajiboye T.O¹, Alowonle A A¹

1. Plant Genetic Resources Unit, National Centre for Genetic Resources and Biotechnology (NACGRAB), Ibadan, Nigeria.
[E-mail: tbisrael@gmail.com]

A comprehensive survey aimed at documenting traditional medicinal practices was carried out between November 2008 and January 2012 in 16 different locations across Oyo State. This article focuses on the traditional medicinal practices used for the treatment of human circulatory and nervous diseases. Semi-structured questionnaires and open-ended informal interviews were administered during series of repeated visits to a total of 31 respondents. A total of 62 traditional medicinal practices were described for the management of a wide variety of women's health issues. A total of 67 plants, 9 animals and 16 other ingredients were described as being used in the preparations of the described traditional remedies. The 67 plants spread across 42 plant families, with Poaceae and Caesalpiniaceae both having the highest number (5) of species representatives. It is expected that the documentation of medicinal plant knowledge will further promote bioprospecting and pharmacological research.

Keyword: Women's health, fibroid, breast cancer, contraceptives, traditional medicinal practices, Oyo state, Nigeria.

1. Introduction

The African continent has a long history with the use of plants for medicinal purposes. In some African countries, up to 90% of the population relies on medicinal plants as a source of drugs^[1, 2]. Diallo and Paulsen^[3] reported that 80% of the population in Mali uses traditional medicine as their only type of medicine. In Nigeria, 1985 WHO survey estimated that up to 75% of the population patronizes traditional medicine^[4]. The yearly herbal medicine trade fair in Nigeria and increasing publicity and patronage this attracts, irrespective of the social, educative or religious background of the people, are indicative of acceptance of herbal medical practice^[5].

Stepp^[6] defined Ethnobiology as "the scientific and humanistic study of the complex set of relationships of the biota to present and past human societies." Ethnomedicine, on the other hand, refers to the study of traditional medicine practice which is concerned with the cultural

interpretation of health, diseases and illness and also addresses the health-seeking process and healing practices. The practice of ethnomedicine is a complex multi-disciplinary system, comprising the use of plants and animals, spirituality and the natural environment and has been the source of healing for people for millennia^[7].

However, rich and in-depth indigenous knowledge of traditional medicine and therapeutic potentials of plants and animals lies with the aged, the herbalists, herb sellers, herb collectors, hunters and other groups of people who have constant contact with nature, especially in rural areas. This knowledge is orally passed from generation to generation, hence with continuous disruption of cultural set-ups and younger people showing disinterest in learning local languages, traditional knowledge is on the verge of disappearance. The importance of this body of knowledge is best explained by the

African proverb, ‘when a knowledgeable old person dies, a whole library disappears’ [8]. Abebe^[9] noted that the ethnobiological information of medicinal plants and animals are fast disappearing, and this is more pronounced in developing countries. Worse still, it was also noted that vast knowledge on traditional uses of plants is not fully documented and less than 1% of indigenous cultures have been surveyed for their knowledge of medicinal plants and other natural products in the world [10, 11]. Documentation of traditional therapeutic know-how could lead to the discovery of new drugs as well as contribute to the conservation, sustainable management and use of plant resources; therefore, it is very crucial that ethnobiological surveys be carried out for the preservation of this indigenous knowledge. However, knowledge on the use of medicinal plants is enormous but if this is not rapidly researched and recorded, indications is that it will be lost with succeeding generations [2].

In order to preserve traditional medicinal knowledge, it is necessary that inventories of plants with therapeutic value are carried out, and the knowledge related to their use documented in systematic studies. These studies can have other values too for society besides conserving traditional knowledge, for they can help to identify plants with market potential that can generate incomes for local communities. Furthermore, ethnobiological surveys provide the rationale for selection and scientific investigation of medicinal plants and animals, since some of these indigenous remedies have successfully been

used by significant numbers of people over extended periods of time [12]. Therefore, this study was conducted to compile the traditional medicine practices used in Oyo State, Nigeria. The focus of this paper was to document the traditional medicinal practices for general women’s health as practiced in Oyo State, Nigeria.

2. Methodology

2.1 Study Area

Oyo state was established in 1976 from the defunct Western Region, with the total estimated population of 6,617,720 people [13] mainly Yoruba people. The land area is 28,454km², ranking 14th in the country. The landscape consists of old hard rocks and dome shaped hills, which rise gently from about 500 meters in the southern part and reaching a height of about 1,219 metre above sea level in the northern part. The indigenes are mainly Oyo, Ibadan, Oke-Ogun and Ibarapa peoples, and notable cities include Ibadan (the State capital), Oyo, Ogbomosho, Saki, Okeho, Iseyin, Kishi, Eruwa and many others. The state is divided into thirty-three Local Government areas. Greater parts of the state fall within Guinea savanna, while Ibadan is classified as a derived savannah. The southern fringes of the state are still being dominated by tracts of rainforests. Oyo state is located in Southwest region of Nigeria (Figures 1 and 2) between latitude 8°00 N and longitude 4°00 E. The main indigenous occupation of the people is farming, while arts and crafts are popular in Oyo town.



Fig 1: Map of Nigeria showing Oyo State



Fig 2: Map of Oyo State, Nigeria

The areas visited during this study include Saki (Saki West LGA), Sepeteri (Saki East LGA), Apata (Ido LGA), Oyo (Atiba LGA), Ikoji (Orire LGA), Ayetoro (Kajola LGA), Karimu village, Abule Tapa (Iwajowa LGA), Idi-Ayunre, Buso-aboro (Oluyole), Iseyin (Iseyin LGA), Fiditi (Afijio LGA), Ebedi and Modeke (Oorelope LGA), Ayepe (Oriire LGA), Bode (Ibadan South East LGA) and Idere (Ibarapa Central LGA).

2.2. Ethnobiological Survey

The main data sources consisted of a series of semi – structured and open-ended questionnaires as well as informal interviews administered on local herb sellers, hunters, herbalists and other groups of people rich in traditional medicine knowledge. The administration of questionnaires and informal interviews were done for three years, between November 2008 and January 2012. This involved repeated visits to the selected respondents in the areas visited. The questionnaire administration and interviews were done in their native language (Yoruba language), while the information gathered was sorted, the local names of plants mentioned were interpreted to their respective biological names using the

publication by Gbile and Soladoye^[14] and other relevant previously published research papers.

3. Results

The result is a compendium of traditional medicine practice in Oyo state compiled over a period of three years, with focus on women's health.

3.1 Respondents' Identity

Table 1 indicated that a total of 31 people were interviewed for traditional medicine practice in Oyo state, 13 of which were males while the remaining 18 were females. All the herb sellers interviewed were women and in addition, majority (21) of the respondents was within the age range of 40 and 50 (Table 1). The occupations of the respondents include a Government civil service retiree, 16 herb sellers, 10 herbalists, 2 herb collectors and a hunter (Table 1). Only 1 of the respondents was a University graduate, majority (18) were illiterates, while the rest were primary school leaver or drop-outs and secondary school leavers (Table 1). Furthermore all, except the retired civil servant, claimed that they inherited their vocation

from their parents, and possibly their ethnomedicinal knowledge as well. It should be noted that all the respondents were Yoruba speaking people of Oyo state.

Table 1: Source of Ethnomedicinal Information

S/N	Demographic information	Frequency (n=31)	Percentage
1	Gender		
	- Male	13	41.9
	- Female	18	58.1
2	Age category (years)		
	- Below 30	0	0
	- 31-40	0	0
	- 41-50	21	67.7
	- 51-60	5	16.1
	- 61-70	2	6.5
	- Above 70	3	9.7
3	Highest level of education		
	- No formal	18	58.1
	- Primary	10	32.3
	- Secondary	2	6.4
	- Diploma	0	0
	- Degree	1	3.2
4	Main Occupation		
	- Hunter	1	3.2
	- Civil servant/retired	2	6.4
	- Herb seller	16	51.6
	- Herb collector	2	6.4
	- Herbalist/Priest/Priestess	10	32.3

3.2 Ethnobiological Survey

A total of 62 traditional medicinal practices were described for the treatment of women's related diseased conditions in this study (Table 2). These conditions include breast cancer, blockage of womb or fallopian tube, vulva problems, vaginal discharge, ovarian cysts, menstruation problems and fibroid (Table 2). Furthermore, traditional medicinal practices were also described for ante-natal care, post-natal care, delayed child birth, hair breakage, lactation in nursing mothers, contraceptives and abortifacients (Table 2). In addition, 67 plants (Table 3), 9 animals (Table 4) and 16 other ingredients (Table 5) were described as being used in the preparations of traditional remedies for the treatment of various women's health conditions in Oyo State. The 67 plants spread across 42 plant families, with Poaceae and Caesalpiniaceae both having the highest number (5) of species representatives, followed by Papilionaceae (4) and Euphorbiaceae (4). It

should be noted that one of the plants mentioned in this study is yet to be identified. From Table 2, it could be observed that traditional medicinal remedies for menstrual problems are the main women's reproductive challenges in the survey, followed by blockage of the womb.

The mode of administration of the herbal treatments varied greatly, ranging from oral administration (drinking, licking, chewing and eating), topical application, bathing, insertion, washing, and rubbing (Table 2). Similarly, the method of preparation varied widely, which include infusion, decoction, maceration, squeezing, burning, boiling (in water), soaking, grinding/pounding, preparation as food or pepper soup, drying and pulverization into powder and many other variant methods (Table 2). However oral administration appears to be the most widely used method for herbal medicine administration (Table 2).

Table 2: Ethnobiological survey of Women's reproductive health in Oyo State, Nigeria

S/N	Disease	Plants, parts used, preparation and dosage
1	Hair breakage	Mix honey with olive oil, warm it and treat your hair with it, after fifteen minutes, wash it with warm water. Repeat it once a month to stop hair breakage
2	Abortifacient	Grind <i>Jatropha curcas</i> seeds and soak in local gin for twenty-four hours and take it orally as abortifacient
3	Breast milk production	Grind plenty of <i>Aframomum melegueta</i> rhizomes and pour in <i>Cocos nucifera</i> fruit water. Use three spoons three times per day after meal
		Prepare <i>Kigelia africana</i> fruit as herbal to wash the breast for milk production and breast enlargement
		The woman should cook <i>Ocimum gratissimum</i> leaves as soup and eat it often to increase lactation
4	Breast cancer	Boil <i>Argemone mexicana</i> leaves, <i>Saccharum officinale</i> stem, small unripe <i>Musa nana</i> fruit, <i>Xylopia aethiopica</i> seeds, small palm oil with <i>Citrus aurantifolia</i> fruit juice for one hour, drink one glass cup three times daily and use it to wash the breast always.
		Cut the flowering part of <i>Ocimum gratissimum</i> , grind and mix the paste with native soap. Bath nipples downwards with fresh spring water and the herbal mixture
		Grind <i>Mezoneuron behthamianum</i> leaves, <i>Cola acuminata</i> fruits, <i>Garcinia kola</i> fruits and mix with native soap. Bathe the breast with the herbal mixture and fresh spring water and with new sponge for four days. Ensure that this preparation is used for breast cancer that has never been operated on.
5	Women's reproductive problems	Blend <i>Pterocarpus osun</i> bark, <i>Jatropha curcas</i> leaf juice with native soap together; wash your private part with it three times daily for one month to clear fallopian tube blockage
		Squeeze <i>Momordica charantia</i> leaves and drink to clear fallopian tube blockage
		Squeeze <i>Physalis angulata</i> leaves with water. The woman will drink a glass cup each day for five days starting from the day she sees her menses to correct shortage of menstrual flow defect
		Blend carmine bee eater's feather, parrot tail, <i>Sorghum bicolor</i> grain chaff, small salt, <i>Bixa orellana</i> leaves, <i>Gossypium hirsutum</i> leaves, <i>Staudtia stipitata</i> bark and <i>Morinda lucida</i> root together. Take one spoon with hot pap every morning for one month to correct shortage of menstrual flow defect
		Burn <i>Citrullus lanatus</i> fruit on fire for twenty minutes, squeeze the juice, and add <i>Ananas comosus</i> fruit juice, small <i>Citrus aurantifolia</i> fruit juice, pure honey and little potash. Take two spoons every morning to correct shortage of menstrual flow defect
		Burn the head of squirrel, one <i>Aframomum melegueta</i> fruit, and some quantity of <i>Nymphaea lotus</i> leaves together. Take one spoon with cold pap morning and night to clear all womb blockages
		Burn <i>Secamone afzelii</i> leaves, <i>Pupalia lappacea</i> leaves, <i>Uraria picta</i> leaves, one <i>Aframomum melegueta</i> rhizome together. Take one spoon with cold pap morning and night for three months to clear all womb blockages
		Get 12 fruits of <i>Momordica charantia</i> , itana liborotan, <i>Plumbago zeylanica</i> root, potash are all grinded and eaten together with catfish on the morning of the day menstrual flow ought to start to treat black blood menstrual discharge
		<i>Gongronema latifolium</i> root and duck's gizzard are used to prepare a meal which is eaten on the day vaginal discharge was observed, to stop vaginal discharge
		Bathe with water mixed with leaf juice of <i>Pterocarpus osun</i> and <i>Ficus exasperata</i> on the day vaginal discharge was observed as medication to stop vaginal discharge
		Get carmine bee eater's feather, parrot's crown, <i>Sorghum bicolor</i> grain chaff, <i>Bixa orellana</i> leaves, <i>Gossypium hirsutum</i> leaves, <i>Harungana madagascariensis</i> root, <i>Morinda lucida</i> root, <i>Lawsonia inermis</i> root are all

		grinded together. The woman takes it with hot pap every morning as medication to stop irregular menstruation
		Prepare <i>Allium sativum</i> rhizome as pepper soup and eat it to control menstruation and stop irregular menstruation
		Boil <i>Asparagus africana</i> leaves, <i>Canavalia ensiformis</i> root, <i>Piper guineense</i> root, <i>Senna alata</i> leaves and seven <i>Xylopiya aethiopica</i> seeds with water. Drink one small cup seven days before menstrual day to treat menstrual pains
		Wash <i>Quassia undulata</i> root and cut into pieces, soak in water. Drink a glass cup three times daily starting from three days prior to your menstrual day and stop it a day to the menstrual day to treat menstrual pains
		Grind <i>Ficus exasperata</i> leaves with small sugar and add pure honey to it. Let the woman lick it all times to treat vaginal problem after intercourse
		Boil <i>Annona senegalensis</i> leaves with <i>Citrus aurantifolia</i> fruit juice for fifteen minutes. Drink one glass cup every night for three weeks. Drink one glass cup every night for three weeks to treat vulva problems
		Blend plenty of <i>Gossypium hirsutum</i> leaves with seven immature <i>Gossypium hirsutum</i> seeds on fire for fifty minutes. Take one glass cup three times daily after meal to treat ovarian cyst
		The maceration of <i>Basella alba</i> plant is taken twice daily to treat infertility in women
		Mix <i>Pterocarpus osun</i> and <i>Jatropha curcas</i> leaves with native soap. The woman to apply/wash her genitals with it everyday to treat excessive menstrual flow
		Squeeze and extract leaf juice of <i>Jatropha curcas</i> , mix with local hen egg. Drink the mixture once daily to treat excessive menstrual flow
		Cook <i>Aframomum melegueta</i> fruit pericarp peel, <i>Kigelia africana</i> root, <i>Senna fistula</i> root, <i>Piper guineense</i> fruit and little potash for forty-five mins. Woman to take half a glass cup twice daily to treat excessive menstrual flow
		Squeeze a large quantity of <i>Momordica charantia</i> leaves in water and take a glass cup twice daily to treat infertility in women
		Eat <i>Citrullus lanatus</i> fruits frequently to treat haemorrhage in women
		Root and leaves of <i>Senna podocarpa</i> , <i>Senna alata</i> , <i>Allium ascalonicum</i> and potash are put together into a container, and hot water poured on the mixture. The recipe is left till the next day. A glass cup of the herbal mixture is taken every morning before breakfast for three days to treat leucorrhoea.
6	Postnatal care	Grind many <i>Aframomum melegueta</i> rhizomes and soak it inside gin. Take one spoon three times daily before meal to treat postnatal pains.
		Apply the maceration of <i>Ageratum conyzoides</i> leaves to skin to treat skin diseases in women after child birth
7	Family Planning/ contraceptive	Squeeze fresh <i>Alchornia laxiflora</i> leaves with water and filter it. Add small salt and little potash. Place it inside dew till dawn and drink it before every breakfast to act as contraceptive
		Peel male <i>Carica papaya</i> root downward, add sizeable <i>Xylopiya aethiopica</i> fruits, little palm oil and cook with catfish and eat it as contraceptive. To restore fertility, carry out the above using female <i>Carica papaya</i> .
		The woman to ingest <i>Ricinus communis</i> seeds and <i>Mucuna sloanei</i> seeds for as long as she wants the contraception. To restore fertility, stop eating the seeds and take palm oil for two weeks.
8	Fibroid treatment	Grind <i>Secamone afzelii</i> leaves inside a bottle of <i>Citrus aurantifolia</i> fruit juice. Add a cowrie with no hole and little potash. Soak it for one day. Take two spoons once a week to treat fibroid
		Drop ten cowries in a bottle of <i>Citrus aurantifolia</i> fruit juice and drink half a cup to dissolve fibroid
		Boil two hundred and eighty-eight leaves of <i>Aspilia africana</i> and drink to treat fibroid
		Prepare a concoction of <i>Senna sieberiana</i> roots, <i>Allium ascalonicum</i> roots,

		<p><i>Piper guineense</i> seeds soaked in fermented corn water (omidun), place under hot sun until very hot and cover it for four days. A cup full (250ml) for two weeks to treat fibroid</p> <p>Collect <i>Sida acuta</i> leaves, <i>Oxythenanthera abyssinica</i> leaves with its stalk, fine sand (sieved) all soaked with schnapps (distilleries) for two days, then sieve the water and take half a stainless cup portion every night before going to bed to treat fibroid</p> <p>Chew twenty-five unripe Kernel nut for at least eight weeks to treat fibroid</p>
9	Breast treatment (somu roro)	<p>Get <i>Euphorbia convolvuloides</i> leaves, <i>Saccharum officinale</i> stem, unripe <i>Musa nana</i>, <i>Xylopiya aethiopicum</i> seeds and palm oil, all boiled in <i>Citrus aurantifolia</i> fruit juice. To be taken every day and part of it used to bathe the breast</p>
10	Ante-natal care	<p><i>Zea mays</i> silk and bottle of pure honey are boiled with water. The pregnant woman to take from it little by little to treat elephantiasis in pregnant women</p> <p>Squeeze and take the leaf juice of <i>Carica papaya</i> to treat nausea in pregnant women</p> <p>Chew <i>Garcinia kola</i> nuts occasionally to treat nausea in pregnant women</p> <p>Cook she-goat meat with <i>Triclisia subcordata</i> root, <i>Xylopiya quintasii</i> fruits and <i>Piper guineense</i> fruit as stew for the woman to eat to sustain the pregnancy</p> <p>Boil one fresh local hen egg, grind <i>Cyathula prostrata</i> leaves, add salt and palm oil and cook for five minutes. The woman will pray for pregnancy sustenance and then eat it in the morning before talking to anyone to sustain the pregnancy</p> <p>Get Toanjogbe root, <i>Parkia biglobosa</i> (locust beans) and <i>Piper guineense</i> are all grinded together and prepared to a stew with catfish. The woman will take it on the day she sees blood from her genitals to sustain the pregnancy</p> <p>Grind <i>Hybanthus enneaspermus</i> leaves, put <i>Piper guineense</i> fruit, <i>Parkia biglobosa</i> (locust beans) and one cat fish and cook for the woman to eat to sustain the pregnancy</p> <p>Insert <i>Ageratum conyzoides</i> leaves into the vagina to stop miscarriage</p> <p>Dry and grind <i>Ocimum gratissimum</i> leaves and <i>Aframomum melegueta</i> seeds together and rub it on the lower abdomen of the pregnant woman to prevent miscarriage</p> <p>Grind <i>Macrotermes nigriense</i> (queen termite), <i>Mucuna sloanei</i> leaves, <i>Deinbollia pinnata</i> leaves, electric fish together very well and put inside <i>Digitaria debilis</i> leaves. Tie it up in a local kitchen till the 7th day, the woman will start eating it bit by bit to treat the situation in which the foetus did not change position</p> <p>Boil <i>Corchorus olitorius</i> leaves and drink one glass cup a day to treat fever during pregnancy</p>
11	Delayed birth (prolonged child labour) and easy delivery	<p>Collect <i>Corchorus olitorius</i> leaves, squeeze in cold water and give it to the woman to drink. While preparing it, don't call it 'ewedu' (the local name).</p> <p>Squeeze <i>Talinum triangulare</i> leaves with water into a large flat container, the pregnant woman to place her genitals into the tray containing the leaf juice, immediately the foetus will be expelled. While getting the leaves, you must not call it the common name (<i>gure</i>), but <i>gbamoyo</i> leaves.</p> <p>Collect roots of male <i>Carica papaya</i> and seven seeds of <i>Aframomum melegueta</i> and soak them in water for twelve hours and taken to stop prolonged labour</p> <p>Blend <i>Entandrophragma angolense</i> bark, <i>Vernonia amygdalina</i> leaves, <i>Vernonia amygdalina</i> root with <i>Aframomum melegueta</i> rhizome and mix a portion with "a special kind of Shea butter" for navel rubbing and the other part with native soap for bathing to ensure safe delivery</p> <p>Squeeze <i>Spondias mombin</i> leaves in water and administer orally to the woman. The foetus should be delivered safely within few minutes.</p> <p>Get one <i>Tetrapleura tetraptera</i> fruit, one <i>Aframomum melegueta</i> fruit and pork and are all burnt. To be taken with pap to help delivery</p> <p>Get clay pot settlement, <i>Jatropha curcas</i> leaves and electric fish cooked together with <i>Piper guineense</i> fruit and palm oil. Let the woman eat early in the</p>

		morning to ensure safe delivery
		Squeeze plenty of <i>Corchorus olitorius</i> leaves in water and sieve. Drink a glass cup of the extract at regular intervals during labour for quick delivery

Table 3: List of plants used for the treatment of women's health in Oyo State, Nigeria

S/N	Plant Name	Family	Local/Common name	Part used
1	<i>Aframomum melegueta</i> (Rosc.) K. Schum.	Zingiberaceae	Atare, alligator pepper	Fruit
2	<i>Ageratum conyzoides</i> L.	Asteraceae	Imi-esu, goat weed	Flower, leaf, leaf sap, whole plant
3	<i>Alchornea laxiflora</i> (Benth.) Pax & K. Hoffm	Euphorbiaceae	Ijan, pepe, three-veined bead string	Leaf
4	<i>Allium ascalonicum</i> L. Backer	Liliaceae	Alubosa elewe, Leafed onion, Shallot, wild onion	Bulb
5	<i>Allium sativum</i> L.	Liliaceae	Ayuu, garlic	Rhizome
6	<i>Ananas comosus</i> (Linn.) Merrill.	Bromeliaceae	Ope-oyinbo, pineapple	Fruit
7	<i>Annona senegalensis</i> Pers.	Annonaceae	Abo, African custard apple	Root, leaf
8	<i>Argemone mexicana</i> L.	Papaveraceae	Egele, egun arugbo, Mexican poppy	Leaf
9	<i>Aspilia africana</i> (Pers.) C.D Adams	Asteraceae	Yunyun, haemorrhage plant	Leaf
10	<i>Basella alba</i> L.	Basellaceae	Amunututu, Malabar Spinach	Leaf, whole plant
11	<i>Bixa orellana</i> Linn.	Bixaceae	Osunbuke, aje, Arnatto	Seed, bark, leaf
12	<i>Canavalia ensiformis</i> (L.) D.C	Papilionaceae	Sese-nla, popondo, sword bean	Root
13	<i>Carica papaya</i> Linn.	Caricaceae	Ibepe, pawpaw	Seed, sap, leaf, leaf extract, fruit
14	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	Cucurbitaceae	Bara, water melon	Fruit
15	<i>Citrus aurantifolia</i> (Christm.) Swingle	Rutaceae	Osan wewe, Lime fruit	Fruit, leaf
16	<i>Cocos nucifera</i> L.	Arecaceae	Agbon, coconut tree	Coconut water
17	<i>Cola acuminata</i> Schott. & Endl.	Sterculiaceae	Obi abata, Kola	Fruit
18	<i>Corchorus olitorius</i> L.	Tiliaceae	Ewedu, Jute	Leaf
19	<i>Cyathula prostrata</i> L.	Amaranthaceae	Sawerepepe, pasture weed	Leaf
20	<i>Deinbollia pinnata</i> Schum. & Thonn.	Sapindaceae	Ogiri, water willow	Leaf
21	<i>Digitaria debilis</i> (Desf.) Willd	Poaceae	Eeran, crabgrass	Leaf
22	<i>Entandrophragma angolense</i> (Welw.) C. DC	Meliaceae	Ijebo, Tiama	Bark
23	<i>Euphorbia convolvuloides</i> Hochst. ex Benth	Euphorbiaceae	Egele, ege-ile	Leaf
24	<i>Ficus exasperata</i> Vahl.	Moraceae	Ewe-ipin, sandpaper tree	Leaf
25	<i>Garcinia kola</i> Heckel	Guttiferae	Orogbo, Bitter kola	Root, bark, stem bark, root bark, seeds
26	<i>Gongronema latifolium</i> Benth.	Asclepiadaceae	Madunmaro, Utazi	Root, leaf
27	<i>Gossypium hirsutum</i> Linn.	Malvaceae	Owu, cotton plant	Leaf, seed

28	<i>Harungana madagascariensis</i> Lam. ex Poir	Hypericaceae	Amuje, dragon's blood tree	Root, bark
29	<i>Hybanthus enneaspermus</i> (L.) F.Muell	Violaceae	Abiwere, Hybanthus, spafe flower	Leaf
30	<i>Jatropha curcas</i> L.	Euphorbiaceae	Lapalapa funfun, physic nut	Leaf, seed, root
31	<i>Kigelia africana</i> (Lam.) Benth.	Bignoniaceae	Pandoro, Sausage tree	Seed, root, fruit, bark
32	<i>Lawsonia inermis</i> L.	Lythraceae	Laali, Henna	Root, leaf
33	<i>Mezoneuron benthamianum</i> (Baill.) Herend. & Zarucch	Caesalpiniaceae	Amuranju, senifiran	Leaf, root
34	<i>Momordica charantia</i> Linn.	Cucurbitaceae	Ejinrin-were, bitter gourd	Leaf, fruit, whole plant
35	<i>Morinda lucida</i> Benth.	Rubiaceae	Oruwo, brimstone tree	Leaf, root
36	<i>Mucuna sloanei</i> Fawcett & Rendle	Papilionaceae	Ina funfun, stinging bean	Fruit, seed, leaf
37	<i>Musa nana</i> J. de Loureiro	Musaceae	Ogede wewe, omimi, banana	Fruit, sap
38	<i>Nymphaea lotus</i> Linn.	Nymphaeaceae	Osibata, water lily	Leaf
39	<i>Ocimum gratissimum</i> L.	Lamiaceae	Efinrin, Basil	Leaf, scent
40	<i>Oxytenanthera abyssinica</i> (A. Rich) Munro	Poaceae	Oparun, bamboo	Leaf
41	<i>Parkia biglobosa</i> (Jacq.) R. Br.	Mimosaceae	Irugba, locust beans	Fruit/seed
42	<i>Physalis angulata</i> Linn	Solanaceae	Koropo, wild cape	Leaf
43	<i>Piper guineense</i> Schum & Thonn.	Piperaceae	Iyere, black pepper	Fruit, bark
44	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Nabiri, Inabiri, Ceylon leadwort	Root
45	<i>Pterocarpus osun</i> Craib.	Papilionoideae	Osun, Bloodwood	Bark, leaf
46	<i>Pupalia lappacea</i> (L.) Juss	Amaranthaceae	Emo agbo, Ram's bur	Leaf
47	<i>Quassia undulata</i> (Guill. & Perr.) F.Dietr.	Simaroubaceae	Oriji,	Root
48	<i>Ricinus communis</i> L.	Euphorbiaceae	Laa, Castorplant	Seed, seed oil
49	<i>Saccharum officinarum</i> L.	Poaceae	Ireke, sugarcane	Stem
50	<i>Secamone afzelii</i> (Schult.) K.Schum	Asclepiadaceae	Ailu, secamone	Leaf
51	<i>Senna alata</i> L. Roxburgh	Caesalpiniaceae	Asunwon oyinbo, candle bush	Leaf, flower
52	<i>Senna fistula</i> L.	Caesalpiniaceae	Aidan tooro/lawale, Golden shower	Root, bark
53	<i>Senna podocarpa</i> (Guill & Perr) Lock	Caesalpiniaceae	Asunwon ibile	Root, leaf
54	<i>Senna sieberiana</i> DC.	Caesalpiniaceae	Aidantooro, West African laburnum	Root
55	<i>Sida acuta</i> Burm. f	Malvaceae	Osepotu, Broom weed	Root, leaf
56	<i>Sorghum bicolor</i> (L.) Moench	Poaceae	Oka baba, guinea corn	Grain chaff
57	<i>Spondias mombin</i> Linn.	Anacardiaceae	Iyeye, hog plum	Bark
58	<i>Staudtia stipitata</i> Warb.	Myristicaceae	Oropa, amuje	Bark
58	<i>Talinum triangulare</i> (Jacq.) Wild	Portulacaceae	Gure, water leaf	Leaf
60	<i>Tetrapleura tetraptera</i> (Schum & Thonn) Taub	Mimosaceae	Aidan	Bark, fruit
61	<i>Trichlisia subcordata</i>	Menispermaceae	Wowo	Root
62	<i>Uraria picta</i> (Jacquin) Desvaux ex Candolle	Papilionaceae	Alupayida	Leaf
63	<i>Vernonia amygdalina</i> Del.	Asteraceae	Ewuro, bitter leaf	Leaf
64	<i>Xylopia aethiopica</i> (Dunal) A. Rich	Annonaceae	Eru, Ethiopian pepper	Seed, fruit, bark

65	<i>Xylopia quintasii</i> Pierre ex Engl. & Diels	Annonaceae	Eru awonka	Fruits, seed, leaf
66	<i>Zea mays</i> L.	Poaceae	Agbado, maize	Processed grain chaff, silk
67	<i>Unidentified</i>		Toanjogbe	Root

Table 4: List of animals used for the treatment of women's health in Oyo State, Nigeria

S/N	Biological name	Local/common name	Part used
1	<i>Merops nubicus</i>	Aluko, carmine bee eater/woodcock	Feather
2	<i>Psittacus erithacus</i>	Ayekooto, African grey parrot	Feathers, crown/head, tail
3	<i>Malapterurus electricus</i>	Ojigi, Electric fish (electric cat fish)	Whole body
4	<i>Ratufa macroura</i>	Squirrel	Head
5	<i>Clarias gariepinus</i>	Abori/aaro, Catfish	Whole body
6	<i>Anas platyrhynchos</i>	Pepeye, Duck/white duck	Gizzard
7	<i>Gallus sp.</i>	Adiye, domestic fowl (hen)	Eggs
8	<i>Capra hircus</i>	Ewure, she-goat	Button
9	<i>Sus scrofa domesticus</i>	Elede, pig	Pork

Table 5: List of other ingredients (non-plants materials) encountered in the study

Honey	Olive oil
Gin/local gin/schnapps	Palm oil
Native soap	Fresh spring water
New sponge	Potash
Prepared pap	Itana liborotan
Sugar	Salt
Cowrie	Fine sand (sieved)
Fermented corn extract	Palm kernel nut

4. Discussions

This study once again confirmed the universality of traditional medicinal practices in the study area, as a model for the entire Nigeria and Africa. For instance, herbal medicinal preparations used as contraceptives and abortifacients were identified in this study. Furthermore, there are herbal preparations for ante-natal and post-natal cares for pregnant women, while herbal remedies were also identified in this study to ensure safe delivery of foetuses. This perhaps explains why large percentages of child births still take place as managed by Traditional Birth Attendants (TBAs) in local maternity centres than in hospitals across Africa, as noted by Sofowora^[15]. It has also been suggested that only about 28 percent of rural Nigerian women have births handled by skilled personnel^[16,17]. The majority of the births in rural Nigeria take place with the assistance of traditional birth attendants^[18,19]. Uterine leiomyomas (fibroids) are the commonest tumour of the female genital tract^[20]. It is

estimated that 20% - 45% of women above the age of 30 years have uterine fibroids^[21]. Fibroids are common in black women than in their Caucasian counterparts^[22]. In Nigeria, uterine fibroids have been reported to account for 3.2 – 7.8% of new gynaecological cases^[23, 24]. They also accounted for about 68.1% hysterectomy cases^[23, 24]. Fibroids are often detected in women undergoing infertility evaluation in many black communities. An incidence of 17.9% - 26% has been found at laparoscopy in some Nigerian studies^[25, 26] which is much higher than 11% reported in Europe and United States^[27]. They are symptomatic in 50% of cases, with the peak incidence of symptoms occurring among women in their 30s and 40s^[28,29,30].

Furthermore, menstrual problems have been reported in about 87 percent of school girls in Nigeria^[31]. For example in 352 randomly selected healthy Nigerian school girls in urban areas, 187 (53.1%) had menarche but 40 percent of those were deficient in their knowledge of

menstruation. Although menstrual knowledge was higher in post-menarche girls, 10 percent were also totally ignorant about menstruation and 84 percent were not psychologically prepared for the first menstruation. A similar study in Haryana among 130 girl students aged 13-17 years reported poor awareness and health seeking practices during menstruation. The study reported the commonest reported menstrual problem as dysmenorrhoea (40.7%) followed by irregular menses (2.3%) [32].

Carcinoma of the breast (breast cancer) is one of the leading causes of death among women aged 30 years and above [33]. Lambo [34] explained that there is likely to be 100,000 new cases each year, and that by 2010 there may be 500,000 new cases. It is worthy of note that the survival rate for breast cancer in the United States of America is 85 % while it is a dismal 10% in Nigeria [35]. between 1960 and 1980 (Figure 3), Cervical Cancer had 19.9% prevalence while breast cancer had 11.2% but between 1981 and 1995, breast cancer has taken over the lead with 25.7% while cervical cancer followed closely with 22.7%, while breast cancer deaths rates higher than other types of cancers with 8,454 (15.9%) deaths [36].

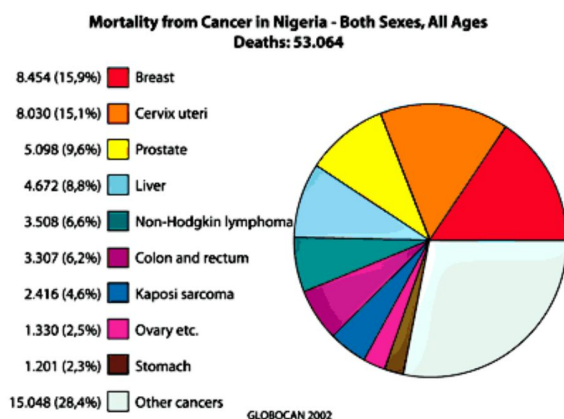


Fig 3: Chart showing mortality from cancer in Nigeria between 1960 and 1980

Source: *Globocan* [36]

From secondary data mining, previously published scientific information are lacking on the traditional medicinal remedies for the treatment of fibroid. Therefore, the herbal remedies for treating fibroid as identified in this study offers great pharmaceutical foundation for further studies and documentation. However, one

of the herbal remedies described in this for the treatment of breast cancer resembles the 9th recipe described for treating cancers in Soladoye *et al.* [37]. The use of *Ocimum gratissimum* and *Kigelia africana* as galactogogue was noted by Gbadamosi and Okolosi [38], while *Aframomum melegueta* have also been reported to possess milk stimulating properties [39].

In Nigeria, the use of herbal contraceptives and abortifacients has increased in the recent times [40]. This is probably due to the fact that abortion is still illegal in Nigeria. Some women prefer this alternative of birth control above the synthetic contraceptives and other abortion pills. Because it constitutes little or no side effects, it is relatively cheap, easily accessible and effective. The medicaments are usually preferred after sexual intercourse and before pregnancy. Therefore most users are young women between age 18 and 40 [40]. Several plants are being used as contraceptives and abortifacients in Nigeria. Kadiri [40] identified the use *Abrus precatorius*, *Xylopiya aethiopia*, *Carica papaya*, *Ricinus communis*, *Colocynthis citrullus*, *Aframomum melegueta* and many others as contraceptives, some of which are also mentioned in this study.

5. Conclusions

This study has revealed the herbal remedies used for the treatment of several health issues that affect women in Oyo State, Nigeria. The documentation and publication of these finding will ensure the preservation of indigenous knowledge, cultural values and knowledge of medicinal plants, which could act as basis of further pharmacological research, bioprospecting and drug discovery.

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