



Herbal concoctions used in the management of some women-related health disorders in Ibadan, Southwestern Nigeria

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ABSTRACT

Objectives: The health conditions of women are broad, and range from pregnancy, gynaecological conditions to overall health/wellness. Ethnomedicinal investigation on plants used in the management of women-related health disorders was conducted in Bode herbal market, Ibadan, Southwestern Nigeria to further emphasize the role of herbal medicine in reproductive health.

Methodology and Results: Ten herb sellers (all females; age range, 35 – 57; mean, 45.80; SD, 7.41) were interviewed in the local language (Yoruba) and their responses recorded. Recipes used in the management of arthritis, fibroid (uterine and menopausal), and obesity/overweight were documented. Thirty (38) plant species belonging to 24 plant families are profiled. The family Fabaceae had the highest number of species (n=7) while stem bark was the most frequently used (37%) plant part. Methods of preparations were mainly decoction and steeping of botanicals in alcohol. Administration includes taking one tot/half-a-glass cup, 2 (morning and night) to 3 times daily.

Conclusion and Application of Findings: This study documents and further emphasizes the role of medicinal plants in female reproductive health. Although some of the plants reported here have been cited for the management of diseases such as skin infections and malaria/yellow fever, published reports on their use for women-related health disorders are limited. This research finds application in reproductive disorders in women and alternative approach to health care systems. These plants are presented for experimentation and scientific validation. Efforts should be made to conserve these plants, especially those that show promising bioactivity.

Key words: Women, Arthritis, Fibroid, Obesity, Medicinal plant, Nigeria

INTRODUCTION

Women hold strategic positions in the world especially in Sub-Saharan Africa where 230 million women of reproductive age live (Pons-Duran, 2019). Their health is broad and complicated ranging from pregnancy and menopause, gynaecological health to overall wellness. Women are afflicted with ailments such as arthritis, rheumatism, gout, menopausal fibroid and menstrual disorders (Singh *et al.*, 2010) while issues relating to reproductive health remain the leading cause of morbidity and mortality in women of child-bearing age worldwide (WHO, 2007). This may be as result of lack of adequate access to reproductive health facilities or religious belief of individuals concerned. Arthritis is a very common disorder in women. It is an informal way of referring to joint pain or diseases and is very common among women and occurs frequently as they get older. The disease can be mild, moderate or severe and includes swelling, pain, stiffness and decreased range of movement. Types are degenerative, inflammatory, infectious, and metabolic arthritis. Risk factors include overweight, family history, age and previous injury (Arthritis Foundation, 2016). Fibroids, variously referred to as uterine myomas, leiomyomas, or fibromas, are the most frequently seen tumours of the female reproductive system. It is estimated that between 20 – 50% of women of reproductive age have fibroids. The risk of getting fibroid is high when women approach menopausal age because of long exposure to oestrogen. The risk is even higher with women who are obese and are of African-American identity (UCLA Health, 2016). Overweight and obesity are abnormal or excessive fat accumulation that may impair health. The World Health Organization (WHO) defines overweight as Body Mass Index (BMI) ≥ 25 , and obesity as BMI ≥ 30 . In 2014, 39% of adults (≥ 18 years, 38% of men and 40% of women) are overweight with double prevalence between 1980 and 2014 (WHO, 2016). The common health consequences of overweight and obesity are cardiovascular

diseases (stroke), musculoskeletal disorders (osteoarthritis), and cancers. Herbal medicines are important part of culture and tradition of the African people. There are some diseases in the human body that medicinal plants can cure even without the use of synthetic drugs (Lowe *et al.*, 2001). Hence, rural and semi-urban people perceive medicinal plants as parts of the major healthcare systems. Furthermore, the tropical region is rich in plants that are used for the management of mild and chronic diseases. Although many western medical practitioners discourage the use of herbal medicines due to uncertainty of the chemical composition, dosages, and toxicity levels (Balick & Cox, 1996; George, 2011), yet traditional/indigenous societies in Africa and elsewhere have always used plants to promote healing (Bussman, 2006). The renewed interest in herbal medicines has been fuelled by the ineffectiveness and rising cost of synthetic drugs and resistance of organisms to these drugs (Sharma, 1997) as well as the accessibility, affordability and cultural relevance of herbal medicines which are preferred to the high priced healthcare services rendered by orthodox medicine (Bodeker & Kronerberg, 2002). A few studies on plants used in the management of female reproductive health problems (arthritis, vaginitis, engorged breast) have been reported by Fasola (2015), arthritis (Gbadamosi & Oloyede, 2014), sexually transmitted infections (Gbadamosi & Egunyomi, 2014), women-related diseases (Olanipekun *et al.*, 2016) and breast cancer (Gbadamosi & Erinoso, 2016). Several ethno-botanical/medicinal studies have overlooked or either omitted the significance of herbal medicine in general well-being and specifically female reproductive health. This study therefore was conducted to investigate some women-related health disorders and the plants used in their management with a view to presenting the plants for experimentation and scientific validation.

METHODS

Study location: The study was conducted in Bode herbal market in Ibadan South-East Local Government Area. The market is one of the three notable herb markets, the other two being Oje and Oranyan herb markets. Ibadan (Southwestern Nigeria) lies within latitude 7° 19' 08" and 7° 29' 25" of the equator and longitude 3° 47' 50" and 4° 0' 22" at a distance of about 154km North-East of Lagos. The temperature range is between 27°C and 32°C with relative humidity of about 75% to 90%. Ibadan metropolis consists of five local government areas (Ibadan North, North-East, North-West, South-East, and South-West) with a population of 2,550,593 people (NBS, 2006; Famuyide *et al.*, 2011). The principal inhabitants of the city, a major centre of trade in agricultural products, are the Yoruba people.

Ethical consideration: The purpose of the study was explained to the informants in the local language

RESULTS AND DISCUSSION

This study, part of a national project on ethnobotanical studies, was designed to further emphasize the role of herbal medicine in female reproductive health. The combinations, presented in Table 1, served as ground-breaking recipes in the management of some women-related health disorders while Table 2 shows the profile of the individual plants. Figs. 1 and 2 show percentage frequency of plant parts, and number of species according to families respectively. Although ten informants were interviewed, only two showed willingness to give "complete" herbal prescriptions for the ailments under study; the others turned down the researchers' plea for complete registration of recipes on

(Yoruba) and informed consent was obtained from each of the respondents.

Ethnomedicinal investigation: Ethnobotanical field methods advocated by Martin (1995) and Sofowora (2008) were adopted. Ten herb sellers (all females) were interviewed (age range, 35 – 57; mean, 45.80; SD, 7.41) in the local language (Yoruba) and the responses of two (who showed willingness to give complete recipes) were recorded. Plants implicated in the management of arthritis, fibroid and obesity/overweight were bought from the two herb sellers and taken to the herbarium where they were identified and deposited for reference purposes.

Data Analysis: Data were analysed using descriptive statistics with Epi6-info version 6.04 (CDC, Atlanta, GA, USA) (Dean *et al.*, 1994).

the grounds that studies of this nature bring little or no return to them. Their grievances are tenable and Cox (2001) and Bridges (2004) have succinctly addressed this issue and their recommendations published. The two informants were later rewarded after the interview process. This was done by giving souvenirs to and buying from them the plants implicated in the study. The researchers were, however, careful not to allow incentives or the compensation to influence participants' willingness and response. One of the two informants also gave a recipe on "blood tonic" which she prepares and gives to patients after treating the fibroid and obesity/overweight conditions.

Table 1: Enumeration of recipes used in the treatment of women-related health disorders in Ibadan, Southwestern Nigeria

Ailment	Herbal combinations	Preparation and Administration (Regimen)
1. Uterine fibroid	<i>Luffa cylindrica</i> (seeds – 20 or 60)	The seeds are shred like melon, ground and rolled up into 6 balls using saliva. A ball per day (at night) is to be inserted into the woman's private part. To relieve pain, the patient is advised to take hot pap/analgesic the following morning. The fluid in the belly will be discharged through the vagina.
3. Uterine fibroid	<i>Piliostigma reticulatum</i> (stem bark) <i>Allium cepa</i> (white – 1) potash (as base material)	Decoction in water. One tot/ half a glass cup is to be taken morning and night
4. Menopausal fibroid	<i>Khaya ivorensis</i> (stem bark) <i>Strophanthus hispidus</i> (root), <i>Allium ascalonicum</i> (bulb), <i>Xylopi aethiopica</i> (fruit – handful)	Decoction in water. One tot/ half a glass cup is to be taken twice daily
5. Obesity and Overweight	<i>Citrullus lanatus</i> (fruit – big), <i>Cassia obtusifolia</i> (fruit), <i>Gambeya africana</i> (fruit), <i>Allium ascalonicum</i> , <i>Parinari excels</i> (seed), <i>Aristolochia repens</i> (root), <i>Anthocleista djalonensis</i> (root) Potash	Steeping in alcohol (Schnapps). Half a glass cup/day or once in three days
6. Arthritis	<i>Mangifera indica</i> (leaf, stem bark) <i>Psidium guajava</i> (leaf), <i>Parkia biglobosa</i> (leaf, stem bark), <i>Cymbopogon citratus</i> (leaf), <i>Khaya ivorensis</i> (stem bark), <i>Bombax buonopozense</i> (stem bark), <i>Vitellaria paradoxa</i> (stem bark), <i>Pseudosedrela kotschyi</i> (stem bark), <i>Anthocleista djalonensis</i> (stem bark), <i>Nauclea latifolia</i> (stem bark), <i>Euphorbia laterifolia</i> (stem), <i>Ancistrophyllum secundiflorum</i> (stem bark), <i>Adenopus breviflorus</i> (fruit), <i>Opuntia</i> sp., <i>Euphorbia unispina</i> (stem), <i>Tetrapleura tetraptera</i> (pod), <i>Entada gigas</i> (root) <i>Tetracera alnifolia</i> (stem bark), <i>Olax subscorpioidea</i> (root) <i>Securidaca longepedunculata</i> (root)	Decoction in water. One tot/ half a glass cup is to be taken thrice daily. Sulphur and <i>Aframomum melegueta</i> , are ground and worked into Shea butter, to be used as cream on the affected joint
Blood tonic: <i>Tetracera alnifolia</i> (stem bark), <i>Theobroma cacao</i> (stem bark), <i>Mangifera indica</i> (stem bark), <i>Detarium microcarpum</i> (stem bark), <i>Sorghum bicolor</i> (stem), and potash.		

Table 2: Profile of plants used in the management of women-related health disorders in Ibadan, Southwestern Nigeria

S/N	Plant	Local name (Yoruba)	Family	Part used
1.	<i>Adenopus breviflorus</i> Benth.	Itagiri	Cucurbitaceae	Fruit
2.	<i>Aframomum melegueta</i> (Roscoe) K. Schum.	Atare	Zingiberaceae	Fruit
3.	<i>Allium ascalonicum</i> L.	Alubosa-elewe	Amaryllidaceae	Bulb
4.	<i>Allium cepa</i> L.	Alubosa-Hausa	Amaryllidaceae	Bulb
5.	<i>Anthocleista djalensis</i> A. Chev.	Sapo	Gentaniaceae	Stem bark
6.	<i>Ancistrophyllum secundiflorum</i> (P. Beauv.) G. Mann & H. Wendl.	Okuku	Arecaceae	Stem bark
7.	<i>Aristolochia repens</i> Mill.	Ako-igun	Aristolochiaceae	Root
8.	<i>Bombax buonopozense</i> P. Beauv.	Iponpola	Malvaceae	Stem bark
9.	<i>Bridelia micrantha</i> (Hochst.) Baill.	Asaragbo	Phyllanthaceae	Leaf
10.	<i>Cassia obtusifolia</i> L.	Epa-ikun	Fabaceae	Fruit
11.	<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	Baara	Cucurbitaceae	Fruit
12.	<i>Cymbopogon citratus</i> (DC.) Stapf.	Ewe tea	Poaceae	Leaf
13.	<i>Detarium microcarpum</i> Harms.	Arira	Fabaceae	Stem bark
14.	<i>Entada gigas</i> (L.) Fawc. & Rendl.	Agba	Fabaceae	Root
15.	<i>Euphorbia unispina</i> N.E. Br.	Oro-adete	Euphorbiaceae	Stem
16.	<i>Gambeya africana</i> (A. DC.) Pierre	Isu baka	Sapotaceae	Root
17.	<i>Khaya ivorensis</i> A. Chev.	Oganwo	Meliaceae	Stem bark
18.	<i>Lawsonia inermis</i> L.	Laali	Lythraceae	Root, Leaf
19.	<i>Luffa cylindrica</i> (L.) M. Roem.	Kankan-ayaba	Cucurbitaceae	Seed
20.	<i>Mangifera indica</i> L.	Mangoro	Anacardiaceae	Stem bark
21.	<i>Morinda lucida</i> Benth.	Oruwo	Rubiaceae	Root, Leaf
22.	<i>Nauclea latifolia</i> Sm.	Egbesi	Rubiaceae	Stem bark
23.	<i>Olax subscorpioidea</i> Oliv.	Ifon	Olacaceae	Root
24.	<i>Opuntia</i> sp. Mill.	Oro-agogo	Cactaceae	Stem
25.	<i>Parinari excelsa</i> Sabine	Abeere	Chrysobalanaceae	Seed
26.	<i>Parkia biglobosa</i> (Jacq.) R. Br. ex G. Don	Lasangba	Fabaceae	Leaf, Stem bark
27.	<i>Piliostigma reticulatum</i> (DC.) Hochst.	Abafo	Fabaceae	Stem bark
28.	<i>Pseudosedrela kotschyi</i>	Emi-gbegiri	Sapotaceae	Stem bark
29.	<i>Psidium guajava</i> L.	Guofa	Myrthaceae	Leaf
30.	<i>Pterocarpus osun</i> Craib.	Osun	Fabaceae	Stem bark
31.	<i>Securidaca longepedunculata</i> Fresen.	Ipete	Polygalaceae	Root
32.	<i>Sorghum bicolor</i> (L.) Moench.	Oka-baba	Poaceae	Stem
33.	<i>Strophanthus hispidus</i> DC.	Sagere	Apocynaceae	Root
34.	<i>Tetracera alnifolia</i> Willd.	Opon	Dilleniaceae	Root
35.	<i>Tetrapleura tetraptera</i> (Schumach & Thonn.) Taub.	Aidan	Fabaceae	Fruit
36.	<i>Theoboma cacao</i> L.	Koko	Malvaceae	Stem bark
37.	<i>Vitellaria paradoxa</i> C.F. Gaertn.	Emi	Sapotaceae	Stem bark
38.	<i>Xylopiya aethiopia</i> (Dunal) A. Rich.	Eru	Annonaceae	Fruit

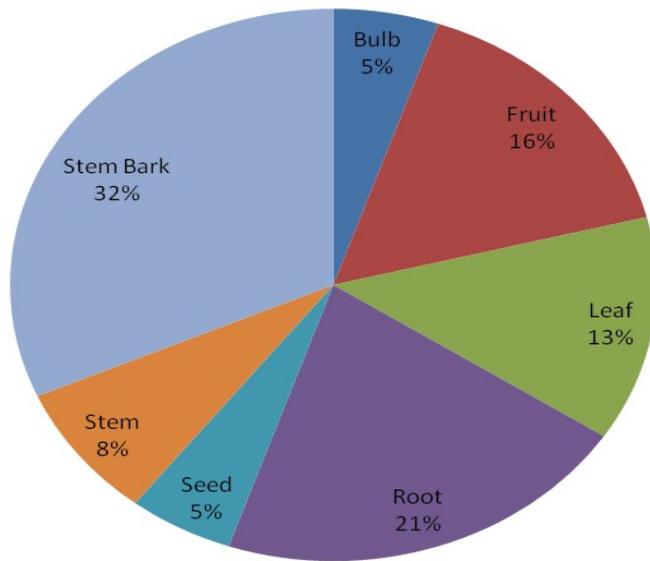


Fig. 1: Percentage frequency of plant parts used in the management of women-related disorder in Ibadan, Southwestern Nigeria

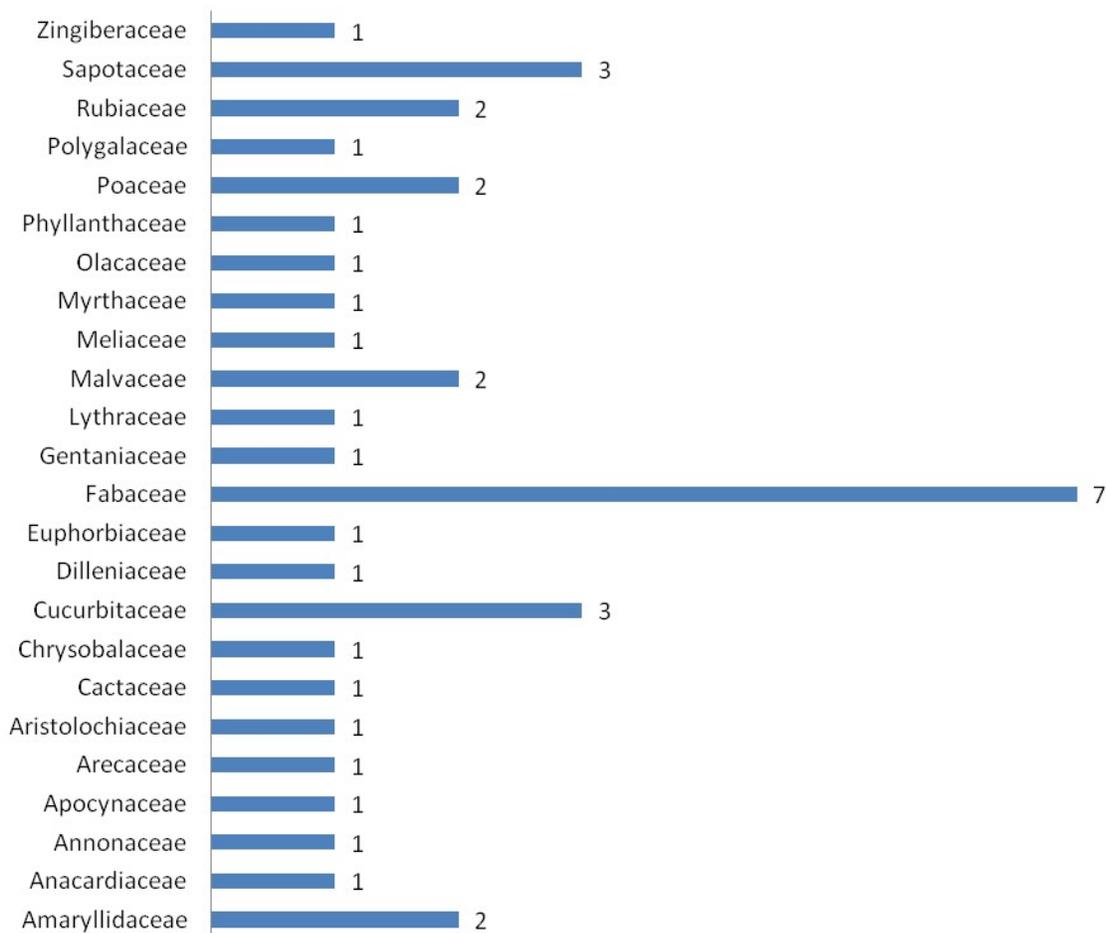


Fig. 2: Species count according to their families

Species count was highest in the family Fabaceae (n=7) while stem bark formed the most frequently used (32%) plant part. The results obtained in this study in terms of number of species in plant families and plant parts used are similar to that of Prasad *et al.* (2014) where the family Fabaceae had the highest species count, and roots and barks are the most frequently used plant parts in the cure of reproductive disorders in Wayanad district, Kerala. Particular emphasis should be given to the conservation of these plant parts. Unsustainable or indiscriminate harvesting of these parts could critically endanger, make vulnerable or worst still drive medicinal plants to extinction. Therefore, efforts should be directed at their sustainability using available conservation strategies and sustainable harvesting techniques. Some plant species in the genera *Euphorbia* and *Lawsonia* are

reportedly used traditionally for the management of female reproductive health dysfunction in Tana River County, Kenya (Kaingu *et al.*, 2013). Plants that are used worldwide or across regions, for the same purpose, are more likely to be effective. However, some plants have broad-spectrum activities and are used wholly or in combination with other plants. Herb sellers and traditional medical practitioners monopolize traditional botanical knowledge because they do not keep records and botanical knowledge is passed orally from generation to generation. This anomaly could be corrected by encouraging young and educated folks to learn herbal medicine practise and by collaborating with government, universities, NGOs or private agencies in the scientific evaluation of the claimed ethnomedicinal values of some plants.

CONCLUSION

This study documents and further emphasizes the role of medicinal plants in female reproductive health. Although some of the plants reported here have been cited for the management of diseases such as skin infections and malaria/yellow fever, published reports on their use for women-related health disorders are

limited. This research finds application in reproductive health disorders in women and alternative approach to health care systems. These plants are presented for experimentation and scientific validation. Efforts should be made to conserve these plants, especially those that show promising bioactivity.

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