

An Ethnobotanical Survey of Plants Used in the Management and Treatment of Female Reproductive Health Problems in Ibadan, Southwestern Nigeria

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ABSTRACT

An ethnobotanical survey revealed 61 plant species belonging to 32 families used by the indigenous people of Ibadan, Southwestern Nigeria in the management and treatment of female reproductive health problems. The families Euphorbiaceae and Meliaceae had the highest number of species followed closely by the Fabaceae. The recipes obtained from traditional healers, herbsellers and buyers are for treating amenorrhoea, dysmenorrhoea, leucorrhoea, infertility, prolonged labour, breast engorgement, menorrhagia, vaginitis, miscarriage and fibroid. Chemical constituents of the plants are supplied where known.

Keywords: Female; ailments; traditional medicine; Southwestern Nigeria.

INTRODUCTION

Indigenous people believe that for every disease there is an herb for its cure (Pesek, 2005). Africans and Nigerians in particular have a rich source of medicinal plants which are being used over the ages for maintaining health. Although the knowledge of the medicinal plants is sometimes held in secrecy, the present generation can still learn from the indigenous people through research efforts. The indigenous knowledge of medicinal plants can be valuable resources for health management. Added to this is the fact that ethnomedicinal practice is usually based on the plants in the immediate environment and is cost effective. Since modern health care delivery is more expensive and often out of reach of many Africans, their recourse to herbal medicines is justifiable as indigenous people often say that "our knowledge is holistic, and cannot be separated from our lands and resources". (Wasongo *et al.* 2011).

Women who are pillars of Africa's economic development constitute 51% of Africa's population (Rogombe, 1985). As the case with most family systems, Wayland (2011) stated that the first line of healthcare decision and action are often administered by female household members. Since 80% of Africans are dependent on herbs (FAO, 1993), a large percentage of this must be women. Women suffer a lot from ailments peculiar to them particularly when they do not have access to adequate reproductive health services and information. For instance, maternal mortality caused by obstructed labour, severe bleeding, unsafe abortions, infections, hypertensive disorders and other direct and indirect causes are in this proportion respectively 8%, 25%, 13%, 15%, 12%, 8% and 19% (Tinker and Koblinsky, 1993). World Health Organization (2007) reported that infections of the reproductive tract, complications after childbirth, and reproductive problems continued to be a major health challenge worldwide. Sexually transmitted infections can lead to acute symptoms, chronic infection and serious delayed consequences such as infertility, cervical cancer and untimely death.

Globally, developmental goals cannot be fully reached without women's participation because they comprise more than half of the world's human resources and are central to economic advancement as well as the special well-being of societies. It has been calculated that women produce 60 - 80% of Africa's agriculture output of which 90% are of the food crops (Steady, 1985). For concepts relating to women and development, their state of health must be given high priority. In view of this, it is necessary to study and document the medicinal plants used in treatment and management of female health problems in Ibadan, Nigeria.

METHODS

A guided structured interview was conducted among 200 people. The population consisted of 150 women and 50 men who were traditional healers, herb sellers and buyers (aged 22 to 75years) in major markets of Ibadan city on the uses and usage of plants bought or sold for women health problems. An average period of 2 weeks of 10 hours a day was observed per market and the total responses were gathered from each of the five markets namely: Bode, Alesinloye, Bodija, Oje and Shasha. This method is similar to those of Martin (1995) and of Maundu (1995). The recipes gathered were taken to the University of Ibadan Herbarium (UIH) for proper identification and documentation.

DISEASES AND PLANTS USED

Diseases are arranged alphabetically. Methods of preparation of the plants medicine are described given plant parts used, Botanical names (Families), Yoruba names and /chemical constituents where known.

AMENORRHOEA

1. Grind into fine powder the seeds of *Pterocarpus osun* Craib (Fabaceae) osun buke and stem of *Sorghum bicolor* (Linn.) Moench (Poaceae) poporo.
2. Cook and prepare with soup the ingredients listed and eat once a day until there is improvement. Leaves of *Baphia nitida* Lodd. (Fabaceae) iyerosun, fruit of *Capsicum annum* Linn. (Solanaceae). Ata-ijosi / calactin, calotropin and pulp of *Elaeis guineensis* (Afzel) Bullock (Palmae) Epo pupa.
3. The following ingredients could be boiled in a pot of water: *Sorghum bicolor*, *Pterocarpus osun* and little potash.

DYSMENORRHOEA

Cook ingredient in a native pot and keep warming every day. A teaspoonful is taken at a time. Root of *Morinda lucida* Benth. (Rubiaceae) Oruwo / morindin, bark of *Harungana madagascariensis* Lam ex poir (Hypericaceae) Amuje, Bulb of *Gladiolus psittacinus* (Iridaceae) Isu baaka and rhizome of *Curculigo pilosa* (Schum et Tonn.) England.

ENGORGED BREAST

1. Boil ingredients listed together. When cool, use to massage the breast and a cupful of decoction drunk daily. Root of *Nauclea latifolia* Sm (Rubiaceae) Egbesi, bark of *Khaya ivorensis* A. Chev. (Meliaceae) ogranwo / scorparone, bark of *Vitellaria paradoxa* Gaethn. f. (Sapotaceae), Emiyemi, bark of *Pseudocedrella kotschy* (Schweinf) Harms (Meliaceae) Emi gbegiri / triterpenoids and limonoids, bark of *Entandrophragma angolense* (Welw) DC (Meliaceae) jebo, bark of *Terminalia superba* Engl. and Diels. (Combretaceae) Afara / cyanogenetic substances, bark of *Bombax buonopozense* P. Beauv. (Bombacaceae) pompola, leaves of *Grewia pubescens* Linn. (Tiliaceae). Afoforo igbo and fruit of *Xylopiya aethiopia* (Dunal) A. Rich (Annonaceae) Eru / cuminal.
2. Put leaves of *Euphorbia hirta* Linn. (Euphorbiaceae) V. on top of leaves of *Jatropha curcas* Emi-ile Linn. (Euphorbiaceae) lapalapa / curcin. In a black pot, cook the ingredients and when it has cooled to body temperature, use to massage the breasts. Massage until they become tender and milk flows freely.
3. Decoction of stem of *Eleusine indica* (Linn) Gaetn. (Gramineae) Gbegi, leaves of *Calotropis procera* (Ait) Ait. F / calactin, calotropin, (Asclepidaceae), leaves of *Ocimum* sp. (Liliaceae) Efirin and fruit of *Xylopiya aethiopia*.

FIBROIDS

Fry some leaves of *Euphorbia lateriflora* Schum et Thonn. (Euphorbiaceae) Enu opiri / quinoline and tropane types, stem of *Euphorbia camerunika* Pax (Euphorbiaceae) oro agogo / igenane, fruit of *Lagenaria brevifolia* (Curcubitaceae) and unripe fruit of *Carica papaya* (Caricaceae) ibepe. Use one tablespoon of fried plants to take hot corn meal.

INFERTILITY

1. Squeeze leaves of *Cissampelos owariensis* P. Beauv ex DC. (Menispermaceae) J'enjoko into a cup and keep on the roof outside overnight for dew to settle into it. This is drunk early in the morning before eating.
2. Burn ingredients listed together with (1 above) and put the ash into palm oil. Rub this on the whole body at night. Leaves of *Croton zambesicus* Linn. (Euphorbiaceae) Ajek'ofole, fruit of *Piper guineense* Schum et Thonn. (Piperaceae) Iyere / Piperine, trichostachine, pulp of *Elaeis guineensis* and a whole electric fish.

LEUCHARREA

1. Extract a handful of leaves of *Pennisetum purpureum* Schumach (Poaceae) Eesu pupa. Mix brown liquid extract to peeled, ground *Vigna unguiculata* and make into 3 bean cakes. Eat each bean cake while standing, sitting and when lying down.
2. Grind leaves (above) into powder and mix with local black soap. Use soap to wash the vagina thoroughly daily until woman gets pregnant.
3. Boil leaves (above) together, cooled and take a teaspoonful daily. Also wash the vagina thoroughly until woman gets pregnant.
4. Use the juice of *Citrus aurantifolia* Swingle (Rutaceae) with black soap for douching. Repeat process until woman gets pregnant.

MENORRHAGIA

1. Cook the ingredients as soup with little palm oil and take a dessertspoonful every night. Leaves of *Xylopiya*

- aethiopica* (Dunal) A. Rich (Annonaceae) Eru / Cuminal, Fruit of *Piper guineense* and pulp of *Elaeis guineensis*.
2. Mash the two ingredients above together to extract juice and put enough extract on sanitary towel to lessen menstrual flow. Leaves of *Protea elliotti* and root of *Ricinus communis* Linn. (Euphorbiaceae) Laa / Ricin.

MISCARRIAGE

1. Grind finely the leaves of *Desmodium lasiocarpum* Desv. (Fabaceae) Ema Ajao in a pot on the exact day menstrual flow ceases, a piece corn meal is dipped into the powder, given first to the husband to eat, then the wife. This process is repeated for 5 consecutive days.
2. Peel the root bark of *Olox subscorpioides* Oliv. (Olacaceae) and mash together with others to sun dry. Ripe fruit of *Capsicum annum* Linn. (Solanaceae) Ata-ijosi, stem of *Allium ascalonicum* Linn. (Liliaceae) and a whole shrimp added. Cook as soup and eat.

PROLONGED LABOUR

Grind the leaves of *Sida acuta* Burm. F. (Malvaceae) with the shoots of *Ageratum conyzoides* Linn. (Asteraceae) and native black soap. The pregnant woman uses the soap to have her bath to enhance painless delivery.

VAGINITIS

Grind together finely with local black soap the following:

Suaveolens, sulphur, stem of *Euphorbia lateriflora*, stem of *E. hirta* and gun powder for douching.

DISCUSSION

The diversity of the flora partly explains the strength of traditional medicine and the wide variety of medicinal recipes utilized by traditional healers (Smith-Hall *et al.*, 2012). Sixty-one plant species belonging to thirty-two families were identified and used in the treatment of female problems. Members of the families: Meliaceae, Euphorbiaceae, Fabaceae, Poaceae and Moraceae recorded comparatively high frequency of occurrence of plant species (6%, 6%, 4%, 3%, and 3%) respectively. Joudi and Ghasem (2010) reported the diverse uses of plants in three families of which Fabaceae was included as also very useful medicinally. *Pterocarpus osun* and *Elaeis guineensis* were cited as being used for treatment of more than a disease. This confirms the multi - curative ability of some medicinal plants. Several authors have reported various plant parts that are commonly collected in their studies (Tibuti *et al.*, 2003; Hunde *et al.*, 2004; Yinegar *et al.*, 2007). In this study, both stem and bark were the mostly used parts, followed by leaves while the fruits, seeds and roots had the least usage. The present result does not agree with the findings of many workers (Idowu *et al.*, 2010; Thirupathy, 2013; Shosan *et al.*, 2014) that had leaves as the mostly sourced. Leaves are used singly or in combination with other plant parts as reported by Ayyanar and Ignacimuthu (2011). The preference for leaves in phytomedicine could be due to its being more convenient to collect than the other plant parts. Collection of leaves may be sustainably controlled and not be as destructive as the other plant parts (Yinegar *et al.*, 2007). Besides the leaves usage in phytomedicine, they are primary producers through photosynthesis and production of some metabolites that may justify their curative effects (Ghorbani, 2005). That tree barks were found mostly used in this work may be due to their availability all the year round as some trees shed their leaves periodically. Tree barks can be harvested at low levels unlike leaves and barks can be easily preserved as they do not easily go moldy as most leaves.

The mode of herbal preparations was diverse but boiling was the mostly used method of processing the drug plants. This method agreed with the observations of Ermias *et al.* (2008). Similarly, Appidi *et al* (2008) reported decoction and infusion as the main methods used in phytomedicinal preparations.

Acharya and Shrivastava (2008) paid inspirational tributes to the healing powers of herbal medicines and the life - enhancing medical knowledge of traditional herbal practices. Ten female ailments such as amenorrhoea, dysmenorrhoea, prolonged labour, engorged breast and vaginitis were treated by using the medicinal plants identified. These findings are largely consistent with earlier report on Yoruba traditional knowledge of contraception, abortion and infertility (Oyebola, 1981 and Abo *et al*, 2000). This work has shown that although treatment of female problems is mainly herbal, animal parts are used in few cases. The knowledge of the use of medicinal plants is deep rooted in the cultural background of the people (De Feo and Senetore, 1993).

An impressive number of plant species is traditionally used to treat infections as some have been investigated for their efficacy and positive results. Balick *et al* (2000) examined the use of medicinal plants by Latino healers in New York City to treat various women's illnesses. The study identified a total of 67 plant species prescribed by the healers for following conditions: uterine fibroids, hot flashes, menorrhagia, or endometriosis as diagnosed by biomedically trained physicians. Similarly, Ososki *et al* (2002) reported a total of 87 plant species used in the treatment of women problems by Dominican healers in New York City. Bussmann

and Glenn (2010) also reported that 105 plant species belonging to 62 families were identified as herbal remedies for reproductive problems in Northern Peru.

In a study similar to the present one, Razafindraibe *et al.* (2013) reported the medicinal plants used by women from Agnalazaha littoral forest of Southeastern Madagascar. Lans (2007) discussed the ethnomedicines used in Trinidad and Tobago for reproductive problems while Adams and Garcia (2006) reported that *Artemisia* spp had effects on female health amongst the Chumash. Among the various plants used, only a few were tested medicinally where *Aloe* spp. are known to have oestrogenic activity (Telefo *et al.*, 2002). Against menopausal symptoms, a variety of Asteraceae members have been reportedly used; *Clibadium*: (Macia *et al.*, 2005); *Matricaria*: (Niederhofer, 2009) and *Taraxacum*: (Greenlee *et al.*, 2007; Zhi *et al.*, 2007). Various species of *Passiflora* have aphrodisiac activity (Tabach *et al.*, 2009) while *Portulaca oleracea* showed efficacy in relieving uterine bleeding (Shobeiri *et al.*, 2009).

The therapeutic roles of these plants call for further studies by scientists.

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