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Advances in Pharmacology and Clinical Trials
ISSN: 2474-9214

Validation of Ewé'fá as Herbal Recipes for Reproductive Health Problems (Rhps) among the Yorùbá of South-Western Nigeria

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Research Article

Volume 4 Issue 4

Received Date: August 25, 2019

Published Date: September 12, 2019

DOI: 10.23880/apct-16000167

Abstract

Ifá scriptural verses contain a number of herbs for healing different ailments among the Yorùbá of south-western Nigeria. Thus, Ifá is one of the epistemologies of Yorùbá herbal healing system. Due to religious sentiments and secrecy arising from patenting, hermeneutic analysis and validation of Ifá-based herbs (Ewé'fá) is yet to be scientifically engaged. This paper therefore analyses some Ifá verses and identifies the herbs mentioned in them for validation, focussing reproductive health problems (RHPs). Thirty medicinal plants mentioned in six selected Ifá verses (Èjìogbè, Ògúndábède, Òyèkú-Méjì, Ogbè- Túrúpòn, Ìwòrì- Òfún, and Òtúrá-Méjì) for the treatment and management of RHPs were identified. Ethnographic and ethno-botanical surveys of those herbs were conducted in Bode central herbs market in Ibadan, south-western Nigeria. Key informants' interviews, observation, and semi-structured ethno-botanical questionnaire were used. Interviews focused on sources of **Ewé'fá** and mode of treatment in RHPs, botanical information on **Ewé'fá**, knowledge value of identified **Ewé'fá**, and uses and validation of **Ewé'fá** in the treatment of RHPs. Nineteen respondents, mainly the herb sellers (78.9%) and some traditional medical practitioners (TMPs, 21.1%) were involved in the survey. All the respondents were female, aged 41-60 years (52.6%) and 78.9% of them were Muslims. Herbal preparations are infusion, decoction, tincture, charring, squeezing, concoction, herbal soap and powder. Herb administrations are oral, topical and as baths. Oral therapies are administered mostly three times daily. Most of the herbs are sourced from the tropical rainforest region of south-western Nigeria. Ifá-based herbs are valuable as blood tonic, anti-infection, fertility herbs,

aphrodisiac, womb cleanser, worm expeller and in the treatment of frigidity. Traditional use of most of the **Ewé'fá** for RHPs is validated. Hermeneutically, curative meaning given to a plant and beliefs associated with their healing potentials as contained in Ifá verses play a significant role in the use and potency of herbal remedy. The findings provide a good starting point in pursuit of the search for safe and effective drug candidates for many reproductive health problems.

Keywords: Ethno-Botanical Survey; Reproductive Health; Traditional Knowledge; Ewé'fá, Herbal Remedies; South-Western Nigeria

Introduction

An increased attention has been recently paid to aspects of indigenous knowledge especially the African divination systems, yet, several aspects of divination system are not deeply explored. Significantly, due to religious sentiment and problem of patenting orally transmitted indigenous knowledge in many African societies, where divination is an everyday reality, its medicinal contents are yet to be explored into drug discovery. Virtually all African societies practice divination where divination still remains a pungent discourse and resilient in spiritual context [1], and used to investigate and discovering problems affecting humans including health challenges. Through divination too, solutions to the problems are discovered. In Democratic Republic of Congo, the Yaka divination is engaged to seek healing solutions to any health problems and misfortunes and the Xhosa healers in Eastern Cape of South Africa rely on divination as a source of healing [2]. There is indeed a dynamics between social reality, divination and bio-medicine in traditional African societies. Thus, in De' Surgy's opinion [3] divination is a well-established phenomenon and a system that informs and stimulates ritual acts, which pervades African traditional societies. Being a phenomenon as described by De' Surgy [3], it is undesirable that the current research focus on African divination has not been extended beyond literary, oratory contexts and certain philosophical aspects, thus leaving out its medicinal aspects.

Lack of enough attention given to medicinal research on Ifá is partly due to religious sentiment and lack of patenting on orally transmitted African indigenous knowledge in which Yorùbá Ifá belongs. With the spread of Christianity and Islam in Nigeria preaching the gospel of paradise based on modernity and civilization, a lot of traditional practices including traditional faith based healings are seen as contradictions to Christian and Islamic concepts of paradise and spiritual holiness. Significantly, Ifá healing system is seen as devilish and satanic mostly among the Pentecostal Christians and new Islamic movements such as Ansar U deen, Quareeb and Tablighi Sects of Moslems. Worsening the situation is the problem of patenting orally transmitted indigenous knowledge in Africa, which encouraged the secret preservation of lots of indigenous knowledge. Mostly affected by secret preservation of knowledge is Ifá compendium, which is largely undocumented and existing in esoteric languages that are often difficult to interpret. Specifically medicinal contents of Ifá including the Ifá-based herbs are symbolically coded to avoid intellectual property corruptions. Based on these two problems, Ifá medicinal practice is not widely opened to scientific research.

Among the Yorùbá of south-western Nigeria, Ifá is a divinatory system employed to solve human problems [4]. Being a traditional divination and spiritual practice among the people, Ifá began from time immemorial. It is a mythological narrative of knowledge about human existence compiled as a form of traditional oral scripture. Thus, Ifá is used to divine the prospect of actions, diagnose diseases and seek healing among others. While the practice is profound, the unpopular aspect of the system, which has received less research attention, is its herbal content. A lot of the orally scripted Ifá verses contain herbal recipes (**Ewé'fá**) from where the Ifá priests (Babaláwo) derive healing regimes against the diagnosed diseases. Several verses of the scripture contain a good number of herbal recipes, which are secretly coded hermeneutically, and of which the identification and analysis is mostly known by Babaláwo and others who carefully understand the esoteric language of Ifá [5]. Babaláwo extract and use Ifá-based herbs (**Ewé'fá**) without much scientific research efforts to literarily and linguistically analyse, explore, validate and make efforts to engage them in drug discovery. Hence, just as Ifá reveals Yorùbá history and cultural practices, Ifá divination is a repository of Yorùbá medical knowledge.

Ifa is commonly sought for solutions against Reproductive Health Problems (RHPs).

RHPs include health risks against fertility, pregnancy and safe motherhood, which is a serious health problem with high prevalence in Nigeria. In many cultural groups like the Yoruba, it is regarded as debilitating health problem having multiple causations- preternatural, cultural, and biological. The Yoruba values child bearing as proceed of successful marriage and do everything possible to ensure that marriages are blessed with child bearing. While challenges against child bearing may be cultural, preternatural (spiritual) and biological; biological and preternatural causes are mostly emphasised among the Yoruba. In men, infertility can be caused by abnormal sperm, low sperm mobility and low sperm count commonly attributed to genetic factors, mumps, hypospadias, cystic fibrosis and ejaculation disorder. In women, biological risks against pregnancy and fertility are commonly caused by ovulation disorder, womb infection, problems in the uterus or fallopian tubes and several complications at child birth [6]. Cumulatively these health problems are said to be affecting around one-third of marriages in Nigeria with hypospadias affecting one in every five hundred new born child. Due to the cultural perception of child bearing and prevalence of biological risks related to RHPs, spiritual based healing is mostly sought against the health problems, among which Ifa healing system is commonly patronised.

In Ifá verses of Èjìogbè, Ògúndábède, Òyèkú-Méjì, Ogbè- Túrúpòn, Ìwòrì- Òfún, and Òtúrá-Méjì among others, are enshrined various medicinal plants and animal components for the treatment of Reproductive Health Problems (RHPs). Exploring these herbal recipes into health solutions, the consulting Babaláwo (Ifá Priest) casts divination where emerges the verses that contain the best health solutions to the reproductive health problem(s) affecting the client. Since the herbal recipes are secretly coded hermeneutically, only the Babaláwo can interpret and decode the herbs and animal components in the verses [7]. The processes of identification of the corresponding verses to the client's health problem, decoding and extraction of the herbal recipes in the verses and application to solving the diagnosed health problem may seem unscientific and unexplainable if relying on cosmopolitan scientific paradigm as observed in many African divination systems [8]. But relying on ethno-scientific paradigm, which suggests an understanding of the specific structure and function of a specific cultural action in the analysis and evaluation of such action, according to Geertz [9], gives a more interpretive meaning of Ifá divination and its medicinal contents become more appreciated. Geertz's idea therefore suggests a link between Yorùbá bio-medicine and divination.

Following from the above therefore, in recognition of the dearth of interest on critical analysis of **Ewé'fá** in Ifá divination, and the perceived functionality of the use of **Ewé'fá** especially in treating reproductive health problems, the need to validate these **Ewé'fá** into drug discovery becomes imperative. Pursuing this research objective, a research team comprising of Medical anthropologist, Linguist, scholar in African traditional religion, Botanist, Pharmaceutical chemist, Pharmacognosist and Industrial pharmacist engaged in investigation using ethnography, literary and linguistic analysis of some Ifá verses, ethno-botanical survey of the identified **Ewé'fá** and laboratory verification and examination of the identified **Ewé'fá**.

Materials and Methods

Study Area

Ethnography was conducted in Ọ̀yọ́ town of Nigeria. Ọ̀yọ́ is a traditional Yorùbá community, which was believed to have been in existence more than 800 years ago. At the peak of its development the town was associated with vast and powerful kingdom, traditional technology and industries such as calabash decoration, local textile technology and weaving of crown among others. The town was also one of the earliest Yorùbá centres of traditional medicine, the feature which the town still retains till present as it parades large number of traditional herbal practitioners among which Ifá herbal healers (Babaláwo) are predominant. In recognition of this important feature, in 2007, United Nations Education, Scientific and Cultural Organization (UNESCO) supported the establishment and funding of Ifá training institute known as Ifá Heritage College. Among major focus of the College training and research is Ifá Medicine. Many graduates of the College have settled in Ọ̀yọ́ town engaging in Ifá healing practices, thus increasing the number of Ifá healing practitioners in Ọ̀yọ́ town.

The market ethno-botanical survey was conducted in Bode traditional herb market located in southwest local government area of Ibadan, Ọ̀yọ́ State. Ibadan is the most populous city in south-western Nigeria, where virtually all the 22 Yorùbá sub-ethnic groups can be identified. The market is located within the rainforest region of south-western Nigeria. The herb market had served as an

indigenous market for many decades with herb traders from different villages within and outside Ibadan.

Methodology

Investigation began with ethnography of **Ewé'fá**. A purposive selection of fifteen Ifá priests who are traditional healers specialised in reproductive health as key informants was done in Ọ̀yọ́ town of south-western Nigeria. They were asked to mention Ifá verses containing herbs and animal components for healing reproductive health problems. Only six chapters of Ifá scripture containing Ifá-based herbs were selected for critical analysis. Each of the selected Ifá priests chanted verses of the selected chapters that contain Ifá –based herbs and hermeneutic analysis of the verses were done to identify the herbs and animal components contained in them. Divination process for clients and how herbal solutions were prepared were also carefully observed through case study analysis of seventeen healing sessions in two weeks. In some instances samples of the identified herbs were collected for botanical verifications. Due to sub-linguistic variations among the Yorùbá, generalised terms, apart from local terms of the identified herbs and animal components were derived. This was made possible through literary and linguistic analysis of the various names of the herbal recipes identified in Ifá verses.

Following the ethnographic and linguistic analysis, categorization of the herbs and identification of their botanical names were done by botanist; while the validation of the herbal recipes was done through ethno-botanical survey among the local herbs sellers in Bode central herb market in Ibadan, Oyo State, Nigeria. The focus of the survey was to investigate the indigenous knowledge of herbs sellers at the Bode market on the use of **Ewé'fá** recipes for reproductive health problems. A prior visit was made to the market to obtain informed consent of respondents and participants of the survey. The essence of the study was explained to the participants in clear terms. On arrival at the market, investigators comprising of principal investigators and research assistants were allocated to the different respondents to administer the questionnaires. It was a market day in which many old women who deal in herb sales came from the surrounding villages to sell. Also, there were many customers that came to buy herbs. In administering the questionnaires, oral interviews were engaged to elicit information from the respondents and their responses were filled into the questionnaires.

This method was adopted because most of the respondents could neither read nor write. Some of the questions that were responded to included demographic information, knowledge of the plants to be validated, local names, popular use and other uses, place of collection or plant source, method of preparation of recipe, other ingredients added to recipe, mode of administration, side effects, etc (Table 1). Mode of treatments was also investigated in which questions relating to frequency and duration of RHPs treatment; economic value of plants and other ingredients added to the recipes. Bode is a local market centre where a large section of the market is noted for local herb stores. Ethno-botanical survey featured verification of the identified herbs among the herb sellers, ascertaining their common names and availability in the locality. All the identified herbs were collected from herbs sellers for botanical classification.

Plants	Ns	ns	Np	A	U	Nh	n
Berlinia grandiflora	9	4	1	9	8	1	11
Uraria picta	2	1	1	2	1	1	2
Aframomum melegueta	7	3	2	7	5	1	1
Allium ascalonicum	5	2	2	5	5	0	0
Baphia nitida	12	6	5	12	10	0	0
Chrysophyllum albidum	16	6	0	16	15	0	0
Clerodendrum sp.	5	1	0	5	4	1	1
Cocos nucifera	4	2	0	4	1	0	0
Corchorus olitorius	1	1	0	1	1	1	1
Cyperus esculentus	12	5	1	12	7	0	0
Dioclea reflexa	18	1	16	18	18	0	0
Elaeis guineensis	0	0	0	0	0	0	0
Euphorbia laterifolia	6	5	3	6	4	0	0
Jatropha curcas	2	1	0	2	1	0	0
Jatropha gossypifolia	13	4	1	13	13	0	0

Leea guineense	9	4	1	9	8	2	2
Mallotus oppositifolius	6	4	0	6	5	**0**	0
Mammea africana	6	3	5	6	5	2	3
Mimosa pudica	9	4	0	9	9	0	0
Olyra latifolia	4	2	0	4	4	1	1
Parquetina nigrescens	6	3	5	6	5	0	0
Petivera alliacea	1	1	0	1	1	0	0
Piper guineense	15	4	3	15	15	0	0
Pseudocedrela kotyschyi	8	1	0	8	7	0	0
Securidaca longepedunculata	9	4	2	9	9	0	0
Synedrella nodiflora	7	3	0	7	7	0	0
Uvaria afzelii	11	5	0	11	11	0	0
Xylopia aethiopica	2	1	0	2	1	0	0
Aframomum melegueta	10	2	1	10	8	0	0
Allium ascalonicum	13	4	1	13	12	0	0

Table 1: Socio-cultural Variables Relating to use of Ewé'fá in RHPs among the Ethno-botanical Survey Respondents.
Ns: Number of respondents who use the medicinal plant for any purpose, ns: number of medicinal uses, Np: number of respondents claiming a specific RHP use, A: respondents who use the plant without necessarily knowing the stated local name, U: Respondent who use the plant, Nh: Number of homogenous names given by respondents, n. total number of respondents who have local names for the plant.

Variables	Category	Number of response (Nr)	%Nr
Frequency of Treatment in RHPs among the Herb Sellers	Regular	10	52.6
	Irregular	6	31.6
	No treatment	3	15.8
Use of Other Recipes apart from Herbs	None	12	63.2
	Animal part	3	15.8
	Divination/oracle/incantation	1	5.3
Source(s) of Knowledge Acquisition in Herbal Treatment among Herb-sellers	Inheritance	4	21.1
	Training	8	42.1
	Inheritance and training	5	26.3
	Other	2	10.5
Duration of Using Herbs in Treatment of RHPs	2 – 3 weeks	6	31.6
	3 – 5 weeks	3	15.8
	5 – 12 weeks	0	0
	>12 weeks	7	36.8
Accompanied Side Effects on the use of Herbs in RHPs	None Nausea/vomiting Others	19	100

Data Analysis

While the generated ethnographic data was analysed using content and literary and linguistic analysis of the selected Ifá verses, data generated from ethno-botanical survey were subjected to descriptive statistics. Some mathematical derivatives documented in literature were also used to analyse the data. Some of the quantitative derivatives include Fidelity Level (FL), Knowledge Value Index (KVI), Ethno-Medicinal Income Index (EI) and Name Homogeneity Index (NHI) as follows:

1) Fidelity Level (FL,) was used to quantify the percentage of respondents that claimed the use of a particular plant for the same major purpose

FL = Np/n*100

Where Np is the number of respondents claiming a specific use for a plant and n is the total number of respondents using the plant for any purpose [10].

2) Knowledge Value Index (KVI) was used to evaluate the level of knowledge of a particular plant and appraise the extent of awareness of ethno-medicinal plants among the population without special attention to names of plant species.

$KVI = \sum A/n$

Where 'A' represents a respondent who is aware of the plant without necessarily knowing the plant by name, 'n' is the number of respondents interviewed.

3) Use Knowledge Index (UKI), analyses the level of novelty in local names not yet documented and appraises the continued use of plants in ethno-medicine.

$UK = \sum U/K$

Where U is the respondent who used a particular plant and K is the respondent who knows the plant by name [11].

4) Ethno-medicinal Income Index (EII) was used to quantify the relative ethno-medicinal economy of a local population based on local knowledge of plant use.

$EI = \sum I/n$

Where 'I' represents a respondent who makes income from the sale of the plant and 'n' is the number of respondents who use this plant species for any given purpose.

(v) Name Homogeneity Index (NHI) was used to quantify the variation in names used by respondents to describe a particular plant.

$NHI = N_h/n$

Where 'N_h' is the number of homogenous names given by respondents and 'n' is the total number of respondents who have a name for the plant.

Results

Demographic Characteristics of The Respondents

The nineteen respondents encountered during the market survey were all Yorùbás of different sub-ethnic groups with 78.9% practising Islam and 21.1% practising Christianity (Table 2). The population of the respondents was made up of majorly herb sellers (78.9%) and traditional medical practitioners (TMPs, 15.8%). They were of different age groups: 21-40 years (26.3%); 41-60 years (52.6%) and >60 (21.1%) with many years of experience in the practice of selling herbs in wholesale and retail. Data from the survey revealed that the herb sellers are well-experienced in handling different RHPs.

Parameter	Category	Number of Respondents (N)	%N
Professions	Herbalist	-	-
	Herb sellers	15	78.9
	Traditional Medical Practitioner	3	15.8
	Others	1	5.26
Age (Years)	1-20	-	-
	21-40	5	26.3
	41-60	10	52.6
	>60	4	21.1
Sex	Male	-	-
	Female	19	100
Religion	Christianity	4	21.1
	Islam	15	78.9
	Traditional	-	-

Table 2: Demographic Characteristics of the Respondents.

Sources of Ewé'fá and Mode of Treatment in Rhps

The herb sellers attest to the fact that most of the herbs presented for validation are used by Ifá priests. They are of the opinion that most of the herbs are sourced from the forests through farmers and hunters that deal in herbs sourcing. Herbs were also purchased from herbs collectors, who often harvest the herbs from the forest and brought to the town where they are sold to herb sellers in the market at wholesale or retail. Due to age long practice in sales of herbs, herb sellers also have the knowledge of the use of herbs in treatment of RHPs. Among the respondents who are herb sellers in Bode market, ten of the respondents (52.6%) treat RHPs regularly, six (31.6%) treat it irregularly, while three (15.8%) do not treat it at all. Twelve (63.2%) of the respondents do not use any other means of treatment for

RHPs other than herbs identified in Ifá verses. The source of respondents' knowledge of herbal treatment was by inheritance from their old parents (21.1%), professional training (42.1), inheritance and training (26.3) and others, which include inspiration (10.5%). Duration of treatment of RHPs using **Ewé'fá** was said to be 2-3 weeks and >12 weeks by 31.6% and 36.1% of respondents, respectively. No side effect was reported to be associated with the use of any of the Ewé'fá recipes by any respondent (Table 3).

Variables	Category	Number of response (Nr)	%Nr
Frequency of Treatment in RHPs among the Herb Sellers	Regular	10	52.6
	Irregular	6	31.6
	No treatment	3	15.8
Use of Other Recipes apart from Herbs	None	12	63.2
	Animal part	3	15.8
	Divination/oracle/incantation	1	5.3
Source(s) of Knowledge Acquisition in Herbal Treatment among Herb-sellers	Inheritance	4	21.1
	Training	8	42.1
	Inheritance and training	5	26.3
	Other	2	10.5
Duration of Using Herbs in Treatment of RHPs	2 – 3 weeks	6	31.6
	3 – 5 weeks	3	15.8
	5 – 12 weeks	0	0
	>12 weeks	7	36.8
Accompanied Side Effects on the use of Herbs in RHPs	None Nausea/vomiting Others	19	100

Table 3: Treatment of Reproductive Health Problems among the Herb Sellers.

Botanical Analysis of Ewé'fá in Rhps Care

The thirty identified **Ewé'fá** (herbal recipes) are distributed across twenty angiosperm families. These are Euphorbiaceae family which had the highest number of plants (Euphorbia laterifolia, Jatropha curcas, J. gossypifolia and Mallotus oppositifolius) followed by Leguminosae having three plants namely Baphia nitida, Dioclea reflexa and Mimosa pudica. Other identified families are Annonaceae, Arecaceae and Sterculiaceae having two plants each. The remaining fifteen families had one plant each (Table 4). Eighteen of the plants amounting to 60% of the identified herbs were identified for use for reproductive health problems (Table 4). The enumeration of recipes is presented in Table 4 for selected categories of RHPs. The most common reproductive health related problems that were mentioned involving the use of **Ewé'fá** recipes include: post-coitus sperm release (ẹ̀dà) for which Cocos nucifera, Dioclea reflexa and Mimosa pudica were mentioned; Aphrodisiac for which Leea guineensis, Cola nitida and Cola gigantea were mentioned; womb cleanser for which Xylopia aethiopica and Securidata longepedunculata were mentioned, infertility/fertility for which Xylopia aethiopica, Mimosa pudica, Jatropha gossypifolia, Parquetina nigrescens, Securidaca longepedunculata, Uvaria afzelii and ewé làálì ẹ̀ṣìn were mentioned, easy delivery for which Aframomum melegueta, Chrysophyllum albidum, Corchorus olitorius and Piper guineense were mentioned; and breast infection (ṣọ́múròrò) for which Cocos nucifera and Dioclea reflexa were mentioned. Some of the herbs were also mentioned to be in use for removing placenta after delivery, for treatment of pile that could hinder conception, as worm expeller or for low sperm count, etc. However, many of the **Ewé'fá** recipes have some other ethno-medicinal uses outside reproductive health problems. For instance Ewé Làálì Ẹ̀ṣìn for general infection, Allium ascalonicum for pile, Clerodendrum sp. for stroke, Euphorbia laterifolia for skin infection, Mammea africana for urinary tract infections. Xylopia aethiopica and Uvaria afzelii apart from being used for RHPs were also mentioned as general purpose herbs. Most of the ingredients in the recipes given are prepared by squeezing the juice, as decoction or infusion and administered orally or topically. Some of the recipes are powdered and taken with hot pap, while some are used by mixing them with local soap (ọ̀ṣẹ́ dúdú) for bathing.

S/ No.	Botanical names	Family	Local names	Knowledge of Use in RHPs (%)	Other local names	Specific RHPs which the Herbs are Used for	Method of preparation	Mode of administration	Use of plants in RHP
1	Berlinia grandiflora	Lamiaceae	Ewé ọmú ẹṣin	47.4	làálì ẹṣin	Malaria, anthelminthic, infections, Fertility	Squeezing, boiling	Topical, Oral	Yes
2	Uraria picta	Euphorbiaceae	Ewe Àlùpàídà	10.5	Àlùpàídà or Àpadà	Placenta praevia	-	-	Yes
3	Cola sp.	Sterculiaceae	Obì ifin	36.8	Obì àbàtà funfun	Aphrodisiac	-	-	Yes
4	Cola sp.	Sterculiaceae	Obì ipa	26.3	-	Aphrodisiac	-	-	No
5	Aframomum melegueta K. Schum	Zingiberaceae	Èso ataare	63.2	-	Easy Delivery, womb healing and stomach pain.	Chewing, concoction	Oral	Yes
6	Allium ascalonicum L.	Amaryllidaceae	Àlùbósà eléwé	84.2	-	Oka ori, pile, Malaria, Cough, Convulsion, Jewo, Jawo	Decoction	Topical	No
7	Baphia nitida Lodd.	Leguminosae	Ìyèrèòsùn	26.3	-	All reproductive ailments	-	-	No
8	Chrysophyllum albidum G. Don	Sapotaceae	Èso Àgbálùmọ̀	21.1	-	Dizziness and easy delivery	-	-	No
9	Clerodendrum sp.	Lamiaceae	Ewé ìṣẹ́dun	5.3	Ewé Ọ̀dúndún	Stroke	-	-	No
10	Cocos nucifera L.	Arecaceae	Àgbọn jíjẹ	63.2	-	Ẹ̀dà, antimicrobial, treats all infants' disease, breast infection, memory enhancer	Eating,	Oral, Topical	Yes
11	Corchorus olitorius L.	Malvaceae	Ewédú	94.7	-	Easy delivery	Squeezing leaf juice	Oral	Yes
12	Cyperus esculentus L.	Cyperaceae	Èso ìmumu	0	-	-	-	-	No
13	Dioclea reflexa Hook. f.	Leguminosae	Àgbáàrín	31.6	-	Safe delivery, stomach upset in children, Ẹ̀dà, Breast infection, Placenta removal	Roasting	Oral	Yes
14	Elaeis guineensis Jacq.	Arecaceae	Ewé imọ̀ ọ̀pẹ	10.5	-	Antimicrobial	-	-	No
15	Euphorbia laterifolia Schumach.	Euphorbiaceae	Ẹnuòpìrì or Ẹnuòpiyè	68.4	-	Antimicrobial, skin infection, STI, Fibroid	Mix with black soap, use as powder	Topical	Yes
16	Jatropha curcas L.	Euphorbiaceae	Ewé Làpálàpá	47.4	-	Measles, pile, labour, Ẹ̀dà, prostate cancer	Leaf juice, leaf mix with black soap	Oral, topical	Yes
17	Jatropha gossypifolia L.	Euphorbiaceae	Egbò làpálàpá pupa	31.6	-	Fertility enhancement, pile, measles	Soaked in Palm-wine, combine	Oral	Yes

							with efinrin for pile		
18	Leea guineense G. Don	Vitaceae	Àledò/Kokojìwà rà	31.6	-	Aphrodisiac, Frigidity	grind + all herb	-	Yes
19	Mallotus oppositifolius (Geiseler) Müll.Arg.	Euphorbiaceae	Ewé òrokóró/ojú ẹja	47.4	-	Antihelminthic, Fever, Self-protection, worm expellant	Squeezing with dew	Oral	No
20	Mammea africana Sabine	Calophyllaceae	Ewé ologbomodu	21.1	Olójòngbòdú	Fever, UTI	Squeeze with little salt	-	No
21	Mimosa pudica L.	Leguminosae	Patanmọ́	31.6	-	infertility, Ẹ̀dà, miscarriage	Mix with ataare + abèèrè with lime water	Oral	Yes
22	Olyra latifolia L.	Poaceae	Ewé ìyèetu	5.3	-	Babaalawo	-	-	No
23	Parquetina nigrescens (Afzel.) Bullock	Periplocaceae	Ewé ọgbọ́	78.9	-	Blood tonic, fever, infertility, Galactogogue	Squeezing in milk (1wk)	Oral	Yes
24	Petivera alliacea L.	Phytolacaceae	Egbò awogbaàrùn	42.1	-	All ailments in RHPs.	-	-	Yes
25	Piper guineense Schumach & Thonn.	Piperaceae	Èso ìyèré	47.4	-	Malaria, easy delivery, Measles	Soaking in gin with alum, ata pupa, soup for pregnant	Oral	Yes
26	Pseudocedrela kotyschyi (Schweinf.) Harms	Meliaceae	Èso igi ẹmi	36.8	-	Antimicrobial, Fever	Decoction, grind seed + soap	Topical	No
27	Securidaca longepedunculata Fresen.	Polygalaceae	Egbò ìpẹ̀ta	57.9	-	Chest cold (Ile Tutu), convulsion, womb cleanser, infertility, Antimicrobial	Decoction with alubosa elewe, ato, ogede odo	Oral, Topical	Yes
28	Synedrella nodiflora (L.) Gaertn.	Compositae	Ewé Apàwọ̀fà	10.5	tanaposo	All treatment in RHPs	-	-	No
29	Uvaria afzelii G. F. Scott-Elliot	Annonaceae	Gbogbonìṣe	52.6	-	Infertility, all purpose	-	-	Yes
30	Xylopia aethiopica (Dunal) A. Rich.	Annonaceae	Ẹ̀rù	68.4	-	Cough, Healing of Baby's navel, womb cleanser, infertility, All Reproductive health infection	Decoction with other herbs	Oral	Yes

Table 4: Angiosperm Categorization and Medicinal Relevance of Ewé'fá Recipes for RHPs.

Knowledge of Value Index (KVI) of the Identified Ewé'fá

Quantitative evaluation of the survey data showed that *Corchorus olitorius* had the highest fidelity level (FL-84.2%). *Aframomum melegueta, Leea guineense* and *Mimosa pudica* all had FL of 26.3% (Table 5). The knowledge value index (KVI) ranged from 0.0-0.95. A KVI of zero for any plant indicated that none of the respondents knew the plant, while at least about half of the respondents knew plants that had KVI of 0.47. Plants with KVI of 0.47-0.95 constituted 43.3%. The most popular plant was *C. olitorius* (KVI 0.95) and use knowledge index (UK) of 1.0 showing that all the respondents mentioned that the plant is used to ease delivery during labour. The next in rank to this was *Allium ascalonicum* (KVI 0.84) followed by *Parquetina nigrescens* (KVI 0.79). Most of the plants had high UK, while *Chrysophyllum albidum* had the lowest UK (0.25) indicating that only a quarter of the respondents used it. The value obtained (1.0) for ethno-medicinal income (EI) for all the plants except *Cyperus esculentus* showed that all of the respondents derived income from selling the plants. Most (80%) of the plants had homogeneity index of zero (NHI 0), indicating that most respondents did not give other names by which the plants are called. Table 1 further explicates on certain socio-cultural variables relating to the use of **Ewé'fá** in reproductive health problems among the herb sellers. The table explains the number of respondents using **Ewé'fá** as medicinal purpose and the respondents using a specific **Ewé'fá** for RHPs. It also enumerates the number of respondents using the local names of identified herbs and those who are not using local names among other variables.

S/N	Plants	Indices measured				
		Fidelity Level (FL=Np/n*100)	Knowledge Value Index (KVI=∑A/n)	Use knowledge index (UK=∑U/K)	Ethno-medicinal income index (EI=∑I/n)	Name homogeneity index (NHI=Nh/n)
1	*Berlinia grandiflora*	5.26	0.47	0.89	1	0.09
2	*Uraria picta*	5.26	0.11	0.5	1	0.5
3	*Cola sp.*	10.53	0.37	0.71	1	0
4	*Cola sp.*	10.53	0.26	1	1	0
5	*Aframomum melegueta K. Schum*	26.32	0.63	0.83	1	0
6	*Allium ascalonicum L.*	0	0.84	0.94	1	0
7	*Baphia nitida Lodd.*	0	0.26	0.8	1	1
8	*Chrysophyllum albidum G. Don*	0	0.21	0.25	1	0
9	*Clerodendrum sp.*	0	0.05	1	1	1
10	*Cocos nucifera L.*	5.26	0.63	0.58	1	0
11	*Corchorus olitorius L.*	84.21	0.95	1	1	0
12	*Cyperus esculentus L.*	0	0	0	0	0
13	*Dioclea reflexa Hook. f.*	15.79	0.32	0.67	1	0
14	*Elaeis guineensis Jacq.*	0	0.11	0.5	1	0
15	*Euphorbia laterifolia Schumach.*	5.26	0.68	1	1	0
16	*Jatropha curcas L.*	5.26	0.47	0.89	1	1
17	*Jatropha gossypifolia L.*	0	0.32	0.83	1	0
18	*Leea guineense G. Don*	26.32	0.32	0.83	1	1
19	*Mallotus oppositifolius (Geiseler) Müll.Arg.*	0	0.47	1	1	0
20	*Mammea africana Sabine*	0	0.21	1	1	1
21	*Mimosa pudica L.*	26.32	0.32	0.83	1	0
22	*Olyra latifolia L.*	0	0.05	1	1	0
23	*Parquetina nigrescens*	15.79	0.79	1	1	0

	(Afzel.) Bullock					
24	*Petivera alliacea L.*	0	0.42	0.88	1	0
25	*Piper guineense Schumach & Thonn.*	10.53	0.47	1	1	0
26	*Pseudocedrela kotyschyi (Schweinf.) Harms*	0	0.37	1	1	0
27	*Securidaca longepedunculata Fresen.*	0	0.58	1	1	0
28	*Synedrella nodiflora (L.) Gaertn.*	0	0.11	0.5	1	0
29	*Uvaria afzelii G. F. Scott-Elliot*	5.26	0.53	0.8	1	0
30	*Xylopia aethiopica (Dunal) A. Rich.*	5.26	0.68	0.92	1	0

Table 5: Quantitative ethno-botanical analysis of respondents' information on Ewé'fá.

Uses and Validation of Ewé'fá in Treatment of RHPs

Generally healing in Ifá system involves spirituality and the use of herbs, where Ifá belief system influences the course of repairing the patient that is seeking healing. Treatment of reproductive health problems using Ifá healing system does not depart from general procedures in Ifá healing system. The patient is brought to Ifá priest (Babaláwo) who consulted Ifá divination to ascertain the illness affecting the patient. Consultation involves the use of Ifá instruments such as Ọpẹ̀lẹ̀ (divination chain) used to divine into the problems affecting the patient. The divination is revealed through Ifá verses that symbolically appear in the divination. Through the poetic chanting of the appearing verse, the Babaláwo deduces the illness and its severity. From the deduction too, the spiritual and herbal aspects of the illness are deciphered. Spiritual aspects explain the preternatural causes, and remedies, while the herbal aspect identifies the herbal recipes contained in the verses and narratives of how it was used in healing similar diseases in the past by Ọrúnmìlà. Babaláwo applies both spiritual and herbal knowledge in seeking remedies. The spiritual remedies involve sacrifices, appeasement to gods and deities and spiritual warnings against practices that were identified to have caused the illness on the patient.

Herbal remedies involve the identification of herbal recipes from the verses that appear in the divination, the collection of herbs and their preparation into herbal drugs. During the long time apprenticeship as Babaláwo, the master priest would have taught the apprentice how to decode the Ifá poetic verses and identification of herbs contained in the verses. As Ifá poetic verses are full of allegories and hyperbolic representations, the deep intellectuality of decoding message from divination is brought to bear by Ifá priest. Following the identification, Ifá priest collect the herbs. Some Ifá priests maintain medicinal plant gardens in their compound, where commonly used herbs are planted for easy access. In communities like Ọ̀yọ́ and Aáwẹ́ towns that are still surrounded by forests, Ifá priests can go to the forest to harvest herbs. They may also instruct farmers and local hunters to fetch the herbs for them. There are also specialists in herb collection, which Babaláwo can contract to fetch them the needed herbs. In most cases, Babaláwo can buy the herbs from herb markets in town. Babaláwo engages in the combination of all the sources of herb collection.

After the collection of the herbs, Babaláwo ensures that the correct herbs are collected and processing of herbs into drug follows. Babaláwo designates his trainees to prepare the herbs, giving them instructions. Herbs can be prepared into liquid forms by boiling the herbs and by squeezing out the juice contains in the herbs. It can also be grinded and mixed with local soap for bathing or mixed with local ointments of Shea butter for application. Babaláwo gives the drug to his patient giving the information about prescription and preservation. The use of herbal drug may last for days and weeks depending on the nature and severity of the ailments.

The use of Ewé'fá as herbal recipes in reproductive health problems is dominant among Ifá priests in Yorùbá society of south-western Nigeria. Both ethnographic observation and case study analysis suggest all

respondents who are Babaláwos (Ifá priests) engaging in reproductive health caring draw their healing knowledge from Ifá and engage the use of Ifá spirituality and herbal recipes in treatment. The knowledge of Ifá herbal healing is mostly drawn on the curative meaning given to a plant and beliefs associated with the healing potentials of herbs as contained in Ifá verses. This plays a significant role in the use and potency of herbal remedy in Ifá healing system. During case study analysis, seventeen patients that visited three different Ifá priests in Òyọ́ town on reproductive health problems were observed within two weeks. Reproductive health problems that were involved were low sperm count [5], weak erection [3], womb infection [3], pile [4] and prolonged female infertility [2]. All the patients admitted that they had undergone spiritual healing, which involved sacrifice to appease the gods or divinities that are associated with their illnesses. They also affirmed that they were receiving herbal treatment made from Ewé'fá that were identified from Ifá divination that was consulted for them. All the three patients being treated on womb infection affirmed that their conditions had remarkably improved as they used the herbal soap made of local soap and Ewé'fá to wash their virginal and herbal mixture drank to disinfect their wombs within three days of treatment. They further stated that before they started the treatment with Ewé'fá, they experienced severe virginal hitching and bleeding, but since they started using the herbal drug the womb hitching had stopped and the bleeding had started to reduce remarkably. Patients with weak erection also affirmed improvement on their health status following the use of herbal drugs made from Ewé'fá. Other reproductive health problems which Ifa herbal recipes were sought for solutions are listed in (Table 6).

RHPs category	Recipe	Method preparation and Mode administration
Ṣọmúròrò Breast infection	*Cocos nucifera,*	Use the water in the C. nucifera fruit to wash the infected breast
	Dioclea reflexa	-
Ẹ̀dà Post coitus sperm loss	*Dioclea reflexa, Aframomum melegueta*	Blend the leaves of D. reflexa and use it to soup to be eaten.
	Aframomum melegueta, Citus aurantifolia, Mimosa pudica	Mix the juice of C. aurantifolia and the powder of A. melegueta and leaves of Mimosa pudica together and drink before breakfast
	Cocos nucifera, Mimosa pudica, Picralima nitida	Mix the water of C. nucifera fruit and powdered M. pudica and P. nitida
	Jatropha curcas, black soap	Dry and blend the fruit of jatropha curcas and mix with black soap. Use the preparation to was the private part.
Aphrodisiac	Cola sp., Cola sp.,	
	Leea guineense	Grind
Womb cleanser	*Securidaca longepedunculata*	
	Xylopia aethiopica,	
Fertility	*Parquetina nigrescens*	Squeeze the leaves and mix with milk. Take the preparation orally.
	Jatropha gossypifolia	-
Worm Expeller		
Easy delivery/Easy labour	*Aframomum melegueta*	Chew the fruits
	Corchorus olitorius	Squeeze or grind the leaves of C. olitorius with little volume of water and drink or prepare the leaves as soup without adding salt or any other condiments. Drink the soup.
	Chrysophyllum albidum, Vitex doniana	Blend the seed of C. albidum and mix it with Vitex doniana. Use the preparation to wash the private part of the pregnant woman.
	Piper guineense	Prepare as soup to be eaten
Placenta removal	*Aframomum melegueta, Dioclea reflexa*	Roast the fruits of A. melegueta and D. reflexa and use the preparation to take pap.

Low sperm count		
Frigidity	*Leea guineense*	
Miscarriage	*Mimosa pudica*	

Table 6: Use of Ewé'fá for treatment of selected reproductive health problems.

Discussion and Conclusion

Ifá scriptural verses are one of the sources of knowledge in Yorùbá herbal medicine. Since Ifá has to do with everyday encounter experienced by Ọ̀rúnmìlà, the founder and custodian of Ifá system and the most common encounter is dealing with health problems, Ifá verses contain the narratives of how Ọ̀rúnmìlà dealt with such health problems. While Ọ̀rúnmìlà later became one of the strongest Yorùbá spiritual deity associated with wisdom who is being worshipped today among the people, his system of healing enshrined in his poetic narratives has become an important system of healing among the Yorùbá. A Yorùbá mythology accounts that Ọ̀rúnmìlà's one of closest allies was Ọ̀sányìn who is regarded as god of medicine among the people. In their relationship, Ọ̀sányìn taught Ọ̀rúnmìlà a lot of herbal medicine, which Ọ̀rúnmìlà memorised in poetic form and supported his memory with mythological stories of how he used those herbal medicines in curing illnesses among his ancient people. The poetic memories thus form the compendium of Ifá scripture. Among the prominent narratives contained in Ifá compendium are the healings engaged by Ọ̀rúnmìlà. The narratives consist of the names of the herbs (**Ewé'fá**) used in a particular illness, how the herbal contents were used, description of the patients involved and the medical history of the patients. There is hardly any verse of the sixteen major and several sub-chapters of Ifá scripture that do not have narratives on healing. For instance, one of the verses of Èjìogbè chapter reads as follows:

Ajírẹmọ	Ajírẹmọ
Asùnrẹmọ	Asùnrẹmọ
Arẹmọ Ọ̀ṣẹ̀ṣẹ̀	Arẹmọ Ọ̀ṣẹ̀ṣẹ̀
Ọ̀ṣẹṣẹ̀ náà arẹmọ	Ọ̀ṣẹṣẹ̀ náà arẹmọ
Àwọn ló ṣ'efá fún Ìyálóde òkè Àpà	They were the ones that cast divination for Iyalode oke Apa
Nígbàtí n sunkún póun ò r'ọ́mọ́ bí	When she was crying for lack of
Wọ́n ní **Làpá** ni yóó fi pa inú rẹ̀ dà tí yó sì fi ṣoyún to be pregnant	They said it is lapa that she is going to use to up turn her stomach
Ifá ní èèwọ̀ Òrìṣà, **àgbálùmọ̀** kìí gbé'gàn kó yàgàn forest and be barren	Ifa says it is forbidden, Chrysophyllum albidum will not live in the
Kékeré **àgbáárín** kìí gbé'lé ayé àìfinú ṣoyún.	A young Dioclea reflexa does not live on earth without conception

The above verses contain the following **Ewé'fá: ewé Làpálàpá funfun (**Jatropha curcas L.)**; Èso Àgbálùmọ̀ (**Chrysophyllum albidum) **and Èso Àgbáàrìn (**Dioclea reflexa Hook. f.). Literary interpretation of the verses suggests that a woman called Ìyálóde who lived at Òkè Àpà, always cried for wanting of a child because she was barren. She decided to visit Ọ̀rúnmìlà who divined for her, and the divination revealed that she was going to have children if her womb is cleansed with **Làpálàpá funfun (**Jatropha curcas L.), since **Àgbálùmọ̀ (**Chrysophyllum albidum) would never exist in the forest without children and **Àgbáárín (**Dioclea reflexa Hook. f.) would never live without being pregnant. The patient would have children like Ajírẹmọ and Asùnrẹmọ had their own children. Though Ifá verses existed in oral form, they are so popular among the Yorùbá to the extent that Ifá scholars (Ifá priests and practitioners) are both appreciated as clergies and spiritual healers.

Encoding herbal recipes in Ifá verses fulfils two functions. Firstly, since the knowledge of Ifá and its circulation is restricted to only the Ifá scholars, encoding of herbal recipes addresses the patenting of Yorùbá traditional medicinal knowledge and discovery. The esoteric linguistic structure and link with Yorùbá spirituality with which the Ifá knowledge is coded further protect its contents including herbal recipes from plagiarism and intellectual abuse. Thus, while its circulation is controlled, it is also not widely exposed to scientific exploration. Secondly, spirituality of Ifá and oral transmission further describe the system as a divine

sanctity and intellectual heritage among the Yorùbá of south-western Nigeria. The spiritual contents of Ifá further suggest that Yorùbá traditional healing encompasses treating illnesses with herbs to spiritual treatment [12]. Thus, as espoused in Ifá verses, traditional healing is holistic in its approach, (spiritual and physical treatments) which embodies the collective wisdom of indigenous knowledge that is orally handed down over many generations [13].

Yorùbá herbal healing further reinforces the medical perspective that every society develops its own cultural way of dealing with illnesses. Thus, according to Craffert [14], illness and health care systems in all societies whether traditional or western, are in one way or another determined by or closely connected to the culture or world-views of those societies. For example, the Chinese, native Americans, native Hawaiians, Australian Aborigines, Indians, Maori in New Zealand, indigenous Africans and many other indigenous peoples have their own specific methods and remedies for dealing with physiological, psychiatric and spiritual illnesses. To use Carl Jung's concept, these could be regarded as part of the 'collective unconsciouses of these societies [15]. Aspects of this collective unconscious tend to resurface in some few individuals in the form of traditional healers.

The form of Yorùbá herbal healing derived from Ifá scriptural verses remains so resilient and adaptive to current trends in illness and health caring especially within the context of reproductive health problems. With many of the reproductive health problems in Yorùbá society failing western scientific explanations, it provides opportunity for traditional healers who are spiritually inclined to devise different construction and aetiology about reproductive health problems beyond biological causation, but extending to preternatural and cultural causations, patronage of traditional herbal remedies have thus increased among the people. Conflicting with Christian and Islamic beliefs, which often seen Ifá healing system like other traditional healing system among the Yorùbá as devilish and satanic, the practice still command patronage mostly among the low income earners and high income earners that have tried western therapy without success [7].

In conclusion, this paper provides an insight on Yorùbá healing system as having different dimensions: the spiritual and the herbal therapeutic aspect otherwise referred to as herbal medicine. While the spiritual dimension deals with metaphysical issues, herbal or traditional medicine emphasizes the use of plants that have bioactive constituents for healing purposes. One of the belief systems of the Yorùbá people recognizes Ifá as a deity that embraces plants for healing purpose [1]. This is verifiable in many of the Ifá verses where plants and other non-plant materials were mentioned for healing. **Ewé'fá** commonly noted for healing Reproductive Health Problems (RHPs) were identified from the following Ifá verses: Èjìogbè, Ògúndábède, Òyèkú-Méjì, Ogbè- Túrúpòn, Ìwòrì- Òfún, Òtúrá-Méjì, Ìká- Ọ̀sẹ́ and Ọ̀sá-Méjì. Thirty plants were identified from Ifá verses that are used for RHPs. The present study therefore seeks to document ethno-pharmacological uses of the 30 Ewé'fá among the Yorùbá of the south-western Nigeria and validate their uses for reproductive health problems. The results of this study provide the basis for further studies on the phyto-constituents and compounds responsible for the treatment of RHPs. The study plays an important role in documenting and conserving traditional knowledge of plants for future use.

Acknowledgements

The authors would like to thank all the herb sellers of Bode central herb market in Ibadan, the Babaláwo interviewed in Ọ̀yọ́ town, the patients that were observed through case study analysis in Ọ̀yọ́ town and all other informants who showed their willingness to share their knowledge on the use of medicinal plants in treating reproductive health problems.

References

1. Toyin Falola (2000) O'Connor Kathleen. Talking to God: Divination System. In, Falola Toyin (Edn.), African Cultures and Societies before 1885. Durham NC, Carolina Academic Press, pp: 95-106.

2. Philip MP, Walter EA, Van Beek (2013) Reality Reviewed: Dynamics of African Divination". In Walter EA, Van Beek (Eds.) Reviewing Reality: Dynamics of African Divination, Litt Verlag, Berlin, pp: 1-21.

3. De' Surgy A (2013) Why Divination is an important Topic. In Walter, E.A; Van Beek and M.P Philip (Eds.) Reviewing Reality: Dynamics of African Divination. Litt Verlag, Berlin, pp: 141-158.

4. Oguntola-Laguda D (2003) Developments in Traditional Health Care Delivery System in Yorùbáland. In, Dopamu PA, Oyewole SO, Akanmidu RA, Akanji MA; Ogunade RO; Abubakre RD, Oloyede IO, Bayo Lawal (Eds.), African Culture, Modern

Science and Religious Thought. Ilorin, African Centre for Religion and Science, pp: 465-473.

5. Chepkwony AK (2008) African Religion and Science. In Dopamu PA, Oyewole SO, Akanmidu RA, Akanji MA, Ogunade RO, Abubakre RD, Oloyede IO, Bayo Lawal (Eds.), African Culture, Modern Science and Religious Thought. Ilorin, African Centre for Religion and Science, pp: 152-162.

6. Norilquist Christian (2018) Infertility in Men and Women. Medical News Today.

7. Ajala, Aderemi S (2013) Ifá Divination: A Diagnostic and Therapeutic Device in the Yorùbá Healing System". In Walter EA, Van Beek, Philip MP (Eds.) Reviewing Reality: Dynamics of African Divination. Litt Verlag, Berlin, pp: 115-140.

8. Charles JO (2003) African Culture, Human Health and Scientific Enquiry: The Need for Synthesis of Tools and Theories. In Dopamu PA, Oyewole SO; Akanmidu RA, Akanji MA, Ogunade RO, Abubakre RD, Oloyede IO, Bayo Lawal (Eds.), African Culture, Modern Science and Religious Thought. Ilorin, African Centre for Religion and Science, pp: 489-498.

9. Geertz Clifford (1976) Interpretation of Culture. New York, Basic Books.

10. Friedman J, Yaniv Z, Dafni A, Palevitch D (1986) Preliminary Classification of the Healing Potential of Medicinal Plants based on a Rational Analysis of Ethnopharmacological Field Survey among Bedouins in the Negev Desert, Israel. Journal of Ethno pharmacology 16(2-3): 275-287.

11. Camejo-Rodrigues J, Ascensao L, Angels Boset M, Valles J (2003) An Ethno-botanical Study of Medicinal and Aromatic Plants in the Natural Park of "Serra de Sao Mamede" (Portugal). Journal of Ethno pharmacology 89: 199-209.

12. UNAIDS (2006) collaborating with Traditional Healers for HIV Prevention and Care in Sub-Saharan Africa: Suggestions for Program Managers and field Workers. Geneva, Switzerland: UNAIDS.

13. Ashforth A (2005) Muthi. Medicine and Witchcraft: Regulating 'African science' in post-apartheid South Africa. Social Dynamics 31(2): 211-241.

14. Craffert PF (1997) Opposing Worldviews: The Border Guards between Traditional and Biomedical Health Care Practices. South African Journal of Ethnology 20(1): 1-8.

15. Berg A (2003) Ancestor Reverence and Mental Health in South Africa. Transcultural Psychiatry 40(2): 194-207.