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Traditional medicine practices among the Yoruba people of Nigeria: a historical perspective

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Abstract

Often times, people ask questions about the origin and development of traditional medicine among the Yoruba people. This paper attempts to unravel the historical development of Yoruba traditional medicine. Furthermore, the paper narrated the method of health care, diagnosis, treatment and specialization among the TMPs in the past centuries. The role of religious belief in traditional medicine was also explained, as well as magical and mystic practices in traditional medicine. While describing the introduction of orthodox medicine into Nigeria the paper highlighted the current patterns of modernization of traditional medicine and products, and ends with a note of the key areas that require Government's attention in improving traditional medicine in Nigeria.

Keywords: Traditional Medicine, Yoruba, Nigeria, Medicinal plants.

1. Introduction

Traditional medicine (TM) has been defined as the alternative or non-conventional modes of treatment often involving the use of herbs in a non-orthodox manner as well as the process of consulting herbalists, mediums, priests, witch doctors, medicine men and various local deities when seeking a solution to diverse illnesses ^[1]. Traditional medicine includes herbal medicine, bone setting, spiritual therapies, circumcision, maternity care, psychiatric care, massage therapy, aromatherapy, music therapy, homeopathy and a lot of others. In the same vein, a Traditional Medicine Practitioner (TMP) has been defined as "a person who is recognized by the community in which he lives as competent to provide health care by using vegetable, animal and/or mineral substances and certain other methods based on the social, cultural and religious background as well as the knowledge, attitudes and beliefs that are prevalent in the community regarding physical, mental and social wellbeing and the causation of diseases and disability" ^[2]. Specialists in traditional medicine include herbalists, bone setters, traditional psychiatrists, traditional paediatricians, spiritual therapists, local surgeons, traditional birth attendants (TBA), occult practitioners, herb sellers and general practitioners among others.

The Yoruba people dominate the South-western part of Nigeria. The population was approximately 30 million, which was about 21% of the entire Nigerian population ^[3]. According to Abimbola ^[4], some Yorubas are also located in the modern Republics of Benin and Togo in West Africa and also in Cuba and some Caribbean countries. Some of the major settlements in Yoruba land are Ibadan, Lagos, Abeokuta, Ijebu-Ode, Ilesha, Ado-Ekiti, Osogbo, Ogbomosho, Ilorin and Ile-Ife. Ile-Ife is the popularly accepted religious-cultural centre for all the Yoruba people. The Yoruba nation has several sub-groups like the Ekiti, Ijesa, Oyo, Egba, Ijebu, Yewa and Igbomina ^[5], in addition to Ondo, Akoko and even the Edos. Yoruba land is characterized by forest vegetation as well as patches of derived savanna types arising basically from human activities like bush burning for agricultural and hunting purposes ^[6]. The main traditional occupations of the people include farming, fishing, blacksmithing, pottery and indigenous medical practices.

Several local names have been used to describe TMPs in Yoruba land, and these include *Olosanyin*, *Elegbogi* or *Oniseegun* ^[7] as well as *Babalawo*. Although *Oniseegun* and *Oloogun* are used as synonyms, they are distinct from *Elegbogi* in the sense that the *Oloogun* use charms, amulets and incantations in their magical practices. They are more dreadful in the community where they live. Different areas of specialization include general practitioners (*gbogbonise*) stroke and hypertension healers, bone settings (*teguntegun*), traditional pediatrician (*elewe omo*) and local traditional pharmacist (*lekuleja*), in addition to the charmers, diviners, necromancers and stargazers (*ateyanrin*) ^[5].

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This paper was written to compile a comprehensive record of the historical development of traditional medicine practices among the Yoruba people up to the current status of traditional medicine in Nigeria. Information provided in this paper were obtained through secondary data mining of relevant published papers and books. Supporting information was given by informal interviews with 20 herbalists from various parts of Oyo state, South-western Nigeria. The interviewed herbalists were from Saki (Saki West LGA), Sepeteri (Saki East LGA), Apata (Ido LGA), Oyo (Atiba LGA), Ikoyi (Orire LGA), Ayetoro (Kajola LGA), Karimu village, Abule Tapa (Iwajowa LGA), Idi-Ayunre, Buso-gboro (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). The interviews were done as part of the 3-year project (2009 – 2012) on state-wide ethnobotanical survey of medicinal plants in Oyo State, Nigeria. During the interviews, audio and video recordings were taken on a camcorder from which scripts were extracted. The relevant technical information needed for this study were culled from the developed scripts. Information on the modernization of traditional medicine in Nigeria were obtained from authors' observations and materials from National Food and Drug Administration and Control (NAFDAC) office.

Sources of Knowledge in Yoruba Traditional Medicine

Perhaps the most frequently asked questions in the curious minds of people is “*how did humans acquire knowledge about the healing properties of plants, animals and other substances?*” From a series of interviews conducted and compilations from previous literatures, the sources of knowledge of traditional medicine were grouped into the following:

- 1. God:** God Almighty is acknowledged as the source of medicinal knowledge. However, most of the interviewed herbalists believe that God communicates this knowledge through His angels and messengers. Both Christianity and Islam have records in their holy books narrating how God revealed the medicinal uses of plants to mankind.
- 2. Angels:** Angels also communicated some curative recipes to mankind. Several angelic encounters were recorded in the Bible, Quran and other holy books. One of such was recorded in the book of Tobit, where the guardian angel instructed Tobias to kill a fish and take its liver, gall and heart, which were eventually used to treat sickness and deliver another person from demonic oppression. Furthermore, the Book of Enoch revealed that about 200 angels came to the earth and married women, and that they taught them charms and conjurations, and the use of plants for diverse purposes. In Yoruba land, angels are called *irunmole*, suggesting they are an intermediary between human beings and the Creator, and many of the herbalists who have the ability to communicate with them received medicinal plant knowledge.
- 3. Visions and Dreams:** These two are very crucial parts of traditional medicine. This is because when a patient consults a traditional medicine practitioner, the healer must diagnose the cause of the illness and this may involve divination, part of which is dreams/visions or trance to communicate with extra-terrestrial beings to determine the cause of the illness and more importantly, its cure. 15 of the TMPs disclosed that they got

information about TM from visions, dreams and trances.

- 4. Animals:** Hunters, especially in African countries, have been reported as the original custodians of some effective traditional herbal recipes. Such knowledge would have been acquired when, for example, the hunter shot an elephant. If the elephant ran away and chewed a specific plant and did not die, it is believed the hunter noted the plant as a possible antidote for wounds or relieving pain or where domestic animals chewed a leaf of a specific plant when that animal was ill and later recovered, or when another animal accidentally chewed a leaf and died [8]. It had been reported that the knowledge of the use of coffee leaves (*Coffee spp.*) for blood clotting came from monkeys that were shot and quickly ran to eat and rub coffee leaves on the wounds and the blood wound and blood loss stopped. Today, animals are kept in laboratories and used to test for toxicity level, therapeutic ability and pharmacokinetics of a novel drug.
- 5. Signatures:** In Nigeria, plants that contain white latex are used to increase production of milk in case of breastfeeding mothers and those with big ripe fruits are used to increase fertility. Plants of the genus *Commelina*, are because of the big blue flowers that remind eyes, used for treating eyes' afflictions. Another example is *Palisota hirsuta* whose branches at joints look like legs bent at knees are used in case of sprained knees. Similarly, the bark of the *Pentaclethra macrophylla*, which looks as if it is hunchbacked is an ingredient of a medicament that is to help get rid of this affliction [9]. Furthermore, red kidney beans among other legumes are used to treat kidney problems; walnut is used to treat brain problems, among many examples.
- 6. Supernatural contact with spirit/occultic world:** This perhaps, is the highest source of knowledge of traditional medicine. Given the fact that many of the TMPs are or were once in occultic groups, they gained access to much fundamental natural knowledge that eluded the imagination of an ordinary man. There are many forms of supernatural contact which include communication with extraterrestrial beings, in dreams, imaginations, guesses, visions, trance and esoteric communications. Spirits were said to sometimes assume various forms such as an alligator, a human being with one leg or one arm, using a walking stick. If one encounters such a creature in the dead of the night, it can be a useful source of original information on herbal cures [10]. Many of the old medicine-men were hunters who had come into contact with the spirit of the forest and were good observers of nature; their long experiences of forest life have introduced them to the properties of various objects [11]. Some TMPs acquire traditional medicine knowledge from wizards and witches, in return for the TMP not to disclose their true identity to the community [12, 13].

However, Yoruba legends hold it that Orunmila was the first man to practise herbal medicine. He was reported to have been endowed with this knowledge by God. Orunmila was reported to have had a younger brother, Osanyin who had gained the knowledge of medicinal herbs through assisting his brother in making the herbal formulations. It was therefore concluded that Orunmila is the divinity for spiritual healing, while the

gift of herbalism is traced to Osanyin [8].

In whatever form traditional medicine knowledge is acquired, it is transmitted from generation to generation - father to son, mother to daughter - so as to sustain these traditional medicine practices. Early childhood education in indigenous medicine is done mainly in the rural people. Every opportunity turns into a teaching affair by the parent of the child. For example, on the way to the farm, the parent stops to obtain some plants and explains their medical values to his child. In the farm, he does the same thing and gradually such a child becomes knowledgeable about some local plants and the environment in general [3]. Such knowledge and skills were closely guarded secrets because the practitioners made their living and sustained their dependents with income from the successful provision of health care. IN addition, traditional medicine practice was also learned through apprenticeship [14], in which the person spends minimum of 6 years of learning followed by initiation into the Ifa cult.

Beliefs and Tenets of Traditional Medicine practices in Yoruba land

Traditional medicine in Yoruba land is anchored on beliefs in certain phenomena called superstitions. These sets of beliefs create fear or faith in the people. There are probably thousands of such beliefs in Yoruba land. The relevant beliefs with respect to Traditional medicine include:

1. The general belief in Yoruba land is that all sicknesses are caused by evil supernatural forces. Such forces include familiar spirits, sorcerers, witches/wizards, oriental spirits, spirit gulch and religious spirits, who are considered enemies. The existence of evil ones is painfully real in African indigenous tradition, and is a major source of fear and anxiety in the African indigenous society, including Yoruba land. Even if one has a headache, the Yoruba person will see it as an attack and say “*won n saasi eni yen ni*” (“he is being bewitched”) [5]. Part of the confession of a witch is stated here for illustration:

We drink human blood in the day or night....

We can prevent a sore from healing;

We can make a person to loose a large sum of money;

We can reduce a great man to nothing;

We can kill a small child suddenly;

We can cause a woman to bear born-to-die children [15].

1. Yoruba also believe that the heavenly bodies like wind, stars, sun and moon are capable of influencing directly or indirectly the health and prosperity of every human being [16].
2. Yoruba people and indeed the African worldview believe in the numinous, existence of divinities, demons and ancestral spirits. They also believe that every tree and herb have spirits that live in them. These spirits empower these herbs for medicinal purposes. It is the belief of the herbalist that every plant or animal had its esoteric or original name at the time of creation by Supreme God. The herbalist also believes that most of the plants and animals today were once humans. Their original names and the circumstances of their current situations are embedded in *Ifa* verses. But only members of the *Ifa* fraternity can know and understand them. When somebody who knows the names call them, the plants and animals become very ‘happy’ and their therapeutic effectiveness is heightened [5]. For example, herbalists call *Corchorus olitorius* “*gbamoyo*” during herbal preparations for child delivery and not its common local

name – *ewedu*. Furthermore, it was reported that herbalists knew that all the medicinal herbs and roots have spirits, some of which are passive and others are active. Before an herbalist plucks a leaf that has an active spirit, he has to recite some incantations or even perform rituals otherwise the herbs would not work.

3. African people generally believe that every inanimate object, grove, river and crossroad have demons or spirits which could be dangerous to mankind and can cause ill-health.
4. Yoruba people believe in reincarnation, and that an offence committed in past existence can cause disease after reincarnation.

Traditional Medicine practices in Yoruba land

Traditional Medicine practices can be divided into curative medicine, preventive medicine and other specialised health care.

Curative Medicine

The mother provides the first level of health care in the home and if the patient does not respond to treatment, the traditional healer is contacted. The first step taken by the traditional healer is diagnosis, followed by administration of treatments. Diagnosis, just like in orthodox medicine, involves knowing about the patient and a description of the illness and its cause. In traditional medicine, diagnosis involves:

1. Recollection of the previous existence of the patient by deeply digging into the patient’s past and the patient’s entire family;
2. Observation of the patient by listening to stories/complaints, patient’s attitude and gestures;
3. Visual examination of the eyes, skin, urine and faeces;
4. An analysis of recurring dreams can also be used by TMPs to diagnose a patient’s problem and indicate the treatment needed or the sacrifices to be made;
5. Divination, by consulting oracle or the gods about the patient’s cause of diseases and the appropriate treatment. If the practitioner receives a favourable response, s/he admits the patient and commences treatment otherwise the patient and the people that brought him/her are turned down. The purpose of the consultation is to seek the express permission from the gods to treat especially sub-somatic cases. There are various forms by which divination is done:
 - (a) **Throwing divination chain, cowries or bones:** The divination chain, called *ikin*, is made up of 7, 8 or 16 palm kernels tied on a string. The divination chain is thrown on a wooden tray called *opele* and each arrangement of the seeds is the characteristics of a specific *odu* or chapter in a series of poems or verses which the priest must have learnt during his training. It is believed that reciting the appropriate “*Odu*” corresponding to a particular pattern, it is believed that that story told in the chapter (of which there are 256) indicates the illness of the patient as well as the treatment or sacrifice to be made [17].
 - (b) **Trance:** TM practitioners possessing this ability enter into a trance as soon as a patient arrives or when people come to consult them about an ancestral problem. While s/he is in a trance, the words spoken by the practitioner are noted and usually the callers (patients and the people that brought them) give a positive sign or response to let the practitioner know whether or not s/he is giving a correct

diagnosis of the problem. This ability is used by TM practitioners not only to identify an illness, but also to prescribe an appropriate treatment for it. In some cases, the practitioner can actually communicate with spirits in her/his trance. In this case, s/he will attempt to link up with the spirit of the person who may be responsible for the problem or knows of its cause. Through the practitioner, the spirit narrates what is wrong, as well as the sacrifices necessary to appease the gods^[18].

- (c) **Hydro divination:** This involves watching like a television screen, from a pot filled with water, the medical history of the patient and the series of events leading to the present ailment. This revelation occurs in the water after making a series of incantations.
- (d) There is divination through the use of glass or mirror, where the practitioner will look through the magical mirror to detect the root cause of the problem^[5].
- (e) There is the divination through the use of sand, kolanut and by looking through the palm^[5].

Generally, healing in traditional medical practices can be categorized as follows:

1. Healing through the use of herbs, roots, and other traditional materials like honey and animal products. Most treatments, even the one involving sacrifices in TM involves the use of leaves, barks, roots, seeds, latex, resin etc. either singly or in mixture. Whole or parts of animals such as chameleon, tortoise, snake's head, snail, bone, claw etc. and mineral substances such as alum, powdered ferruginous clay, kaolin, ant-heap earth, common salt or rock salt are also utilized. In addition, traditional medicine products can be prepared in several forms. They can be liquid (decoctions, infusions, oily mixtures, and gargles), solids (powders for internal administration with hot maize pap or other drinks), semi-solids (certain crude balsams, resins, latex) or gaseous (steam inhalation preparations, fumigations like incense).
2. Healing through the use of sacred water and saliva. Water or saliva forms a vital solvent in herbal preparations. Often times, the herbalist will cast incantations on sacred water and give to the patient to drink. For example, saliva is used in combination with alligator pepper and incantations to make charms potent. After making a charm, a little drop of saliva with alligator pepper would be chewed together before it is spewed out three times, thus making the charm potent for use. In addition, saliva can be used as anti-pruritic; in other words, it can be used to stop itching. When a bee or wasp stings, application of saliva to the affected area would bring immediate relieve. Saliva is seen as part of the owner's life and when spitted out, it must not be stepped upon. If someone steps on it, it is believed that the person who spat would develop sore throat instantly^[5].
3. Healing through incantations, rituals and sacrifices. Ritual rites are also common with TM especially in the treatment of complex and spiritual ailments such as barrenness, mental disorder, leprosy and consistent ill luck or calamity. Most often inflicted by the forces of darkness. Handling such a case will involve appeasement through rituals and sacrifices to appease the gods or the wicked spirit or person responsible for the sickness. The TM lists out the materials needed for the sacrifice which must be

provided by the patient or the TMP. The sacrifice is prepared and placed at designated places usually a shrine, groove, forest, T- or X-junction, near a river, or other locations believed to be the habitation for ancestral spirits. The process of preparation and delivery of the sacrifices is guided by instructions, which must be strictly adhered to for efficacy and acceptance by the spirits. Such instructions include abstinence from food or certain foods, being mute when carrying the sacrifice to delivery location and not looking back after placing down the sacrifice. The patient, close relative or the TMP is only permitted to carry the sacrifice. However, rituals and sacrifices can also be for protective and preventive purposes^[5]. Today, sacrifices are still found at T-junctions in various parts of rural and urban settlements in Yoruba lands. Aside rituals by sacrificing, there is ritual bath during which the patient bathes in specially prepared water mixed with some herbal ingredients and bathe water is poured out on the street. Another ritual involves the use of money, in which the patient or TMP makes incantation of the currency, the patient then rubs the money all over his/her body and thrown on the street or given to beggars. Yet, another ritual form is the use of an animal, especially pigeons, in the process similar to the use of money. However, the risky part in all the rituals is that most of them lead to transference of sickness. For example, whoever first sees a sacrifice placed on T-junction, or picks the money or steps on the bathe water or touches the released pigeon or animal would carry the disease.

4. Healing through the use of magical practice such as incision. Incisions are made on the skin (face, chest, ankle, back or sides) with a razor blade or a sharp object and a powdered drug is rubbed into the incision, presumably to allow for direct absorption of the active constituents of the drug through the capillaries. The incisions (1-2 cm long) are usually deep enough to cause bleeding^[19]. The drug, which is rubbed into the incision, is usually made by burning various herbs together giving an almost charcoal- like product.

Administration of traditional medicine takes various forms. The most common is oral administration of herbal products. However, other forms include external applications (rubbing herbal dermatological preparations mixed with coconut oil, shea butter or palm kernel oil on the skin), intra-uterine mode (for the cure of certain STDs and in induced abortion through the vagina into the uterus), and in making incisions on the body. Traditional enemas for rectal application is also done for example, to improve appetite, prevent child ailments, adult indigestion, impotence, sterility and problems associated with excess bile.

Preventive

Medico-magical herbs can be used for favour, protection and antidote against food poisoning and spiritual attack. Herbs like *Croton zambesicus* (*ajeofole*, *ajeobale*) and *Erythrophleum suaveolens* (*igi obo*) are often used for preventive medicine because of the strong belief that these two plants drive away witchcraft and evil spirits. Occultists and herbalists often plant it beside their houses. Furthermore, to prevent attacks from the enemy, some Yoruba people wear charms and amulets (*igbadi* or *olonde*). This charm may be worn around the neck or around the waist or on the arm or finger. It is usually hidden under the clothes or kept inside a pocket. Charms can be tied

on the doors or doorsteps of houses, buried in the ground near a doorstep, a house or a shop; hung from the ceiling of a house, suspended in a pot over the door, or fastened to the walls of a house. Furthermore, a charm may be something to eat such as a combination of leaves, roots and other materials grinded together; a concoction to be rubbed on the body, especially the head or the arms. It can also be a traditional medicine mixed with native soap (*osedudu*) to be used for washing or bathing, a silver ring with mystical signs engraved on it, or some medicine that is inserted into a necklace, a waist band or a bracelet ^[5].

Many charms are used to offset evil forces, to nullify both old and new types of hazards, and to facilitate the gaining of desired ends. It was further noted that there are charms to be used in the curing of illnesses such as stomach-ache and headache, or in seeking a job, attaining prosperity, increasing one's popularity, improving one's luck, succeeding in love, getting one's wife back, restoring peace among quarrelling wives, attracting customers to a shop, and passing examinations. Charms are used as protective devices to prevent witches and evil spirits from entering a house or attacking a person; it is also used to insure against accidents of various kinds such as a road accident or air mishap.

Counter-medicine is another form of Yoruba healing. It is usually protective or preventive. Native injections and medicinal rings are two types of counter-medicine, but the most popular is called *madarikan* which, translated literally, means "don't knock your head against mine". Charms called *owo* are another type of counter-medicine. One form of *owo* protects the person or thing wearing it from harm. Another form is used to apprehend robbers. One example of *owo* involves placing two magnetized brooms either at the entrances to a house or in conspicuous places within the house. When a thief enters and sees the brooms, he will begin to sweep and will not stop until the spell has been removed ^[20].

Specialised health care

Bone setting: In case of a broken leg, the patient is made to lie down with the fractured leg lying flat. Herbal dressings are placed on the leg before planks or sticks are tied around the leg with a string or stem of a climbing plant. An example of herbal portion taken to treat bone fractures is a decoction of *Cissus quadrangularis* L. (30 g per litre of water) which is drunk 3 times daily and used to bathe the affected parts ^[8]. The splints and herbal dressings are replaced intermittently during the treatment until healing is completed. In some parts of Nigeria, the leg of a chicken is fractured at the same time as treating the human fracture, the chicken being given the same treatment as the patient. It is believed that when the chicken is able to walk again, the patient's fracture will have healed sufficiently for him to try and walk with the fractured leg ^[8].

Obstetrics and Gynaecology: In TM, the specialist in this area is called Traditional Birth attendant (TBA) or traditional midwife. The duties of a TBA are similar to that of a modern professional midwife. However, TBAs use herbs to aid delivery and difficult births are managed with the aid of incantations. Herbs used include male *Carica papaya* root chewed with 7 seeds of *Aframomum melegueta* pepper during labour, which is supposed to cause the immediate delivery of the baby; while the bark of *Blighia sapida* ground and mixed with locally made black soap and used for bathing throughout the period of pregnancy ensures an easy labour for the pregnant woman ^[8].

Spiritual healing: There are lots of Islamic clerics who are into traditional medicine, using basically the same methods of diagnosis, spiritual divination and patient examination of their patients. However, the use of prayer rosary, called *Tesbau*, replaces the divination chain of the TMPs. Arabic chants are frequently used and rituals or sacrifices are also employed in their healing process. Those who had experiences with Islamic healing recounted that herbal preparation and prayers are often combined in their work. There are some religious orders and sects within Christianity that practices spiritual healing. These faith healers are called "*Aladuras*" in Yoruba. The healing procedure involves singing and dancing, with musical instruments, while a clairvoyant declaration of a sacrifice or therapeutic fasting to be carried out by the patient often yields good result. This type of faith healing sometimes involves complete abstinence from orthodox medicine. The members of such a religious sect have certain rules, for example, they always wear white robes to their meetings, some sects avoid red clothing in particular, and abstinence from alcoholic drinking is common. They drink "holy water" and use "holy oil" for therapeutic purposes. Adamo ^[21] reported that these religious sect leaders often use prayer activities and "sacrifices" described in the Saint Michael Prayer Book to treat sicknesses. In addition, the use of scriptural chapters and verses, especially in the Book of Psalms is very common.

Collection and preparation of TM products

The gods or Ifa oracle may reveal to a TM practitioner certain conditions which must be observed during the preparation of a medicament and treatment of any complex case brought to him/her. S/He might for example be informed that s/ he cannot fetch the components of the medicament by him/herself. S/He might be told to send a young boy or girl who is a virgin or who is "clean" (free of any manipulations by evil spirits). In this particular case, the practitioner may accompany the young boy or girl to the various places where the materials for the medicine may be found and actually show it to him/her, but s/he would have to allow the errand boy or girl to fetch the materials. Sometimes, the errand boy or girl will be required to keep mute until the materials have been delivered to the practitioner in his/her herbal home. If the "keep mute" order is violated, the fetched plant part is discarded as it is believed that medicine prepared for it cannot be efficacious. The process of fetching plant parts will then be repeated ^[22].

The number of various materials fetched to form components of a medicine is specific for male and female in the Yoruba speaking areas of Nigeria. While for males the number is nine or a multiple of it, for females, the number is usually seven or multiples of seven ^[22].

Generally, most plants to be collected for herbal medicine recipes were collected between 10am and 4pm when the sun is out. Traditional medicine practitioner believed that this is best time that the plants are "active" and herbal mixtures produced from the plants would be efficacious. However, there are a few exceptions to this. For example, *Chromolaena odorata* is usually collected at night, and scientific studies have confirmed that the plant loses its volatile oils during the bright sunlight, probably due to evaporation but the oil concentration is at its peak from sunset to midnight ^[23]. Collection of plants at night may also be due to spiritual instruction or the implications. For example, the tops of *Ageratum conyzoides* collected at night are used to treat a child who cries too often for no reason in the night. Night collection is particularly indicated where the frequent crying is suspected to be due to

the influence of witchcraft or to persistent disturbance from the spirits of the child's playmates (dead or alive).

Between TM and Religion

Most Yoruba indigenous medical experts appreciate the importance of offering prayers to the Supreme God. This is necessary for enhancing the therapeutic values of the prepared medicines. The Yoruba tribe believe that God gave healing power through his messenger, called *Ifà*. The Yoruba religion has a multitude of deities, the major of which are called *Orisha* [17]. There are about 201 deities, thirty of which are commonly worshipped in Yoruba land. In diagnosing illness, each one of these Deities manifests interdependent physical qualities and herbal attributes, each affecting one another. The Deities stand for higher energies that govern living matter destinies, transcend sensory faculties, and intermediate contact with the Supreme God [26]. These deities are believed to be responsible for giving them good health and meeting their demands for livelihood. These include:

1. **Orunmila, the herbal healer:** In Yoruba medicine, the *Ifa* Corpus is considered the foundation of divine herbal medical practice. The knowledge was revealed to the mystic prophet *Orunmila*, about 4,000 years ago in the ancient city of Ile-Ife. *Orunmila* taught people the customs of divination, prayer, dance, symbolic gestures, personal, and communal elevation. He advised them on spiritual baths, meditation and herbal medicine in particular [25]. *Orunmila* is the Deity of divination, the Supreme Oracle, the great benefactor of humanity and its main adviser. *Orunmila* is not *Ifa* itself, but he leads the priesthood of *Ifà*. He embodies the archetype of the civilizing and the healing hero [26].
2. **Eshu, the mediator and accomplisher:** It was narrated that *Olodumare* (God) used the command known as "*Ashè*" to accomplish his assignments. *Eshu*, *Èsù* or *Elegbara*, his best friend, exerts this *ashè* to this day and will use it forever [4]. Nothing, good or bad, can be done without *Eshu*, who mediates between humans, *Irunmole* and Deity. *Eshu* is indispensable to man and the Deities. Furthermore, he carries sacrifices for whatever purpose, to the appropriate quarters He enforces the "law of being" and enhances the power of herbs. He mainly acts on the sympathetic nervous system and is involved with all herbal effects [25].
3. **Osanyin, the herbalist, God of traditional medicine:** *Osanyin* is another important deity in Yoruba medicine. *Osanyin* rules over all wild herbs. He is regarded as the greatest herbalist who knows the powers of all plants. The plants and herbs of *Osanyin* have their purely medicinal value as well as their magical value. Some plants have to be gathered at certain times of the day or night, according to cosmic rhythms of sacred events [27, 28]. *Osanyin* is the God of traditional medicine and all of nature is at his disposal [25].
4. **Obatala, the creator and healer of humans:** Known as the Deity of Creation, custodian of the *Ifà* Oracle, *Obatala* is an alternative source of knowledge. He was the Creator of human form and purity, he cures illness and deformities. His priests are the herbalists (*babalawos*) and his primary effects are on the brain, bones, and white fluids of the body. Herbs he controls include Body skullcap, sage, kola nut, basil, hyssop, blue vervain, white willow and valerian [29].
5. **Ogun, the iron deity:** Deity of Iron, *Ogun* is the divinity of clearing paths, specifically in respect to blockages or interruption of the flow of vital energy at various points in the body, and he is the liberator. Effects are on the heart, kidney (adrenal glands), tendons, and sinews. Herbs controlled by *Ogun* are Eucalyptus, alfalfa, hawthorn, bloodroot, parsley, motherwort, and garlic [24, 27]. *Ogun*, *Irunmole* of war, of the hunt, iron or steel expresses the force of this deity who can be powerful or/and cruel [30].
6. **Yemoja, the mother goddess:** *Yemoja* was noted as the Mother of Waters, Primal Waters, and Nurturer. *Yemoja* symbolizes the amniotic fluid in the womb of the pregnant woman, as well as the breasts which nurture. She signifies the protective energies of the feminine element, manifesting her specific effects at the level of the womb, liver, breasts and buttocks. The medicinal herbs she governs are kelp, squaw wine, cohosh, dandelion, yarrow, aloe, spirulina, mints, passion flower, and wild yam root [31].
7. **Oshun, the goddess of feminine energy and hydrotherapy:** Sensuality, Beauty and Gracefulness are personified by *Oshun*. She is responsible for clarity and flowing motion and has the power to heal with cool water. She is also the divinity of fertility and feminine essence. Women appeal to her for child-bearing and for the alleviation of gynaecologic or obstetrical disorders. She is fond of babies and is sought if a baby becomes ill. *Oshun* is known for her love of honey. She acts on the circulatory system, digestive organs, elimination system, and women's pubic area [31]. Herbs consecrated to her include yellow dock, burdock, cinnamon, damiana, anis, raspberry, yarrow, chamomile, lotus, uvaursi, buchu, myrrh and Echinacea [25].
8. **Shango, the god of masculine energy:** Kingly and virile, *Shango* is associated with masculinity, fire, lightning, stones and magnetism. This Great Warrior and protector transforms base substances into pure and valuable essences. He controls the male reproductive system, bone marrow, life force. Herbs incorporating his virtues are plantain, saw palmetto, hibiscus, foti, sarsaparilla, nettles, and cayenne [31].
9. **Oya, the goddess of death and rebirth:** Guardian of the Cemetery, *Oya* is connected with Tempests, Winds of Change, Storms, and Progression. Usually in the company of her masculine counterpart, *Shango*, she is the deity of rebirth. The general belief in the worship of *Oya* is that things must die so that new beginnings arise, therefore, disease must come, so that evil can be destroyed, enabling living beings to heal and be reborn to a new life [26]. *Oya's* effects are in the lungs, bronchial passages, mucous membranes. Herbs used for such pathologies are mullein, comfrey, cherry bark, pleurisy root, elecampane, horehound, chickweed [31].

What about incantations?

The belief in enemies as the main sources of all evil and bad occurrences is so strong that nothing happens naturally without

a spiritual force behind it. Disease was considered in Yorubic medicine as possession by evil devils and was to be treated with incantations along with some natural products [32]. The African ways of dealing with such enemies is to learn some “potent words” (incantation) and/or medicine to deal with such enemies. There is a strong belief in the power of words if spoken correctly, in the correct place at the correct time. Such words in Yoruba tradition are called *ogede*, *ofo*, *ayajo*, *ogede* and *ase* [20]. This is based on the traditional belief that healing is not solely based on pharmacological properties of a medicinal plant, but on the ability of the TM practitioner to invoke the plant’s latent powers to overcome the disease through incantations [9].

The efficacy of an incantation derives from its evocative power. Thus, if a TMP invokes the ‘original’ name i.e. from ‘the source or the circumstances of the existence of a particular being (deified or not)’ into a medicine, the medicament takes on magical or conjuring forces. For example, a violent lunatic may have to be induced into deep sleep through incantations so that treatment can be administered. Also, when an attacker or assailant attacks a TM practitioner unawares especially in a secluded place, the first and most practicable defense is the use of incantations which can hypnotize the attacker and lead to his/her capture or withdrawal [33]. It is believed that some traditional medicines can only be effective when an incantation is recited during their preparation and administration. The incantation and the portion together form the treatment and neither alone can effect a cure or elicit the desired response. It should be noted that the effect or function of an incantation in producing a cure in TM cannot be easily proved experimentally [34]. This, perhaps, is the main reason why many traditional claims of the healing powers of some plants could not be scientifically proven.

The so-called fetishes in traditional African belief are said to have magic powers. Fetishes are single stones, trees, statuettes, their groups or specific kinds of animals and plants. In some cases, during the process of harvesting whole or plant parts for TM, practitioners sing the praises (or rhythmic incantations) of the gods, that gave these plants for human use and the ‘strong and awakening spirits’ working in these plants to produce efficacy when they are used as sources of medicine. Sometimes, an incantation takes the form of a play on words (pun) delivered orally in poetic form apparently to induce the spirit controlling a particular plant to conjure up efficacies into the part to be used for preparation of medicine [8]. Incantations are not limited to the time of procuring materials to be used for medicine alone. They are said at different stages of TM healing process, including during the arrival of a patient, diagnosis of ailment, preparation of medicament, administration of medicament, after signs of healing have been noticed and during the discharge of a patient. Several examples of incantations include:

Oorun lode l’alamu wonu (When the sun is hot the female lizard disappears),

Oorun kuju alaamu jade (When the sun softens, the female lizard appears) [35]

By the play on words, parts of the names of the constituents are transformed in the verse to active effects desired of the medicine as shown in the following example by Verger [36]:

Ewe ooyo aje, ba wa yo arun kuro ni iha (Ooyo aje leaf chase away for us the disease out of the flank),

Ewe awusa, sa arun iha kuro (*Tetracarpidium conophorum* leaf heal the flank disease so it may go away),

Iye agbe, gbe arun iha kuro (Agbe feather carry the flank

disease off),

Iye aluko, ko arun iha lo (Carmine bee eater feather pick away the disease out of the flank) [22]

Another popular example is:

Ohun ti a ba wi fun ogbo ni ogbo n gbo (Whatever we tell ogbo (the leaf of *Parquetina nigrescens* Baill) it hears or does not refuse),

Ohun ti a ba wi fun ogba ni ogba n gba (Whatever we tell ogba (a fenced precinct of a domicile) it accepts),

Ohun ti mo ba wi fun iwo lagbaja ni kio gba (Whatever I tell you (any individual named here) you must accept)...

Another one goes thus:

Bi Sango npa’raba (If Sango (god of thunder) has the ability to strike *Ceiba petandra* tree),

To nfa’roko ya (And he can tear the *Milicia excelsa* tree asunder),

Bi i t’Igi nla ko (He dares not touch *Okoubakha aubrevillei*) [37]

For people who fear enemies, the firth of *Afzelia africana* and *Adansonia digitata* are appropriated to self in *ofo* incantations for invincibility, as thus:

Won doyi k’apa, apa o ka apa (As outstretched arm cannot reach round the *Afzelia africana* tree),

Won doyi k’ose, apa o ka ose (As outstretched arm cannot reach round the *Adansonia digitata* tree),

Won doyi ka kanga, ko se binu kosi (As one does not jump into the well in envy of its girth),

Apa ota ko ni kami (So may my enemies’ arms never be able to reach round me) [37]

Important incantations for a pregnant woman for a safe delivery are:

Kankan l’ewe ina njomo (The leaf of ina burns in haste),

Kan kan ni ki lagbaja omo lagbaja bi mo re loni [(name the labouring woman) the daughter of (name her mother) should deliver her child in haste today],

Konu koho ki roju ti fifi aso re toro [The Konu koho tree does not hesitate to give off its cloth bark (name the labouring woman)],

Ki lagbaja omo lagbaja a ma roju ti ofi bi omo re loni [The daughter of (name the mother) should not hesitate to deliver her child today, because the snake sheds its skin easily] [21]

A perfect example of the type of incantations used among the Yoruba society to make a sorcerer lose his or her senses is stated below:

Igbagbe se oro ko lewe (3 times) [Due to forgetfulness the oro (cactus) plant has no leaves],

Igbagbe se afomo ko legbo (3 times) [Due to forgetfulness, the mistletoe plant has no roots],

Igbagbe se Olodumare ko ranti la ese pepeye (3 times) (Due to forgetfulness God did not remember to separate the toes of the duck),

Nijo ti pepeye ba daran egba igbe hoho ni imu bo ’nu (When the duck is beaten it cries, hoho),

Ki igbagbe se lagbaja omo lagbaja ko maa wogbo lo [May forgetfulness come upon (name the enemy), the son/daughter of (name the mother); that is, may he loose his senses],

Tori t ’odo ba nsan ki iwo ehin moo (Because a flowing river does not flow backward) [21]

For instance, a particular fortune-drawer preparation is accompanied by incantations as follows:

Epin loni ki e pin ire temi funmi loni [It is sand paper tree (*Ficus exasperata*) that divines my blessing be apportioned to me today],

Be lo se fun Alara ti Alara se ori ire (Such was done to King

Alara and he became prosperous),

Ogede agbagba loni ki e lo gba ire temi wa funmi loni [It is plantain (*Musa paradisiaca*) that divines that other people's blessing be apportioned to me today],

Be lo se fun Alara ti Alara se ori ire (Such was done to King Alara and he became prosperous),

Bara loni ki e lo yi ire rindirindi wa funmi loni [It is wild gourd (*Cortiles colocynthis* [Linn.] Schrad) that commands that huge compact blessings be transferred to me today],

Be lo se fun Alara ti Alara se ori ire (Such was done to King Alara and he became prosperous),

Oko oloko ni obo ije e sanra, oko oloko (Chimpanzee (*Pan troglodytes*) feeds satisfactorily on other people's efforts in the wild),

Emi di Ekun, ekun ko je eran ikase (I become Serval; Serval refuses to feed on archaic),

Ire ana di ire ikase (Previous blessings become archaic), *Je ki n ri ire temi gba loni dandan* (May I receive my blessings unfaillingly today at all cost) [38].

This incantation alludes to the utilisation of the materials mentioned sand paper leaf, plantain, wild gourd, serval, and chimpanzee in addition to some other ingredients [38]. Of course, incantations are also used for evil purposes. For example, *Olugbohun* is a charm representing an echo. It acts as a catalyst to words, making them much more powerful than they are naturally. It can be used ethically, as in prayer, or malicious, in applying curses. *Gbetugbetu*, is an incantation used during a crisis. With *Gbetugbetu*, words spoken are powerful commands that must be followed [20]. It can be used for protection, for example to force an enemy to put down a gun; but it also has an enormous potential for harm, for instance to compel an enemy to jump off of a cliff [20]. Thus, there are different forms of incantations in Yoruba practices, each with different and diverse uses, which could be for healing, protection from enemies, bringing blessings and favour, attack on enemies and a lot of other applications.

Brief history of Orthodox medicine into Nigeria

Orthodox Medicine is defined as medicine based on scientific methods and taught in western medical schools [1]. Traditional medicine has been the only source of health care in Nigeria in historical times.

Recorded European entry into Nigeria began when Portuguese explorers traded with Benin Empire since 1472 and the traces of Roman Catholic Church influence, thus images of Portuguese soldiers abound in Benin bronzes. They were credited with being the first people to bring Western medical care to their traders in outposts but not to the indigenous African population [39]. As the trade in human cargo intensified, expanded and accelerated, the high rate of infection with locally endemic diseases, notably malaria, yellow fever and the ubiquitous dysenteric diarrhea to which the previously unexposed European slave traders were subjected, compelled the proprietors of the slave trade to introduce limited facilities for medical care for their staff. Throughout the period, medical care facilities were available only on board the slave ships. The first practising doctors were medical missionaries who settled in the 1850s as ship surgeons, medically qualified botanists and explorers who sailed into several Nigerian ports and navigated several large rivers from the 17th century onwards. No hospitals were built on the mainland until the later part of 19th century, but there were hospitals in offshore islands three centuries earlier. One Dr. Williams, a Briton was credited with carrying out in mid-

19th century, several vaccination sessions and dressing of wounds on indigenous populations along the West coast of Africa, including the Niger Delta and up to Lokoja [39].

However, orthodox medicine (OM) was not formally introduced into Nigeria until the 1860s when Sacred Heart Hospital was established by the Roman Catholic Missionaries in Abeokuta [40]. The first set of Roman Catholic nuns in Nigeria had lived in a Convent on Broad Street, Lagos and later, led by one Sister Maria of Assumption, moved to Abeokuta and worked under Father Francois, founder of the first full-fledged land-based hospital, the famous Sacred Heart Hospital, in Abeokuta [41]. This was followed by the British Colonial Government providing formal medical services with the construction of hospitals and clinics in Lagos, Calabar and other coastal trading centres. Following this, a make-shift temporary civil hospital was built in Asaba (now in Delta State of Nigeria) in 1888. A Government Hospital was also built in Calabar in 1898 as a result of the wide impact the first two hospitals made on the indigenous and the colonial personnel and their families [41].

The role of the Christian missionaries in providing medical and health care services cannot be overemphasised. Rev Hope Waddell, an Irish missionary of the United Presbyterian Church of Scotland (UPCS) had worked for 30 years in Calabar area, and was later joined by Mary Slessor. Many of Rev Waddell's missionary colleagues acquired skills and trainings that enabled them to run clinics and dispensaries in and around Calabar. Rev. Waddell conducted the first vaccination against small pox in Calabar [41].

Henry Townsend and David Hinderer founded the Church Missionary Society (CMS) (Yoruba Mission) and oversaw the mission's activities in Lagos and Abeokuta. In 1864, the Church of England consecrated Rev Samuel Ajayi Crowther as the Bishop of Western Equatorial Africa. Soon, he undertook a mission up the Niger as far as Lokoja and from there to Calabar by the way of the Cross River and to South Cameroon. The establishment of various health care posts followed in the wake of Crowther's Episcopal missions. The Qua Iboe Mission, founded in 1891, established a number of dispensary and maternity services in southern Nigeria as did the Baptist Mission. One of the most outstanding legacies of the Baptist Mission is the famous Baptist hospital in Ogbomoso. A coalition of the protestant missions built the reputed Iyi Enu hospital, near Onitsha in 1906. The Sudan Interior Mission (SIM) founded in 1893 worked in the core and predominantly Islam north. They operated in the early days with two medical stations in Bida and Pategi [41].

The religious missions also contributed substantially to the training of nurses and paramedical personnel. A good example is the highly reputed nursing school of the SIM Christian hospital in Vom. The mission hospitals in Shaki, Ogbomoso, Ilesa and Eku among others performed similarly important health manpower training roles. The missions also sponsored many of the first generation Nigerian doctors for professional training in Europe [41].

During the First World War of 1914 and 1918, substantial numbers of health care personnel, particular Europeans were withdrawn from the country to render professional services at various theatres established to cater for war victims. The Army Medical Corps (AMC) was set up by Lord Lugard in Lokoja, and was the forerunner of government medical services in Nigeria. It was a centralised medical service which was initially military and later colonial in nature. It eventually gave birth to a uniform medical and sanitary service. In 1943 British

colonials opened the first Orthopaedic Center in Igbobi Lagos as a rehabilitation camp for wounded soldiers returning to Nigeria from World War II. However, the Yaba Medical School (YMS) founded in 1930 to train a cadre of medical assistants, but ceased to exist after the establishment of UCH. The Kano Medical School was inaugurated in 1954.

By 1946, the Ministry of Health was established, whose primary function was to coordinate health services throughout the country. In 1948, the first University in Nigeria, the University College of Ibadan was founded, with a Faculty of Medicine and a teaching hospital, the University College Hospital (UCH). UCH was the first quality tertiary care and higher health manpower training institution in the country. It started with 14 students. The succeeding years witnessed the steady expansion of medical facilities to more Nigerians, which in 1979, there were 562 General Hospitals, 16 maternity hospitals, 11 Armed Forces hospitals, 6 teaching hospitals and 3 prison hospitals, altogether accounting for 44,600 hospital beds. These are in addition to 930 maternity homes, 2740 general clinics, about 600 General health centres, and 1,240 maternal health centres^[40]. The medical facilities were owned by Federal, State and Local Governments, as well as private owners. However, there were great disparities and geographical misdistribution of medical facilities among various regions of Nigeria and a high ratio of physician-population ratio, and this culminated in long hours of waiting in hospitals, up to 8 hours of waiting^[42] and feeling of superiority and uncaring attitude of medical staff in many medical centres, even till date. Despite the proliferation of medical centres, by 1980, it was a ratio of 800 people to 1,300 hospital beds in Southwest Nigeria, 2,200 people per bed in Middle belt, 3,800 people per bed in the north and 1,300 people per bed in the East^[40]. Despite the proliferation of medical centres, as at 1985, a WHO survey reported that more than 75% of Nigerians still depend on medicinal plants for primary health care^[43]. By 1987, the Government launched Primary Health Care (PHC) Policy with the view of spreading medical facilities and children immunization to rural areas. However, most rural areas were starved of medical facilities as physicians are unwilling to live and work in rural areas. This was confirmed by Sorungbe^[44] that only 39% of the rural communities had been accessed with the Government established primary health care. Till date, most rural medical centres have no medical doctors and those stationed there visit the hospitals only once or twice a week for medical consultations by patients. Furthermore, expensive medical equipment could not be purchased and the little available ones have no expertise operators. Metz^[40] noted that poor Government maintenance and frequent regime changes led to the deterioration of Government hospitals, while medical fees are very expensive for the common man to afford. Frequent outbreaks of epidemics in rural areas across the country, with reported deaths are an indication that medical facilities and personnel are still lacking to meet the demands of the ever-increasing Nigerian population today. Furthermore, it was noted that the ratio of Nigerians to physicians was 1:16,400, while the ratio of traditional healers is 1:110^[45]. The records as on December 2007^[46] indicate that the number of teaching hospitals in Nigeria had risen from 1 to 48 and other kinds of hospitals to 17,020 all aggregating to a staggering 17,068 Health Care Facilities (HCFs).

As OM received official and government promotion and funding, people were made to believe that it was a better alternative to TM. TM was thereafter adjudged by the colonial

authorities to be dangerous and inimical to health. Sermons by some sects in the Christian religion also equated TM to idol worship^[47]. Table 1 shows the list of health care facilities present in Nigeria, as at 2007.

However, while Christianity is busy condemning traditional medicine, Islam seems to publicly support it. In fact, many Islamic priests are also traditional medicine practitioners and herbalists. However, in recent times, Christian leaders are gradually showing interest in herbal medicine. A good example of that is Rev. Father Anselm Adodo in Ewu Monastery, Benin City and other Roman Catholic organisations involved with TM.

Advantages of TM over OM in Nigeria

In recent times, more and more Nigerians and the Yoruba in particular, are consulting herbalists. Exorbitant medical bills of charges, in the face of chronic material poverty, of a wide range of people are a major factor bringing about this behavioural change. Consequently, Yoruba ethnomedicine that was once on the threshold of extinction, following its clash with some Western values, has started to regain its lost popularity as a significant component of our cultural heritage^[3]. There are numerous advertisements of herbal products on the newspapers, the media and other forms of information dissemination. 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^[48]. Similarly, there is currently hardly any newspaper in Nigeria that does not have a column on herbal remedies at least once in a week^[49]. The National Demographic and Health Survey report^[50] indicate that only 32.6% of births take place in health facility. This means that the remaining 63% of births were handled by traditional birth attendants or proliferating church-established maternity centres. All these indicate that the people still hold a strong belief in their cultural and spiritual heritage.

In spite of the sophistication of orthodox medicine, traditional medicine still has its potential significance and advantages, which cannot be over-ruled. These include:

1. **Little or no pathogenic resistance to traditional formulations:** Due to the fact that many herbal recipes are usually polyherbal formulations, it is very difficult for any parasite or pathogen to develop resistance to it. There is no single publication that ever reported any pathogenic resistance to any herbal formulation. This is quite unlike the orthodox medicine. According to the WHO^[51], *Plasmodium* spp (responsible for causing malaria fever) is now resistant to Chloroquine therapy, thus other therapies had to be developed.
2. **Expensive drugs:** The recommended Artesunate Combination Therapy (ACT) for treating malaria fever is hardly ever offered free in most public healthcare facilities. The average cost of malaria treatment based on ACT is estimated to be about N1, 500 (about US\$ 10.00) inclusive of cost of laboratory tests. This is a princely sum for the average Nigerian in the rural areas which are characterized with low household incomes^[52]. A TM therapy for the same ailment will cost on the average N200 (US\$ 1.20) or could even be procured for free, if the person could collect the medicinal plants and prepare the medication personally. Generally, the cost of orthodox medicine is increased by modern health technology

involved.

3. **Illnesses with no pharmaceutical remedy:** In addition, there are several illnesses that Orthodox Medicine has no clue on its cure, but which Traditional Medicine can cure. One of such is pile. Anyone with pile undergoes hemorrhoidectomy (cutting of the haemorrhoids) from the anus. However, Traditional Medicine has treatments for it using herbal formulations.
4. **Accessibility:** Traditional medicine is more accessible to most of the populations in the third world. In fact, it is reported that 60-85% of the population in every country of the developing world has to rely in TM. This is mainly because of a shortage of hospitals and health centres as well as medical and paramedical staff needed to manage orthodox health care delivery systems. The ratio of TM practitioners to the entire Nigerian population is estimated at 1:110 while that of OM practitioners is 1:16,400 ^[45]. Facilities are inaccessible for much of the population.
5. **Acceptability:** Traditional medicine enjoys wider acceptability among the people of developing countries than does orthodox medicine. It was the only form of health care available to people before the advent of OM. TM blends readily into the sociocultural life of the people in whose culture it is deeply rooted. For example, those that have fractured bones as a result of motor accident have their bones treated with herbs rather than having their legs amputated in the hospital and those who were to go through caesarian operations have their babies delivered through therapeutic incantations and herbs ^[5]. Orthodox medicine only addresses a patient's biological manifestation of the illness and does not attempt to heal spiritual aspects of illness ^[53], which is taken care of in traditional medicine.
6. **Inadequate medical personnel:** In order to consult an orthodox doctor, the patient often has to undergo the complicated and time-consuming processes of registering at the records department, undergoing a series of money-gulping diagnostic tests, seeing a nurse before finally waiting in a long queue before consultation with the doctor usually takes place. Such obstacles are absent in TM ^[8]. Worse still, many medical staff, believing they hold superior knowledge, treat patients inconsiderately, especially in Government hospitals.
7. **Bioprospecting:** TM is a potential source of new drugs, a source of cheap starting products for the synthesis of known drugs or a cheap source of known drugs.
8. **Fake and adulterated drugs:** High and rising proportion of fake and adulterated synthetic drugs makes a lot of people to crave for natural products ^[54].

Harmful capacity is not unique to Yoruba medicine ^[24]. Western medicine, however, also has potential for harm. A drug, which is supposed to treat just one ailment, could be accompanied by several side-effects, fatal effects from over-consumption of a drug, potentials of drug abuse, addiction and over-dependence. Doctors also have the tools at hand to harm or kill a patient at any time, especially when they are undergoing surgical procedures.

Modernization of TM in Nigeria

Given their literate background, most of the modern TM practitioners have changed the processes and procedures of herbal preparation. Sophisticated machines are now used in transforming plants and ingredients to soluble granules and tablets in clean and standard forms. The medicinal herbs are also researched, documented and preserved. The drugs are now hygienically bottled and corked or put in sachets for preservation. They are properly labelled and the labels contain the names of the manufacturer and address, preparation, dosage, methods of preservation, and the diseases for which they are meant. The labels also contain the manufactured date, expiry date and the drugs registration with the regulatory authority, which in Nigeria is the National Agency for Food and Drugs Administration and Control (NAFDAC). Before now, bare hands were used to pick and separate unwanted parts of plants and grind herbs into powdery forms. These have been replaced by special machines that help pick or sort the desired herbs and mill them with the aid of hammer, knife or teeth mills ^[55]. Extraction process for making tinctures, fluid and solid extracts has been technologically improved upon. The old technique of maceration has been replaced for example with counter-current extraction process, fluid extracts are concentrated by thin layer evaporations while freeze-drying and spray drying (atomization) are modern drying techniques that are in vogue ^[56].

The hitherto unregulated activity is now being checked to maintain standard by government agencies to eliminate quacks in the TM industry. There is increasing number of NAFDAC-certified TM products being sold to the public. Some of these TMs are now being packaged in tablets, capsules and standard syrup forms, subjected to laboratory tests and given approval for public use by NAFDAC ^[57].

In NAFDAC Green pages publication, a total of 275 herbal medicines were listed with NAFDAC registration number. There are probably several hundreds of other traditional medicine products in the country that are yet to be registered with NAFDAC. This list includes many of the herbal products imported into Nigeria and sold through network marketing and sales. It should be noted that the recent editions of this publication would probably contain more herbal products. Furthermore, Adefolaju ^[58] listed another 15 herbal products that were registered by NAFDAC in 2011.

Presently, there is herbal revolution in Nigeria. There are numerous herbal toothpastes, toilet soaps, teeth washing powder, pomades, creams and body lotions produced by several industries in Nigeria. For example, the same companies that produced the fluoride toothpastes are also producing the herbal toothpastes.

It was a common sight in the past in many Nigeria cities to come across hawkers of herbs in strategic locations such as roadsides, markets, moving vehicles and motor parks. With the advent of modern technology and greater awareness, practitioners have resorted to more aggressive marketing drive in both the print and electronic media. The resort to mass media channels such as radio, television and news magazines as opposed to the traditional channel ensures a wider audience and patronage. In addition to these, traditional medical practitioners also buy airtime to sponsor programmes that are of greater public importance, like drama and soccer games on radio and television. They also exhibit their products at various trade fairs organized to showcase their products.

Aside these, the following landmarks have been made in the

modernization of traditional medicine in Nigeria:

1. Introduction of Ethnobotany, Economic Botany and Pharmacognosy as academic curricular in Universities. These courses have been added to Botany or Pharmacy curricular in many Universities across Nigeria, training students up till Doctorate levels for excellence in medicinal plant research.
2. Literacy level rise among the TMPs and transfer of knowledge to literate children.
3. Mass migration of people from rural to urban areas, led to reduced patronage and some TMPs were forced to migrate as well to the major urban centres, where they were enlightened to modernise their herbal packages.
4. Formation of Societies and Associations of TMPs to protect their rights. The main association is the Nigerian Association of National Traditional Medicine Practitioners (NANTMP).
5. Establishment of private hospitals and clinics for natural medicine.
6. Standardization of herbal drugs into capsules and syrups, with standardized dosages.
7. Publication, sale of books and documentation on TM practices by herbalists, botanists and foresters.
8. Publication of books on general uses of plants.
9. Public and media revolutions on plants such as the wide range of uses of *Aloe vera*, *Passiflora edulis* and *Moringa oleifera* in Nigeria.
10. Christian-based medicinal plant therapy, e.g. Rev. Fr. Anselm Adodo in Benin City.
11. Establishment of Colleges of Natural Medicine for training interested members of the public.

However, it is still unclear whether there the mystical aspect of herbal medicine has been reduced or eradicated. Olagunju ^[5] reported from his interviews that the modern day trado-medical practitioners who used to advertise their products over the radio and television or who hawk their products on the street or in the market place major in treating physical sickness, that they usually invoke the spirit of divinities on their herbal products before they are sold in the market.

Limitations of the Traditional Medicinal Practitioners

Traditional medical practice, in spite of its popularity has been challenged on many grounds ^[59]. One of such is that its popularity is based on the anecdotal experiences of patients. Osborne ^[60] noted that the practitioners inflate the claims attached to advertisement and its products as well as not having scientific data about its effectiveness, thus making it difficult to ascertain legitimate and effective therapy and therapist. Erinsho ^[59] noted that some of the other arguments against traditional medicine include:

1. That traditional medical practitioners lack the skills required for correct diagnosis of serious disorders,
2. That they are always unwilling to accept the limitations of their knowledge, skills and medicines particularly in complicated organic disorders,
3. That traditional medicine lacks standard dosage and have not been subjected to scientific verifications,
4. That even though the educated are convinced that the healers have supernatural knowledge and that this knowledge is medically useful, they have found them to be unscrupulous and dubious,
5. That the healers lack the equipment required to conduct physical examinations.

6. Imprecise diagnosis given by the TMP. A diagnosis of "stomach trouble" could mean indigestion, ulcer, cancer of the stomach and many others. Such imprecise diagnosis is because the TMP does not know the pathology of certain diseases. As a result, he tends to treat the symptom rather than the disease, which can sometime lead to further complications.
7. The intangible aspects or occultic practices of TM cannot be verified scientifically
8. Witchcraft and evil practices of TM also discredits this form of medicine. A medicine is supposed to promote good health and remove mental, physical and social imbalance ^[8].

Traditional medicine practice in Nigeria, however, faces greater challenges in the hands of government officials who look at it with disdain and disrespect. This is a carry-over from the colonialists who "needed" to uproot this traditional medical practice for their own medical system to thrive and therefore portrayed the former as nothing more than witchcraft and fetish. Their successor, the Nigerian elite, despite the cultural background, was not better as the western propaganda had been infused to smear the historical and the indigenous health care system ^[58]. This is manifested in the Nigeria government's reluctance to accord traditional medicine its primate position in the healthcare delivery system. As a matter of fact, traditional medicine is practiced in Nigeria today without enabling national legislation that will regulate its practice as obtained in many parts of the world ^[61].

Government initiatives in TMP in Nigeria

In 1966, the Federal Ministry of Health approved research at the University of Ibadan into the medical properties of local herbs. In 1973, the Lagos Ministry of Health, in collaboration with the Department of Chemistry, University of Lagos, sponsored an international scientific conference in traditional medical therapy. In 1979, the Federal Ministry of Health organised the first nationwide seminar on TM, in which both orthodox and traditional medical practitioners participated actively. In 1984, the Federal Ministry of Health set up the National Investigation Committee on Traditional and Alternative Medicine (NICTAM). A National Committee on the training of TBAs was inaugurated in 1987. In 1988, the Federal Ministry of Science and Technology inaugurated a committee mandated to undertake research and development on alternative medicine.

NAFDAC is mandated to regulate and guide the use and distribution of herbal medicines among all medicines to ensure their safe use, efficacy and quality. The Agency has completed its work on the criteria for evaluating the quality, safety and efficacy of herbal products used in traditional medicine and their registration, in line with WHO guidelines. The National Institute for Pharmaceutical Research and Development (NIPRD), Abuja was established by the National Science and Technology Act CAP 276 (25) to promote research on traditional remedies so they can serve as alternatives to modern medicines. Furthermore, the Nigeria Natural Medicine Development Agency (NNMDA) also established in 2007. Furthermore, a National Traditional Medicine Development Programme (NTMDP) was established in the Federal Ministry of Health in 1997. The Nigerian Traditional Medicine Policy was established by the Federal Executive Council in August 2006. In addition, Nigeria has developed National Policy on Traditional Medicine in 2004; laws and regulations in 2007;

Guidelines for registration and evaluation of TM and has published the National Herbal Pharmacopoeia in 2007

Areas for Improvement

Several aspects of TM in Nigeria, especially in Yoruba land require in-depth improvement. Only 40% of herbal medicines consumed in Nigeria is produced locally and the remaining 60% are imported from foreign countries^[56]. This means that there is the need to improve on our locally made herbal products. These areas include.

1. Like in USA, Canada, Germany and other developed countries, there is the need to establish Colleges of Natural Medicine for the training of Naturopathic physicians.
2. In fact, it could be noted that many of the modernised traditional medicine products are very expensive that the averagely poor Nigerian cannot afford it; therefore, they still fall back to the locally made herbal mixtures prepared by illiterate and semi-literate people under unhygienic conditions.
3. Even the modernised traditional medicine products certified by NAFDAC were only "listed", indicating that they are only certified for public use, but their pharmacological claims have not been confirmed. Therefore, all these herbal products carry an "L" after their NAFDAC registration number. Since the entire herbal products certified in Nigeria are only listed, this indicates that a lot of work needs to be done.
4. While some of the traditional medicine practitioners have modernised their practices, very many of them are yet to adjust, and many of such people are the illiterates. Hygiene is still a major problem of the local TMPs and herb sellers. A visit to Bode market where major medicinal plants were sold in Ibadan, it is always perpetually dirty and terrible odours emanating from the entire market, probably from the dead and decaying animals on sale. The stalls were poorly and compactly arranged, open and dirty gutter flows in and around the market and materials used to store the herbs are very dirty. In addition, a purchase of some herbs had to be sorted to remove debris and other dirt from it that could have compromised the health of the patient even the more. Such dirt includes faeces of animals, unwanted leaves etc. Tools used to slice the plant parts into pieces are so dirty and used repeatedly without washing. As a result, fungi (moulds) grow on the herbal concoction with few days, especially the ones soaked in water without adding menthol. These unhygienic conditions and high fungal load in locally made traditional medicine products have been reported in many scientific literatures.
5. There are three factors that must be in place before integration can be a success. First, orthodox medical doctors must be open to the ideas of Yoruba and other forms of traditional African medicine. For biomedical and traditional practitioners to unite in Africa they only need to be open to the idea of working with one another as peers. For synthesis in the West, however, these orthodox doctors must also be prepared to experience African healing and consider it for their own health. Westerners open to African ideas is only one of three factors. Yoruba healers and other traditional medical healers must be open to sharing their methods and knowledge. They must allow orthodox doctors to examine and analyze them using their own systems of finding facts. Finally, the patients must be

willing to use varying styles of medicine in maintaining their health. This factor already exists to some extent in Africa.

The following actions would need to be taken by any nation aiming at co-recognition of both traditional and orthodox medicine where only OM is recognized at present:

1. An autonomous division of TM is needed in the existing Ministry of Health. This will save costs, although the creation of Ministry of Traditional Medicine has been propounded by others as ideal.
2. The law setting up a Council for TM should be enacted. Such a Council should consist essentially of TMPs of repute as well as a few pharmacists and doctors.
3. **Registration of TMPs:** Registration of TMPs must take place, and through this process, charlatans will be eliminated. Activities of TMPs are also placed under surveillance, as done in Guinea and Mali.
4. **Training:** The training of TMPs either as general practitioners or specialists should be standardised. The present system of apprenticeship can continue, but some traditional medical clinics could be financed and upgraded for formal sandwich training, involving apprenticeship and formal teaching. Eventually, traditional medical schools should be set up. This is already in place in many African countries.
5. **Registration of TM clinics or premises:** Each TMP must have premises or clinic registered in his name for practice. However, such premises should be subjected to inspection before registration. At the registration, the TMPs would receive instructions aimed at bringing their premises up to any minimum standard of requirement that may be specified.
6. **Laws and regulations of practice and code of conduct:** Laws, regulations and codes of conduct must be set up by the Council to regulate the practice of traditional healing methods.
7. **Establishment of Colleges of Natural Medicine:** Nigerian Universities should be empowered to establish Colleges of Natural Medicine for the training of naturopathic doctors. This is already in existence in some developed countries.

Conclusion

However, it should be noted that the today's orthodox medicine had gone a long way of evolution and advancement over the centuries. At the onset, Medicine and Botany were taught as an inseparable course in Universities and the then orthodox medicine doctors were merely naturopathic physicians and medically qualified botanists. With highly improved scientific technology, medicine advanced gradually into what obtains today. Therefore, it is unfortunate that the very people that ought to work with the TMPs to improve traditional medicine are actually the ones condemning it. The best solution to this issue is the integration of traditional medicine into orthodox medicine. Despite the proliferation and revival of traditional medicine in Nigeria, a lot of research work still needs to be done in the area of therapeutics of the traditional medicine products for their full certification with NAFDAC. The Government should ensure the establishment of Colleges of Natural Medicine in some selected Universities and the full registration of traditional medicine clinics to ensure that best practices are ensured. Research into traditional medicine should be more focused and go beyond the

foundational or preliminary ethnobotanical surveys.

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