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## Principles and practice of alternative medicine in Nigeria

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### Abstract

Orthodox or allopathic medicine is founded on the germ theory of disease, and involves the science-based application of medicines and surgery to cure diseases or manage health conditions under the auspices of Western trained healthcare professionals, Traditional African Medicine (TAM) on the other hand generally involves indigenous herbalism and African spirituality preserved mainly by oral tradition, with local diviners, herbalists, and midwives as intermediaries. In other words, whereas allopathic medicine is much more specific, focused on the particular biological cause of the anomaly, TAM is intrinsically holistic, encompassing the whole being-the spirit, soul and body. The difference between the two healthcare systems cannot therefore be clearer.

**Keywords:** Traditional African medicine, allopathic medicine, alternative medicine, divination, herbalism

### Introduction

The term Alternative Medicine essentially describes a system of health care and disease management that people resort to as an alternative to conventional or allopathic medicine. As conventional or allopathic describes that which is generally accepted or common, what constitutes alternative medicine is somewhat a matter of perspective, being dependent on what health practices and ideologies are conventional to a given people at any given time. Currently, allopathic medicine refers to the science-based system of health care globally taught in medical schools, which, although originating from the United State (US) and United Kingdom (UK), has spread across the globe and become the most common form of medical practice. As such, health practices outside that ambit, such as herbal medicine, homeopathy, chiropractic medicine, and Traditional African Medicine, among many others, although once mainstream in certain parts of the world, are now generally considered alternative medicine. Practitioners of Traditional African Medicine (TAM) claim to be able to cure various and diverse conditions such as cancers, psychiatric disorders, high blood pressure, cholera, most venereal diseases, epilepsy, asthma, eczema, fever, anxiety, depression, benign prostatic hyperplasia, urinary tract infections, gout, and healing of wounds and burns and even Ebola<sup>[1]</sup>. Traditional medicine that has been adopted by other populations (outside its indigenous culture) is often termed complementary or alternative medicine (CAM)<sup>[2]</sup>.

Originally, users of alternative medicine largely did not have sufficient access to allopathic health care. As time went on, however, and up until the present, more and more people have resorted (and are resorting) to alternative medicine due to lived or reported disappointing experiences with allopathic medicine, whether real or imagined. As alternative medicine, by definition, tends to suggest some sort of rebellion against the idea of allopathic medicine, it has become more and more closely associated with complementary medicine in the increasingly popular term, Complementary and Alternative Medicine (CAM). There are various operational definitions of CAM, but the most popular one among CAM researchers is that provided by the US National Centre for Complementary and Integrative Health<sup>[3]</sup>. In this scheme, CAM is classified into five basic classes (Biologically-based therapies, Mind-body interventions, Manipulation and Body-based methods, Alternative medical systems, and Energy therapies). These were later further organised into three broad groups (Natural products, Mind and body practices, and other complementary health approaches). The individual therapies that make up these classes are outlined in Table 1.

**Table 1:** The US National Centre for Complementary & Integrative Health categorisation of Complementary & Alternative Medicine (CAM)

NCCIH categorisation of CAM		Sub-types	General comments
Current	Previous		
1. Natural products	(i) Biologically-based therapies	Bach flower therapy Chelation therapy Dietary supplements Essential oils Herbal medicines Home remedies, Hydrotherapy Megavitamins & minerals Prolotherapy, Special diets	Essentially medication-based therapies Primarily entail the use of medicinal products (natural products)
2. Mind and body practices	(ii) Mind-body interventions	Acupuncture, Art therapy Aromatherapy*, Bio-feedback Breathing techniques Dance therapy Guided imagery Humour therapy Hypnotherapy Meditation techniques Music therapy, Play therapy Prayer therapy, Yoga	Essentially non-medication-based. Some may stand alone or form part of another sub-type *This involve the use of essential oils, which often have medicinal properties (natural products)
	(iii) Manipulation & Body-based methods	Acupressure Alexander technique Chiropractic, Feldenkrais Massage, Osteopathy Reflexology, Rolwing Therapeutic touch Trager approach	Essentially non-medication-based Some of these may stand alone or form part of another sub-type
3. Other complementary health approaches	(iv) Alternative medical systems	Acupuncture† Anthroposophy*, Ayurveda* Homeopathy*, Naturopathy* Traditional Chinese Medicine (TCM)*, Kampo* Traditional African Medicine*, Other indigenous traditional health practices*	Essentially non-medication-based except for *, which may involve the use of medicinal (or natural) products †May also be part of categories 2 and/or 3
	(v) Energy therapies	<b>- Bio-field therapies:</b> Healing (Faith, distant, etc.) Qi gong, Reiki, Tai chi <b>- Bio-electromagnetic-based therapies:</b> Involves the unconventional use of pulse, magnetic, alternating or direct current fields	Essentially non-medication-based Some of these may stand alone or form part of another sub-type

**Alternative medical systems: the African Variety**

According to the World Health Organisation, traditional medicine is still being practiced by up to 80 % of the African population [4]. One primary driver of this trend is the perennial underdevelopment that has remained an incurable cancer to many African countries, resulting in the inaccessibility or unaffordability of modern pharmaceuticals and medical facilities to a majority of the population. Although the very first hospital in Nigeria was built in Lagos in 1873, up until now-about 150 years later- over half of the country still lacks standard hospitals with trained health professionals, appropriate drugs and other health facilities [5, 6]. Another primary driver of this trend is the high levels of spirituality and religiosity that are intrinsic to the African world view. While Western cosmology is dominated by the big bang theory, informed by astronomy and particle physics, African cosmology is highly embedded in metaphysics, informed by an insistence on the wholeness of life and knowledge that they interpret through the agency of myths, proverbs, metaphor, customs and taboos [7]. As such, Africans tend to view life circumstances, whether favourable or adverse, through these lenses, resulting in a world view that acknowledges a visible world of physical

beings as well as an invisible yet fully real and superintendent world of spiritual beings. The latter are understood to range from small personal or family gods, to the spirits of dead ancestors, to the supreme God, who is recognised as the creator of the universe. These spirits or forces are understood to have moderating influences on the physical world, and are believed to be amenable to being courted by man to useful ends.

Based on this philosophy, at the core of TAM is the belief that illness arises from spiritual or social imbalances rather than from a chance occurrence-such as an infection. While there is recognition of the ubiquitous presence of germs in food, water and air, there is also an understanding that the reason why not everybody in the community dies from their ill effects despite being equally exposed to them is because of other factors outside the germs themselves. Such factors are understood to relate more to the affected person’s relationship (or lack thereof) with the spiritual elements or his human neighbours; or merely a breach of natural or communal laws. A breach of a natural law, such as bestiality, is seen as upsetting the harmony inherent in the created universe; and may be associated with a punitive act of the gods. Also, breaches of communal laws may occur

when taboos, such as going to the farm on a prohibited day, have been disrespected, and may open the door for intrusion of the physical world by regulatory ancestral spirits or other vexed spirits. Breaches may be committed by specific individuals or families, as well as whole communities. In the latter case, an epidemic could result. Ill health could also be the work of an enemy who has “bribed” an evil spiritual being to strike out against a perceived offender (sorcery). Thus, because of the great variety of causes of illness and disease in the African world view, the primary focus of TAM is to identify what particular breach, physical or spiritual, has been committed knowingly or in ignorance, and to then seek out acceptable means to remedy it. While the physical factors are generally identified through keen observation and interview, the spiritual aspects are usually determined through divination [7]. Remedial measures may include sacrifices or punitive or reconciliatory actions. Only after such have been achieved or meted out could specific physical remedies be identified and applied to handle any physical factors also present. As such, in African cosmology, as against the Western brand, disease or illness has both a physical and metaphysical dimension, both of which must be dealt with separately to ensure wholeness.

In the same vein, medicines are understood as specific entities whose vital force (s) can be harnessed by man to manage or cure illness of the body, mind or spirit, or any other perceived aberrations. Such entities are understood to be inherently spiritual, albeit manifesting in one physical form or the other. While herbs are the most common forms of traditional medicines, certain rare animals or animal parts and other natural substances are also commonly used. Also, even where these are commonly available, because the insight into which particular components are to be used for each given instance, as well as the procedures for accessing, preparing and using them, are understood to be obtained primarily through spiritual inquiry and revelation (divination), they are still revered as uncommon. And as medicines are understood to originate from spiritual forces of the unseen world, they are also understood to be of varying strengths according to the level of the originating spirit and/or the human mediator that midwived them. In terms of their range of application, medicines in the African context can either have a specific effect on the condition being treated, or an indirect or non-specific effect that is aimed at correcting the underlying spiritual causes (or cancelling out competing forces), so as to achieve a cure.

### **Alternative Medicine in Nigeria**

Of the five basic classes of CAM, the most relevant to the Nigerian context, especially from a historical perspective, is Alternative Medical Systems, of which the Traditional African Medicine (TAM) is one. Alternative medicine in Nigeria is a holistic approach in treating ailments. The practice involves indigenous herbalism and African spirituality, typically engaging diviners, midwives, and herbalists. In Nigeria, like many parts of Africa, traditional medicine is often part of the culture of the people that use it, and as a result it is closely linked to their beliefs [8]. It is the sum total of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve, or treat physical and mental illnesses. Practitioners of Alternative Medicine in Nigeria, like their counter parts in other African and developing

countries, primitively believe that evil spirits, social imbalances and other supernatural forces were responsible for illness and diseases, and thus invoke magic, charms, incantation, sacrifices and other methods to drive them away. Diagnosis is achieved mainly through divination and other spiritual means and a treatment is prescribed, which may consist of sacrifice and a traditional remedy that is considered to have not only healing abilities but also symbolic and spiritual significance. This natural remedy may be prepared from plant or animal parts. Our investigation, however, could not ascribe any role to sacrifice and incantation in the efficacy of traditional medicine in Nigeria [9].

The ancient theories and beliefs as regards the causes of disease have been majorly discarded with the advancement of the belief that sickness and diseases are usually as a result of changes in body chemistry to be treated using chemical substances. The use of medicinal plants as a fundamental component of the Nigerian traditional healthcare system is perhaps the oldest and the most sorted of all therapeutic systems. In Nigeria, and in many parts of rural Africa, traditional healers prescribing medicinal plants are the most easily accessible and affordable health resource available, and at times the only therapy that subsists. Traditionally the use of plant parts as source of herbal preparations for treatment of various ailments are based on the experience passed from generation to generation, usually by oral tradition and through practice, and forms part of the indigenous knowledge of people of any locality [10].

### **Merits and demerits of Nigerian Alternative Medicine (NAM)**

The merits of Nigerian traditional medicine to people's healthcare have been proven by its age-old legacy, its clinical efficacy in curing diseases, and improving quality of life from the ancient times to the present day. But because of the lack of specific standards of quality and dosage of alternative preparations, there have been some skepticism, reservations and taboo about their general use and acceptability. Nigerian alternative medicine has its own merits and demerits. The merits which are also common to ATM may be summarised as follows ; minimal cost, materials are locally available, effectiveness proven over time, absence of side effects, accessibility to majority of the population, relatively low toxicity and wider acceptability among the rural community.

Although many consumers believe that alternative medicines are safe because they are natural preparations, there are some negative aspects of this practice. Some of these include; lack of standardization, lack of scientific proof of efficacy and safety, shortage of supply when demand is high, imperfect and imprecise diagnosis, inappropriate for emergency treatment and limited route of administration

Furthermore, adulteration, inappropriate formulation, or lack of understanding of drug interactions have led to adverse reactions that are sometimes life threatening or lethal [11].

### **Alternative Medicine (AM) Use in Nigeria**

There is a high degree of Alternative medicine use in most parts of the country, with a highest report for the South East and South West zones. An overview of the studies shows that the incidence of AM use among adults in the general

population is reported to be highest (84.7 %) in Enugu town, southeast<sup>[12]</sup> and lowest (49.4 %) in Osun state, southwest<sup>[13]</sup>, with a median prevalence of 83.2 %. A summary of studies that considered AM use in specific health conditions indicates a very wide variation in prevalence depending on the health condition. CAM use was found to be used most commonly (96.8 %) for musculoskeletal pain by farmers in Oyo state<sup>[14]</sup> and the least commonly (13.2 %) for eye problems by patients presenting at the Guinness Eye Hospital, Onitsha, Anambra State<sup>[15]</sup>. Other health conditions studied include: cancer -65 %<sup>[16]</sup> and 64 %<sup>[17]</sup>, sickle cell disease -88.5 %<sup>[18]</sup>, HIV -57.9 %<sup>[19]</sup> and 27.5 %<sup>[20]</sup>, and hypertension -39.1 %<sup>[21]</sup>. Alternative Medicine use was also found to be high among undergraduates -81.8 %<sup>[22]</sup> and pregnant women -82.1 %<sup>[23]</sup>.

### **Efficacy of Nigerian Alternative Medicine**

Nigeria is a country endowed with an enormous wealth of plant resources. Over 5,000 different species are known to occur in the forest regions alone, and most of them have been used for several centuries in traditional medicine for the prevention and treatment of diseases<sup>[24]</sup>. The efficacy of the Nigerian alternative medicine vis-a-vis ATM irrespective of the belief can be attested by the battery of allopathic medicines derived from African medicinal plants. Few African healing herbs are recognized in modern pharmacopoeia; the list includes Calabar bean (*Physostigma venenosum*), *Strophanthus*, Areca nuts, kinox, fulix, kola, the African periwinkles (*Catharanthus roseus*) and the devil's claw (*Harpagophytum procumbens*). It is known that, there are African varieties of several orthodox drugs in which the African *Rauwolfia vomitoria*, for example, has a high content of anti-hypertensive and ant-psychotic alkaloid reserpine<sup>[24]</sup>. Among the 120 active compounds currently isolated from the higher plants and widely used in modern medicine today, 80 % show a positive correlation between their modern therapeutic use and the traditional use of the plants from which they are derived<sup>[25]</sup>.

### **Major Players in Nigerian Alternative Medicine**

There are four mainplayers in the practice of Nigerian Alternative Medicine viz; Diviners, Herbalists, Local birth attendants and midwives; and Bone setters.

#### **Diviners**

Divination, or the art of divining, refers to any effort to determine or understand the future, or anything that is hidden from common knowledge, by reliance on senses beyond the five basic senses of sight, hearing, smell, taste and touch. As it does not depend on the basic senses, the art of divination is not founded on science or scientific principles. It rather relies upon the "sixth sense" or extrasensory perception (ESP), or more colloquially a supernatural agency; and is as such generally dismissed by the scientific community as mere superstition. According to Chrysippus, divination, derived from the Latin "*divinatio*", is "the power to see, understand, and explain premonitory signs given to men by the gods," with a view to understanding "the disposition of the gods towards men," and "by what means the gods may be propitiated and their threatened ills averted" (*Cic. De Divinat. II.63*). This is therefore an active process, as it is the diviner's prerogative to seek out what is in the mind of the gods, as well as its interpretation and application. Diviners thus differ from the

more passive seers and oracles, which merely pass on to their audience the messages they receive by inspiration from the "gods" or spiritual guides<sup>[26]</sup>. Being an active process, divination often involves a standardised process or ritual, known only to the initiated few, by which what would ordinarily appear as a random or disjointed set of events or occurrences are organised in such a way as to provide an answer to the initiating query. This is generally the case in TAM<sup>[27]</sup>. Here, divination is a critical component, as it is utilised both for determining the cause of the ailment and the specific steps required to remedy it. It should be noted, however, that oracles may also play a role in divination by including messages related to healing in the messages from the gods<sup>[28]</sup>.

Divination has been classified in various ways<sup>[29]</sup>; two main polar types –possession and wisdom divination- with a third, intermediate form, intuitive divination, possessing varying aspects of the main varieties. Of the four main types of divination<sup>[30]</sup> -Omens, Sortition (or Cleromancy, the casting of lots), Augury and Spontaneous divination- the most common form associated with TAM is the casting of lots or sacred objects –such as stones, sticks, bones, beans, etc.. In African traditional religion, depending on place, personality or cult, several objects serve as lots in the process. These include: cowrie shells, beads, crabs, Ifa Odu verses (Nigeria); stars in the sky (Ethiopia); Quran (Uganda); lances (Burundi); chicken-poison (CAR)' baskets (Angola); bones (Botswana); crabs (Cameroun); batons (Cote d'Ivoire); Acacia seeds (Madagascar)<sup>[31, 32]</sup>. After casting the lots, either unto a special wooden platter or board, or simply within a circle drawn on the ground, the diviner determines the outcome by making sense of the resulting random assortment of the lots according to some undisclosed and secretly preserved criteria. As the key underlying principle for this form of divination is the belief in the possession of the sacred objects by a supernatural being who then directs the order or alignment of the lots in line with his will, sortition is subsumed under the possession type<sup>[29]</sup>, which also includes seers, mediums and oracles, although these are not usually applied to traditional healing.

#### **Herbalists**

Herbalism or herbal medicine is the use of plants for medicinal purposes or for supplementing a diet. Although many of the substances used in allopathic medicine are derived wholly or partially from plants, herbalism is still considered alternative medicine because its underpinning principles are not strictly evidence-based. That notwithstanding, herbalism is widely practiced globally, being a key part of traditional Chinese medicine and the Indian Ayurveda. Herbalists generally use extracts or decoctions from whole plants or various specific plant parts without bothering to identify whatever phyto-constituents may be involved. Because of the peculiar way medicines are viewed in Africa, herbalists are regarded in TAM as having been endowed with inherited or acquired supernatural gifts or powers that enable them use herbs in a special way that is hidden from the general population. To achieve this, African herbalists also generally function as diviners<sup>[28]</sup>. As a result, the resulting medicines are believed to have far-reaching effects on the spirit and/or soul of the user in addition to the body. From this perspective herbs are seen essentially as magic potions and herbalists as magicians. In other alternative medical systems, such as Traditional Chinese

Medicine, Ayurveda and Unani, herbalists are neither required to possess supernatural powers, nor seen as possessing such. They are rather required to undergo extensive training in the principles of energy medicine, and are then expected to apply the experience thus acquired in their healing profession<sup>[33]</sup>. The other more classical approaches to herbalism rely on either physiological or chemical principles of herbal activity; and, as they are based on scientific principles rather than the supernatural or oral tradition, these find greater acceptance in evidence-based medicine. Such herbalists often obtain pointers to the utility of herbs from their observations of animal dietary behaviours in the wild, among other empirical factors<sup>[34]</sup>.

Phytotherapy and pharmaceutical medicine, while related to herbal medicine in being plant-based, differ in focusing on the specific phyto-constituent(s) involved in the desired medicinal effect. Herbalism on the other hand generally emphasizes whole decoctions and extracts to single or specific components. This preference is informed by the belief that an interaction of the various phytochemicals in the plant extracts is required for optimal effectiveness and diluted toxicity. In support of this line of thinking, herbalists generally point to the fact that many of the herbs involved have been in use for many generations -both as local medicine and as part of the local diet- without being associated with incidences of toxicity and fatality. In other words, herbs are natural and therefore safe<sup>[35]</sup>. Any mishaps that occurred were generally ascribed to a wrong method of application of the medicine, and other such user-related factors, rather than errors from the source. And, in view of the African world view of the greater influence of spiritual than physical factors in life, and the religious dogmas that "to err is human" as the gods are not to blame, such explanations are not really questioned by the general population<sup>[36]</sup>.

Herbal remedies usually consist of formulas that may include other natural substances, such as animals and animal parts and minerals, in addition to herbs<sup>[11]</sup>. Generally, uncommon animals like tortoise, lizards, pigeons, rats and chameleons, etc. are often used; along with body parts like blood, skin, hair and feathers<sup>[11, 37]</sup>. Minerals like clay, salt and stone are also used. These remedies are generally prepared by maceration in hot or cold water, or in alcoholic spirits or palm wine; and they are used in various ways, depending on the ailment or intended goal of therapy<sup>[28]</sup>. These include unorthodox methods of application like smoking and snuffing, as well as more common modes like oral ingestion and application on the skin<sup>[37]</sup>. While herbal preparations generally claim to cure a broad range of ailments at once, a lot of herbs have become popularly associated with certain conditions, such as *Azadirachta indica* (neem) (for malaria), and *Vernonia amygdalina* (bitter leaf) (for diabetes), among others<sup>[11]</sup>.

### Traditional birth attendants

Traditional birth attendants (TBAs), also known as traditional, community or lay midwives, are generally the main health care providers for women during childbirth in most African villages. As many women do not have access to skilled personnel during childbirth, TBAs midwife most deliveries. Even with the existence of modern health facilities in Nigeria, over 58 % of deliveries take place at home, almost twice the 37 % that take place in hospital<sup>[38]</sup>. The WHO describes a TBA as "a person who assists the

mother during childbirth and who initially acquired her skills by delivering babies herself or by working with other TBAs<sup>[39]</sup>. Most often, and understandably, TBAs are older women that are highly respected within their communities. As such, they are very much trusted by the women that patronise them, most of whom are mostly uneducated<sup>[40]</sup>. A 2005 study in Edo state, Nigeria found that 97.8% of the TBAs were female; and that almost two thirds (62%) acquired their skills through apprenticeship, while 9% were completely untrained<sup>[41]</sup>. In addition to their specific roles during the birth process and the critical postpartum period, TBAs also provide such services as ante-natal care, treatment of infertility, management of threatened abortion, and circumcision of babies.

In addition to their primary roles in the birth process, most TBAs are also herbalists, or other traditional healers. They generally resort to traditional medicines in the performance of their duties, and rely on traditional beliefs to explain obstetric complications<sup>[42]</sup>. They also perform cultural rituals and provide essential social support to women during childbirth. Such rituals generally mirror the religious climate of their setting, varying from prayers to sacrifices. They also include ritual bathing of the mother, ritual disposal of the placentas, and hot water massage after delivery<sup>[43]</sup>. The social support they provide frequently includes informal roles such as helping with household chores; but they also provide practical counsel on postpartum and cord care, and provide important support for breastfeeding, as well as advice on contraception. Traditionally, TBAs do not charge for their services, but may receive freewill donations from grateful patrons, and also be honoured during child-naming ceremonies. In the current economic climate in Nigeria, however, that trend is fast changing<sup>[44]</sup>. However, that notwithstanding, they still manage to retain a competitive edge over orthodox obstetric services.

### Traditional bone setters

Traditional bone setting is an ancient practice found almost in all communities in Nigeria. The traditional bone setter (TBS) is a lay practitioner of joints manipulation<sup>[45]</sup>, that is consulted most commonly for the treatment of fractures and dislocations<sup>[46]</sup>. TBS are reported to enjoy more confidence and patronage from people than any other group of traditional care-givers<sup>[46]</sup>. They enjoy a broad clientele that varies from the new born to the elderly cutting across all socio-economical and socio-cultural strata, including where modern health facilities exist<sup>[47]</sup>. With most TBS not being professionally trained, the art of bone setting is usually passed from father to son, with only a few receiving apprenticeship training<sup>[48]</sup>.

In some parts of Nigeria, TBS account for about 70 % to 90 % of the treatment of fracture cases, with people only presenting at orthopaedic hospitals after protracted failure of various traditional bone setting efforts<sup>[49]</sup>. As with other forms of TAM, the popularity of traditional bone setting is highly related to the claim of supernatural influences made by its practitioners. In addition to the primary acts of manipulation of the bones, application of splints to the area around the fracture, and application of herbs and other healing balms, incantations and concoctions are also used with the goal of pleading with ancestral spirits for divine intervention and healing<sup>[50]</sup>. Other drivers of the popularity include: lower cost, ease of accessibility, and quick service,

as well as cultural beliefs and pressure from family and friends <sup>[47]</sup>.

### Conclusion

Traditional African Medicine is intrinsically holistic, encompassing the whole being –the spirit, soul and body. In Nigeria, like many other African countries, alternative medicine practice involves indigenous herbalism and African spirituality passed down mainly by oral tradition, with local diviners, herbalists, bone setters and midwives as intermediaries. For reasons earlier outlined in this piece, the practice still thrives and is most likely to continue in generations to come.

### Conflict of Interest

Not available

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