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TRADITIONAL MEDICAL PRACTICE: AN APPRAISAL OF THE EXPERIENCE IN CAMEROON

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Abstract: **We sought to carry out a critical evaluation of the traditional medical practice (TMP) and to review some of the 'claims,' the outcomes of use, and the general knowledge of the benefits as well as the safety of herbal medicines (HM) as seen among residents in the northwestern region of Cameroon.**

Method: English literature on TMP and herbal medicine (HM) were reviewed. The qualitative study utilized a structured interview- proforma covering: i) Some local traditional medical practitioners (TMPs) that were interviewed about their practice; ii) The patients and their care-givers who invariably have been treated by TMPs were interviewed.

Results: This paper discusses the different traditional health care services, and newly documented medicinal plants in Cameroon. Moreover, 'African traditional medicine' is typically an indigenous system of health care and not synonymous with 'alternative and complementary medicine.' Notwithstanding the untoward effects experienced by patients, African traditional medicine is enjoying good patronage, mainly in our rural communities.

Conclusions: African traditional medicine as a holistic health care system is organized into three levels of specialty, namely divination, spiritualism, and herbalism. For the sole reasons of traditional medicine (TM) being enmeshed in local traditions, culture, and taboos make the practices acceptable and hence, highly demanded by the population. Nonetheless, some TMP 'claims' of successes are 'not verifiable' in its entirety. Finally, there is a growing demand for collaboration and integration of TM and biomedical practices as advocated by the World Health Organization (WHO); to harness the gains by all and sundry.

Keywords: **Traditional medicine, Traditional medical practitioners, Orthodox medicine, Healthcare system, Cameroon.**

1. INTRODUCTION

1.1 BACKGROUND

Globally, clinicians frequently regard "herbal medicine as an integral part of traditional medicine" (TM) [1]. The WHO defines TM as "the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of illness" [1-2].

From the preceding definition, "the most critical differentiating niche to the TM systems is the capacity to meet the needs of the local communities over the years; therefore, the rise to the present sophisticated level by the Acupuncture and Ayurveda medicine in China and India is a typical example of TM development" [3]. TM is now "generally available, affordable, and commonly used in large parts of Africa, Asia, and Latin America. It is, therefore, estimated by the WHO that about 80% of the populations in developing countries still depend on TM for their Primary health care (PHC) needs" [3]. Interestingly, "the percentage of individual's utilization of TM may vary from country to country" [4].

1.2 HISTORICAL DEVELOPMENT

The historical development and practice of TM is inherently a very longstanding one which is dated back to the Stone Age. According to Ezekwesili-Ofili *et al*., "within the African context the traditional healing practice of magic is much older than some of the traditional medical sciences and also much more prevalent compared to orthodox medicine" [5]. Several authors submitted that "In African communities, TM is characterized by a holistic health care system that is organized into three levels of specialty, which include divination, spiritualism, and herbalism, though these may overlap in some situations," [5-8].

The WHO confirmed that "TM has demonstrated the great potential of therapeutic benefits in its contribution to modern medicine. More than 30% of modern medicines are derived directly or indirectly from medicinal plants. Examples of these medicines are analgesics (aspirin, belladonna); anticancer medicines (vincristine and vinblastine), antihypertensive agents (reserpine); antimalarials (quinine, artemisinin); and decongestants (ephedrine)" [9, 10].

Furthermore, "the official recognition of the TM and its practitioners made by the Alma Ata Declaration in 1978 amounted to a significant landmark and resources for achieving Health for All" [9, 10]. Since then, "member states and WHO governing bodies have adopted several resolutions and declarations on TM. Notable among these is resolution on promoting the role of TM in health systems: A Strategy for the African Region adopted by the WHO Regional Committee for Africa in Ouagadougou, Burkina Faso, in 2000 and the declaration on the Decade of African Traditional Medicine (2001–2010) by the Heads of State and government in Lusaka in 2001" [9, 10].

Consequently, "the economic gains of herbal medicine cannot be overemphasized, which was also described as being highly lucrative in the international medical market. Annual revenues in Western Europe were estimated at the US $ 5 billion in 2003-2004, in China, the revenue estimated at US$ 14 billion in 2005, and in Brazil, it was US$ 160 million in 2007" [9, 10]. Despite these widely reported benefits globally, "traditional herbal medicines are not completely harmless. The high levels of health risk of toxicity to their users have been reported for indiscriminate, irresponsible or non-regulated use of several herbal medicines; that may put the health of their users at risk of toxicity" [11-14].

1.3 DOCUMENTATION OF MEDICINAL PLANTS IN CAMEROON

There has been increasing demand for the documentation of traditional healing practices and medicinal plants. "The major limitations to the dispensary use of African medicinal plants are their poor quality control and safety; traditional medical practices shrouded with much secrecy, with few reports or documentation of adverse reactions" [5]. For example, several plants used in TM for the treatment of many ailments and diseases. In this regard, Adjanohoun *et al.* (1996) provided "a useful review of the traditional use of medicinal plants in Cameroon, although much work remains done regarding the documentation of existing ethnobotanical knowledge" [15]. Jiofack *et al.* (2010) [16] also documented "the traditional use of 289 plant species belonging to 89 families against 220 pathologies. Sixty-eight percent of the documented plants are used to treat more than twenty important diseases. They are used as a decoction, infusion, maceration, powder, powder mixtures, plaster, calcination, and squeeze in water, boiling, cooking with young cock or sheep meat or groundnut paste, direct eating, juice, fumigation, and sitz bath" [16]. The most recurrent diseases or disorders treated are "typhoid, male sexual disorders, malaria, gonorrhea, gastritis, rheumatism, fever, dysentery, diarrhea, dermatitis, boils, cough, wounds, syphilis, sterility, sexually transmitted diseases, ovarian cysts, and amoebiasis, with more than two hundred plants being used to cure these diseases or disorders" [16]. A similar feat at the documentations of traditional healing practices and medicinal plants has been performed in Nigeria and Ghana, etc., [16].

Notwithstanding the huge concerted efforts made by "the Cameroonian research institutes in drug discovery from indigenous medicinal plants, but much work is still to be done to standardize methodologies and to study the mechanisms of action of isolated natural products" [16]. Consequently, some claimed that "traditional medical practice is partly old wives tale, partly half-truths, partly anecdotes, superstition, and partly blatant lies;" meanwhile, other scientists have claimed that "TM has neither validity nor enough scientific evidence to justify the safety and effectiveness of traditional medicine products and practices," [1]. Some adverse reactions have equally been reported to herbal medicines when used alone [17] or concurrently with conventional or orthodox drugs [18]. Interestingly, "even with the growing international diversity and adoption of TM in different cultures and regions, there is still no parallel advance in international standards and methods for its evaluation" [17, 18].

1.4 THE PRIMARY HEALTH DELIVERY IN NORTHWESTERN CAMEROON

The primary health care, as observed by WHO [19-22] is a "people-centered approach to health that makes prevention as important as a cure; the approach is expected to tackle the root causes of ill-health, also in non-health sectors, thus offering an upstream attack on threats to health" [23-25]. According to the WHO, "traditional healing plays an integral role in black African culture as it provides primary health care needs for a large majority (about 80%) of the population; and Cameroon has a rich tradition in the use of herbal medicine for the treatment of several ailments" [24, 25].

"The traditional medical system in Cameroon includes herbalists, traditional birth attendants (TBAs), spiritual healers, druggists, magicians, traditional bone-setters (TBS), etc.," [26, 27]. TM "is the sum total of knowledge or practices whether explicable or inexplicable, used in diagnosing, preventing or eliminating a physical, mental or social disease which may rely exclusively on past experience or observations handed down from generation to generation, verbally or in writing; therefore, the therapeutic practices that have been in existence often for hundreds of years before the development of modern scientific medicine and are still in use today without any documented evidence of adverse effects" [26, 27].

Interestingly, exactly as established in Cameroon, "African traditional medicine is a form of holistic health care system organized into three levels of specialty, namely divination, spiritualism, and herbalism. The traditional healers here in the northwest region of Cameroon are not exempted but provide health care services based on culture, religious background, knowledge, attitudes, and beliefs that are prevalent in his community. Illness is regarded as having both natural and supernatural causes and thus must be treated by both physical and spiritual means, using divination, incantations, animal sacrifice, exorcism, and herbs" [5].

Consequentially, "health is the very foundation of productivity and prosperity and a contribution to social stability; in fact, the practice of herbal medicine in rural northwestern Cameroon has offered this. The practice has the crude but rapid delivery system that is capable of reaching those in greatest need, and if the world desires to have health to work as a poverty-reduction strategy; then, the exploit has to be extended beyond the modern medicine but cover the whole gamut of the operations of the herbal traders in the delivery of primary health care in all countries of the world" [22].

2. OBJECTIVE OF THE STUDY

We sought to carry out a critical evaluation of the traditional medical practice and to review some of the 'claims,' the outcomes of use, and the general knowledge of the benefits as well as the safety of herbal medicines as seen among residents in the northwestern region of Cameroon.

3. METHOD

English literature on traditional medical practice (TMP) and herbal medicine (HM) were reviewed. The qualitative study utilized a structured interview- proforma covering: i) Some local traditional medical practitioners that were interviewed about their practice; ii) The patients and their care-givers who invariably have been treated by traditional medical practitioners were interviewed.

4. RESULTS

The results can be grouped under various specialties.

4.1 ORTHOPAEDICS AND FRACTURE MANAGEMENT

Case 1: A 21-year-old man with closed left tibial-fibula was treated by immobilization of the left leg in a bamboo splint with some herbal paste added to the fracture site alternate days. He had a complete recovery with a good function of the left leg within two months (personal communication).

Case 2: A 32-year-old lady with distal right femoral bone tumor causing limitation of left knee movement was treated by making scarification marks on her thighs and rubbing the incisions with some black powder. She was transferred to our facility for reasons of intervention by a medical doctor who incidentally is a family member. Subsequently, had above right knee amputation with the satisfactory outcome and histopathology revealed osteogenic sarcoma (anonymous communication).

Case 3: An 18-year-old male footballer sustained a left ankle dislocation during a training session. He was treated at a nearby tradomedical center with manipulation, reduction with some herbal preparations. He returned to the football field about a month later with satisfactory left ankle function (personal communication).

By definition, "a bonesetter is a practitioner of joint manipulation. Before the advent of chiropractors, osteopaths, and physical therapists, bonesetters were the primary providers of this type of treatment. Bonesetters would also reduce joint dislocations and re-set bone fractures; another aspect of bone setting is spinal adjustment, which is a variation of a procedure known today as spinal manipulation" [28].

Records show that "this form of treatment has been in existence since the time of Hippocrates and ancient Egypt and was passed down through the ages by families of bonesetters; similarly, traditional bone-setting has been practiced for centuries; especially in countries within the WHO African sub-region" [28].

In assessing orthodox orthopedics practice in Cameroon, "the TBS perhaps more than any other group of traditional care-givers enjoy high patronage and confidence by the society" [29-31]. Indeed, "the patronage of this service cuts across every stratum of the society, including the educated and the rich [32]. This continued use of TBS by Africans is based on the belief that it is cheaper, more available, and results in faster healing than orthodox measures" [29, 32, 33]. Many other reasons account for this patronage of TBS, including "the belief that diseases and accidents have spiritual components that need to be tackled along with treatment [34]. Reports equally revealed few cases of non-union of fractures, gangrene of the leg, and osteomyelitis needing eventual amputation is the results of the work of TBS" [29].

In a study from Banjul, The Gambia, Shen et al. [35] documented "those nine (9) children who presented with severe complications following simple limb fractures and orthopedic problems but were treated initially by TBS. Some examples include: greenstick fracture that ended up with amputation; bilateral genu vara that ended up with bilateral amputation and fracture of the femur that ended up as atrophic non- union; Four of these eventually had to have proximal extremity amputation" [36, 37]. However, other workers have also documented relatively straightforward orthopedic and fracture problems managed by TMPs with excellent results [36-38].

Apprenticeship and Promotional Programs

The TMP "have since been passed from one generation to another through training and apprenticeship. There are theoretical and practical training methods required for the grooming of trainees" [39]. This apprenticeship program significantly assists the trainees in the basic understanding of "diseases, diagnostic procedures, medicinal resources, and preparation of the necessary prescription and administration of the appropriate medications. The preparation of African TMPs involves training and promotional aspects; which invariably turn the trainees to become responsible, accommodating, hardworking, good listeners, as well as having a sense of pride of themselves and their tradition and culture – otherwise referred to as the ubuntu philosophy" [39].

Rehabilitative Services

In the African context and ubuntu philosophy, rehabilitation is carried out as a family or community duty. "Traditionally and culturally, there is no system of skills development for disabled people leading to employment. Instead, the family and the community are responsible for the rehabilitation of the disabled person. This situation gives the disabled a sense of belonging, creating an accommodating way of living through tradition, culture, norms, and taboos. Every disabled person is regarded as part of the family or community and is supported to lead a functional life" [39].

4.2 PAEDIATRICS TREATMENT

Case 4: A 52-year-old woman mother of six children claimed she had all her children treated for different illnesses at one time or the other by the TMPs in her village. She often consults TMPs before seeing modern medical practitioners or Doctors. One of her children is now a Medical Doctor today (Personal communication).

François de Villier *et al.* (2013) [40] observed that "significant numbers of pediatric care or treatment are centered around the traditional healer. Most of these treatments include: oral medicines and liniment; enema and ointment; and yet others ointment only which are also used in other countries; while the ointment is only likely to harm children when applied on fresh scarifications" [41-43]. A frequently encountered problem is the overdose of oral medicine or an enema, which often arises due to an overdose of the herbal preparation. "Parents tend to withhold the information from medical doctors about taking their ill children to traditional healers for consultation and its outcomes; Traditional healers are seen earlier than medical practitioners" [40].

TMPs lack the understanding of the pathophysiology of the disease, and as such, these practitioners portrait archaic ideology, therefore making traditional medical practice probably to be unacceptable to the modern medical practitioners [42, 43]. For instance, in one study, the TMPs regard 'fever' in a pediatric age group as a single disease entity regardless

of whether it is due to malaria or pneumonia or meningitis! [42, 43]. Therefore, the treatment is the same, and it consists of chants, prayer, ingestion of traditional concoction, and cows' urine. Oyebola, in his study, "identified over 50 chemical compounds in cows' urine concoction, some of these compounds cause severe respiratory depression of, cardiovascular system, central nervous system and also cause hypoglycemia" [38, 44].

"Resuscitation of an asphyxiated new born baby that does not respond to any stimulation is to apply hot water to the sole of the feet of the new-born, often, resulting in second to third-degree burns, usually treated in orthodox hospitals; also, a method of treating acute otitis media is the use of a goat's nasal discharge as ear drops" [43, 44].

In a similar study by Towns AM *et al.* (2014) aimed at identifying "which infant illnesses Beninese and Gabonese mothers knew to treat with medicinal plants and for which illnesses they sought biomedical care or traditional healers" [45]. The findings suggested that "the participants from both countries were most knowledgeable about plants. Mothers also frequently mentioned the use of plants to encourage children to walk early, monitor the closure of fontanelles, and apply herbal preparations to treat respiratory illnesses, malaria, diarrhea, and intestinal ailments among Beninese and Gabonese mothers" [45]. Also, from the Towns AM *et al.* (2014) study, "traditional healers were reported to have specialized knowledge of culturally bound illnesses; malaria was frequently cited as an illness for which mothers would directly seek biomedical treatment" [45]. The authors submitted that "the sub-Saharan African healthcare is essentially pluralistic, structured around three main systems: biomedical care, traditional healers, and popular knowledge [46, 47]; consequentially, the mothers largely saw the three systems as complementary, seamlessly switching between different healing options until a remedy was found" [46, 47].

4.3 EYE CARE SERVICES

Case 5: Cases of 'red-eye' or 'eye discomfort' or 'itching of the eye' are all treated the same way. That is to irrigate the eye with a solution from fermented cassava tuber or fermented maize or to irrigate the eye with cow's urine! The success rate of this is not verifiable.

Case 6: Cataract is 'cured' by 'couching,' which is to forcibly dislodge the cataract manually with hand pressure or using a sharp instrument like broomstick [48].

Similar to what obtains in the rural communities of the Cameroon, a study from Nigeria typifies the case scenarios like this, "a very frequently encountered cause of blindness and visual disabilities is the treatment of eye problems by traditional medical practitioners; for instance, in couching, the cataractous lens is dislocated, usually into the vitreous using either a sharp or blunt instrument through the pars plana" [48, 49]; meanwhile, in another literature, "all the nine patients treated by TMPs presented with poor eye vision. The visual acuity in 8 eyes, so treated, was less than 3/60" [48].

In Omoti's series, [38] after traditional couching 15.38% developed hyphaema, 61.54% developed secondary glaucoma, 15.38% developed optic atrophy, and in 33.3% vision deteriorated to no light perception. Ashaye [50] has also shown that aphakia and an increase in intraocular pressure are complications seen in traditional couching.

Traditional eye medicines (TEM) are "in most cases of unknown chemical nature, and vital parameters like sterility and pH are not controlled subjecting users to partial or total vision disability. Lizard droppings showed contamination of Gram-positive and Gram-negative bacteria and fungi. The use of the salt solution as TEM is in agreement with the traditional practice where the unrefined salt solution is used for washing the eyes and regarded harmless [51] or flushing of eyes with the salt solution for treating conjunctivitis caused by viruses or allergies since antibiotics are not useful in such cases" [52].

A study conducted in Tanzania by Foster and Johnson [53] showed that "25% of corneal ulcers associated with the use of traditional eye medicines indicating the magnitude of the problem. Findings from the Foster and Johnson study revealed that pH and microbial contamination were used to assess safety since ophthalmic products are supposed to be isotonic and sterile. Ophthalmic solutions are recommended to have the same pH as the lacrimal fluid i.e., 7.4, although pH values ranging 7 to 9 are tolerated by the eye without marked irritation" [54]. The pH obtained was ranging from 2.5 to 6.57. "Acidic products are not safe to the eyes as they are known to cause considerable redness and burning effects [55]. Python excreta, lizard droppings are harmful TEM and sources of microbial contamination likely to cause infection. It is similar unfortunate products are also used as TEM in other countries, and they include; a ground cowries, donkey and cow dung, human sputum, bird urine, etc.," [51].

"Due to the unawareness of the negative health risks associated with TEM, traditional healers prefer using substances that cause pain and irritation. The effects are considered as temporary and painful medications in particular as therapeutically effective. TEMs causing pain are likely to bring great damage to both extra-ocular tissues and intraocular tissues of perforated eyes" [55]. "The reported case from Nigeria, where a 39 old man suffered from ocular discomfort and eventually blindness after applying the raw cassava extract in eyes is a good example to disqualify such thinking" [56].

"It is evident from the preceding that the majority of TEMs reported in this study are from botanical sources. The majority of study participants interviewed (i.e., information providers) were unaware of the various bizarre attendant health-risks associated with TEMs use. Traditional healers need to be informed about the importance of this aspect. There is a need to educate the public on this situation to rescue the users from blindness. On the other hand, scientific studies are essential to identify bioactive compounds and develop safe products" [56].

4.4 REPRODUCTIVE HEALTH SERVICES

Shewamene *et al.* (2017) [57] conducted a systematic review of the use of traditional medicine to address "maternal and reproductive health complaints and well-being by African women in Africa. The prevalence of TM use among African women was as high as 80%. The most common TM used as an herbal medicine for reasons due to the treatment of pregnancy-related symptoms. Frequent TM users were pregnant women with no formal education, low income, and living far from public health facilities; as a result, the authors concluded that African women widely use TM for maternal and reproductive health issues due to lack of access to the mainstream maternity care" [57].

Moreover, "many traditional midwives live in rural and often isolated communities. They may work at a considerable distance from health facilities and are often older mothers; many are post-menopausal. In the northwestern region of Cameroon, significant numbers of these midwives are also herbalists, or specialize in other traditional healing practices as a result commonly referred to as traditional birth attendant (TBA)" [57, 58]. In a review by Kuete V *et al*., (2010), "they submitted that many developing countries including Cameroon have mortality patterns that reflect high levels of infectious diseases and the risk of death during pregnancy and childbirth, in addition to cancers, cardiovascular diseases and chronic respiratory diseases that account for most deaths in the developed world; therefore, several medicinal plants are used traditionally for their treatment, especially the maternal and reproductive health issues" [59]. "Plants used in traditional Cameroonian medicine with evidence for the activities of their crude extracts and derived products were discussed. A considerable number of plant extracts and isolated compounds possess significant antimicrobial, anti-parasitic including antimalarial, anti-proliferative, anti-inflammatory, anti-diabetes, and antioxidant effects. Most of the biologically active compounds belong to terpenoids, phenolics, and alkaloids. Terpenoids from Cameroonian plants showed the best activities as anti-parasitic, but rather poor antimicrobial effects. The best antimicrobial, anti-proliferative, and antioxidant compounds were phenolics" [59].

Sibley LM *et al.* (2012) reported that between the 1970s and 1990s, "the World Health Organization promoted TBA training as one strategy to reduce maternal and neonatal mortality; and till date, evidence in support of TBA training is limited but promising for some mortality outcomes" [58]. The Sibley LM *et al.* "project had the objective of assessing the effects of TBA training on health behaviors and pregnancy outcomes. They submitted that traditional birth attendants (TBAs) are important providers of maternity care in developing countries and many women in those countries give birth at home, assisted by family members or traditional birth attendants (TBAs)" [58]. "TBAs lack formal training, and their skills are initially acquired by delivering babies and apprenticeships with other TBAs. Governments and other organizations have conducted training programs to improve their skills and to link TBAs to health services. There is disagreement about whether these training programs are effective. In the past 30 years, several efforts have been made in Africa to improve the skills and practices of traditional midwives, often referred to as Traditional Birth Attendants (TBAs)" [60]. However, "most of these training programs failed to give attention to the working environment of the TBAs. For traditional midwives to be able to provide optimal care, an enabling environment has to be provided, and their collaboration with nurses and doctors in health facilities strengthened. Moreover, they must have access to basic medical equipment, such as gloves, scissors, etc. They must also have a reliable means of transportation to be able to have timely access to their patients" [60, 61].

Miller T *et al.* (2017) identified "a number of barriers to implementation community-based TBA programs which included resistance to change in more traditional communities, negative attitudes between TBAs and skilled attendants and TBAs concerns about the financial implications of assuming new roles. Facilitating factors included stakeholder involvement in devising and implementing interventions, knowledge sharing between TBAs and skilled birth attendants,

and formalized roles and responsibilities and remuneration for TBAs" [62]. They concluded that "if barriers identified in this analysis are not properly addressed; they may prevent or discourage TBAs from carrying out newly defined roles supporting women in pregnancy and childbirth and linking them to the formal health system. In most cases a multi-faceted approach is needed to prepare TBAs and others for new roles, including the training of TBAs to strengthen their knowledge and skills to enable them to be able to assume new roles, alongside the sensitization of healthcare providers, communities, women and their families" [62].

In a related development, "from the United Republic of Tanzania, in the Kilombero and Hai districts (Morogoro and Kilimanjaro regions respectively), TBAs have become partners in a program for the prevention of mother-to-child transmission of HIV/AIDS (PMTCT) [61, 63]. This program is being implemented by the district health authorities with the technical assistance of Axios and funding from the Elizabeth Glaser Paediatric AIDS Foundation, UK. About 400 TBAs have been mobilized and trained in the provision of HIV/ AIDS education to clients, in the mobilization of women for voluntary counseling and treatment (VCT), in the provision of directly observed treatment (DOT) to HIV + mothers who are on Nevirapine treatment who deliver at home, and postnatal referral of these mothers to health facilities to allow their infants to receive Nevirapine syrup" [61, 63]. "This initiative is in line with the Regional Strategy on Promoting the Role of traditional medicine in health systems that call for integration into health systems of traditional medicine practices and medicines for which evidence on safety, efficacy, and quality is available and the generation of such evidence when it is lacking" [61, 63].

4.5 MENTAL HEALTH SERVICES

"The characteristics of TM users with mental health disorders were exhaustively discussed in two Nigerian studies" [64-66]. "The determinants for the patronage of TM include the family members, and caregivers of children with epilepsy who came from low socioeconomic backgrounds and individuals of lower levels of education were more likely to use TM [64-66]. Patients with schizophrenia who are older (>40 years), less educated, reside in a rural setting, and practice African traditional religion were more likely to use the services of a traditional healer" [64-66]. This same study further reported that "patients with schizophrenia who are Christians were likely to visit a psychiatric hospital and faith healer compared with their counterparts practicing African traditional religion [66]. Another study from Sudan reported that mental health patients who visit traditional healers were men, with an average age of 31 years, illiterate or with only primary education, and unemployed" [67].

"The African concept of disease and medicine is the foundation of traditional medical treatment; in countries of the African Region, medicines have a personality and potent living force, but the situation is completely contrary to what obtains in other regions of the world" [64-66]. "For example, the management of neurosis is markedly different in Africa than elsewhere. African THPs make use of divination to unravel the mental and psychological problems of their patients. Divination, therefore, plays a significant role in the treatment of neurosis and helps re-trace a patient's life from its metaphysical past to how it interplays with the present and future [67]; subsequently, the THP provides for a link between a patient and the patient's own social, cultural, and intellectual environmental background" [67].

"Studies have shown that the number of common mental disorders recorded among patients consulting THPs is twice as great as that recorded for those attending a primary health care clinic [68]. The most common symptoms presented in both settings were fatigue, obsessions, worries about physical health, and depression. However, people who seek traditional medical treatment are more likely to have chronic complaints and to have seen several doctors" [68]. "These results suggest that THPs are a last resort for patients with long-term health problems, who may be unhappy with the outcome of biomedical treatment; generally speaking, primary health care consultations are free, but very short, with little time to discuss symptoms or their causes" [68].

4.6 SOME SYSTEMIC EFFECTS

The most common cause of acute renal failure at the St Elizabeth Catholic General Hospital, Shisong- Cameroon is "the ingestion of herbal concoction prepared by the traditional doctors. Also, a report from Australia [69] presented six patients with severe hepatitis resulting from the ingestion of herbal remedies of 'black cohosh.' One patient had to have urgent liver transplantation [69]. A 17-year-old boy was given a traditional concoction to drink to enhance his sexual performance; eventually lapsed into a coma a few hours after drinking the concoction" [70]. What a price to pay for love!

4.7 UNVERIFIABLE CLAIMS

In most rural communities, especially in Cameroon, "our local TMPs have made many dramatic claims of successes that are not verifiable, yet many people in the young developing countries including the policymakers believe these claims! They claim to have 'cure' for all ailments and diseases including jaundice, snake bite, cancer, HIV/AIDS, they even 'separate' Siamese twins (personal communication). There are no categorical statements on how these feats were achieved, and they could not present the 'cured' patients because, as many of them told me, this is our trade secret!"

In addition to the above, "their preferred treatment for a fresh cut-wound is to rub it with old cows' dung. Yet they claim there was no case of tetanus from such treatment. Some also claimed that they could 'cure' sickle cell disease, 'cure' infertility, make people rich, and make skin impervious to gunshots! The ingredients for some of the concoction include individual parts like the tongue, eyes, female breast, and private parts. This may well explain the reason why occasional mutilated dead bodies attributed to 'ritual' killings are seen in Cameroon".

4.8 HERBS AND HERBAL PREPARATIONS

Practically, "all medications, whether orthodox or what some will call 'Western medicine' or traditional medications, are from plants of various species. The difference is that in Western or in Orthodox medicine, when a plant is suspected of having medicinal properties, this is processed. The active ingredient is isolated and purified. Inactive components and dangerous components are discarded. It is then tested first in animals and then in humans. It goes through many phases to determine the therapeutic dose, the toxic dose, the shelf-life, the side effects, etc., before being released into the market for human consumption. This may take a period of 5 to 8 years from the initial identification until it is certified for treatment" [26]. "In traditional medical practice, such processing of herbs into their therapeutic extracts does occur to a certain little extent. This often reduces the chances to ascertain the side effects, doses, or toxicity of the herbal medicine preparations or concoctions" [1]. Notwithstanding the limitations mentioned above there is a growing call for "effective implementation of the policy and regulatory frameworks that will also provide for the protection of traditional medical knowledge and access to biological resources; and collaboration between THPs and conventional health practitioners (CHPs) should be strengthened, particularly in the case of traditional medicine research into priority diseases like HIV, malaria, etc." [1].

4.9 CONCEPT OF ILLNESS AND DISEASE

In the traditional African setting, "there was always an explanation as to why someone was suffering from a certain disease at a particular time. According to Ayodele [23], diseases mostly revolve around witchcraft/sorcery, gods or ancestors, natural, as well as inherited. Illness in African society is different from the allopathic Western medicine point of view; therefore, illness is believed to be of natural, cultural, or social origin" [71]. Cultural or social illness is "thought to be related to supernatural causes such as angered spirits, witchcraft, or alien/evil spirits, even for conditions now known to be well understood in modern medicine such as hypertension, sickle-cell anemia, cardiomyopathies, and diabetes. African traditional beliefs consider the human being as being made up of physical, spiritual, moral, and social aspects. The functioning of these three aspects in harmony signified good health, while if any aspect should be out of balance, it signified sickness" [71]. Thus, the treatment of an ill person involves not only aiding his/her physical being but may also involve the spiritual, moral, and social components of being as well. "Many traditional medical practitioners are good psychotherapists, proficient in faith healing (spiritual healing), therapeutic occultism, circumcision of the male and female, tribal marks, treatment of snake bites, treatment of whitlow, removal of tuberculosis lymphadenitis in the neck, cutting the umbilical cord, piercing ear lobes, removal of the uvula, extracting a carious tooth, abdominal surgery, infections, midwifery, and so on" [71, 72]. According to Kofi-Tsekpo, "the term 'African traditional medicine' is not synonymous with 'alternative and complementary medicine'; and, in summary, 'African traditional medicine' is the African indigenous system of health care and, therefore, cannot be seen as an alternative" [72].

5. DISCUSSION

Over the years, "studies have been conducted on traditional herbal concoctions credited with healing properties, with the idea of incorporating it into the health care delivery system, but the results have been very equivocal and inconclusive" [73-75]. Also, some traditional medical practice claims of successes are not verifiable in its entirety. For example, the absence of tetanus from the application of cows' dung to a fresh wound as a form of treatment is not verifiable because of the latent period of the disease [73-76].

Some Nigerian traditional medical practitioners have claimed that a concoction made from the perineal washings of a woman has some neuro-transmitting and aphrodisiac properties; although, this has not been scientifically proven by the orthodox scientific method. It is claimed that if a husband ingests this concoction with his meals, the wife whose perineal washings were used to make the concoction will be the favorite of the husband. This has a very important local relevance because a husband may take more than one wife, and each competing desperately for the affection of the husband! [73-76].

During the process of interviewing some of these traditional medical practitioners, some of the information given sounds more like anecdotes than facts, and this creates problems for verification. In some of the successes claimed by the traditional medical practitioners, it is not easy to determine whether the success is due to the treatment or is due to the normal course of the disease, treatment, or no treatment. When it comes to collaboration between the orthodox and traditional medical practitioners, in many cases, the treatment philosophies are diametrically opposed to each other [73-76]. Other authors suggest that the definition of TM Practitioner by WHO may be misleading because there is no concrete evidence that they "diagnose and prevent illness" [2-4]. The more appropriate definition of a traditional medical practitioner is one who practices the "art of healing" without any formal education of the art of healing. He practices medicine without any formal license, usually in a developing country, never in a developed country where a medical degree is thoroughly scrutinized before one can be allowed to touch a patient!

Furthermore, taking the lead from the Alegbeleye BJ study [77], which showed that stopping the TM practice in our society may be a hoax rather than a reality, but with much support to relevant institutions, it may be possible to reduce the complications associated with traditional bone setting procedure.

“For now, some authors perceived that the competition between the Traditional bone-setters (TBS) and the practice of modern Orthopedics in Africa remain unhealthy in general” [44, 77-79]. “It is therefore advocated in some quarters that TBSs and Traditional healers should be trained and integrated into our community health system as is done for traditional birth attendants, especially using China as a case study [77, 80, 81]. This approach had been experimented in Nigeria and found to offer the desired solution [77, 82, 83]. China and India also have a rich tradition in the healing art. Recently the Chinese and Indian governments have made significant efforts to integrate traditional with modern methods in the treatment of several ailments and diseases” [77, 84, 85].

Similarly, “other types of healthcare practitioners can be integrated within the primary healthcare system of a country [77, 86]. For example, a similar initiative also for incorporating the services of "local dais" and "traditional birth attendants" into primary healthcare delivery in rural India, after training in the basics of safe delivery methods, has resulted in a significant reduction in maternal morbidity and mortality” [77, 87]. The World Health Organization has taken a similar approach related to traditional healers in Africa, rural South America, and underdeveloped regions of Asia [77, 88, 89]. “This needs to be supplemented by legislation and regulations imposed upon these traditional practices to ensure that the practices are carried out in a safe manner,” [88]. For now, the road to collaboration and integration of TM services with biomedical practices appears like 'a long dark tunnel with light towards the end.'

6. FUTURE PERSPECTIVES

Future perspectives in this area include:

(a) This is a clarion call for the formal recognition of TM and the TMPs worldwide; and to establish regulatory framework policy for the qualification, accreditation, or licensing of TMPs and to support upgrading their knowledge as well as collaboration with relevant health providers.

(b) There must be an effective implementation of the policy and regulatory frameworks for the protection of traditional medical knowledge and access to biological resources.

(c) There is a great need for capacity building, in the areas of research and development, for local production of African traditional medicine at large.

(d) We equally advocate for stronger collaboration between THPs and conventional health practitioners (CHPs), particularly in the case of traditional medicine research into priority diseases such as malaria, tuberculosis, HIV/AIDS, sickle cell anemia, hypertension, and diabetes.

(e) We also advocate for the establishment of a national forum for knowledge-sharing of individual experience in favor of development of our African traditional medicine in the long run.

7. CONCLUSION

African traditional medicine as a holistic health care system is organized into three levels of specialty, namely divination, spiritualism, and herbalism. "This TM practice is shrouded in local traditions, culture, and taboos that are still relevant to the way of life of Africans. As part of measures to maximize our healthcare coverage, we need formalization of traditional healthcare services through the integration of TM into our health systems. This calls for enhanced collaboration between practitioners of conventional medicine and traditional medicine for the benefit of the people in the WHO African Region." "This strategy includes the development of mechanisms for collaboration between CHPs and THPs in areas such as patient referrals and information exchange at the local level."

"The future of African traditional medicine is bright if viewed in the context of service provision and increase of health care coverage, economic potential, and poverty reduction. Economic gains of herbal medicine cannot be overemphasized, which was also described as being highly lucrative in the international medical market." Obviously, there are yet untapped potentials also for increasing countries' revenue; employment opportunities in industry and practice; as well as capacity building with respect to partnering for large scale industrial, medicinal plants processing, packaging, marketing and research in the African sub-region thus contributing to poverty alleviation in the long run.

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INFORMED CONSENT: Written informed consent was obtained from the patient for publication of this original research and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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