

# The Role of Traditional, Complementary/Alternative Medicine in Primary Healthcare, Adjunct to Universal Health Coverage in Cameroon: A Review of the Literature

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**Abstract Background:** Traditional medicines are an important part of healthcare in sub-Saharan Africa. Traditional medicine has long been used in Cameroon and the world over in the prevention and treatment of diseases, physical and mental disorders as well as social imbalance. Building successful disease management programs that are sensitive to traditional medicine practices, achieving primary and Universal Health Coverage (UHC), will require an understanding of their current use, and roles as well as the state of regulation. This review was done to identify the role, research gaps, and suggest perspectives for future research as far as traditional medicine is concerned in Cameroon. **Methods:** Database searches were done through the internet using Google scholar, Google, PubMed, Sci-hub, books, theses, and related websites involving the use of key words in both English and French Languages. Out of the 93 articles only 12 original articles and 3 reviews met the inclusion criteria. **Results:** Studies show that 4.6% (urban settlement) compared to 94% (semi urban settlements) in Sub-Saharan Africa with Cameroon inclusive use and patronize traditional herbal medicine. One of the priorities of the African Regional Strategy on Promoting the Role of traditional medicine (TM) in Health Systems was found to be the promotion of collaboration between practitioners of traditional and conventional medicine. However, despite the health benefits such collaboration could bring to the populations, decades of disregard of traditional medicine practices and products has created mistrust between the two sectors hampering all the efforts being made to promote this potentially useful partnership. Based on this review, traditional herbal medicine plays a role in oral health, reproductive health and HIV /AIDS in Cameroon. **Conclusion:** It is undoubtedly evident that traditional medicine plays a role in primary healthcare sector in Cameroon which must be further assessed to see specific roles in achieving UHC, ensure collaboration as stipulated by the WHO as well as hindrances to collaboration and also regulation strategies to ensure quality products, practices and practitioners.

**Keywords:** role, regulation, traditional medicine, complementary/alternative, medicine, primary healthcare, UHC, Cameroon, Africa

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## 1. Introduction

Traditional medicine (TM) refers to health practice, approach, knowledge, and beliefs incorporating plant, animal, and mineral based medicines, spiritual therapies, manual techniques, and herbs applied singularly or in combination to treat, diagnose, and prevent illnesses or maintain wellbeing [1]. The most common practice in traditional medicine across the African continent is the use

of medicinal plants. In many parts of Africa, medicinal plants are the most easily accessible health resource available to the community [2]. In Cameroon, like in many other African countries, 80% of the population uses traditional medicine based on plants to improve its health state [3]. Herbal medicines include herbs, herbal materials, herbal preparations and finished herbal products that contain as active ingredients parts of plants, or other plant materials, or combinations. Notably, TM still remains an important source and sometimes the only source of healthcare for millions of people in the Low and Middle

Income Countries [4]. Despite limited investment in the development of African traditional medicine (ATM), its usage for the prevention and treatment of diseases continue to be widespread across Africa [5]. Generally, ATM is regarded as more accessible, affordable and acceptable to local populations and can therefore contribute to the attainment of universal health coverage (UHC). For instance, the average ratios of THPs and medical doctors per population in SSA are respectively 1:500 and 1:40 000 [6]. Healthcare can be sought from different sectors in society: the popular sector among family, friends and relatives; or the professional sector among health professionals; or traditional healers in the folk sector [7]. Traditional medicine (TM) is either the mainstay of healthcare delivery or serves as an adjunct; in some countries it is termed complementary and alternative medicine (CAM) [7].

## 2. Perspectives from Some African Countries

Many people in Ghana fully accept orthodox science-based medicine, but traditional medicine is still held in high regard [8]. In today's Ghana, a traditional Medical Directorate has been established in the ministry of health to provide a comprehensive, recognizable, and standardized complementary system of health based on excellence in traditional and alternative medicine. Establishing centers for integrating scientific research into plant medicines and incorporating traditional medicine into university curricular are now the current status in Ghana [9]. Also, degree-awarding traditional medical schools now train and graduate traditional medical doctors [9]. Traditional medicine in Tanzania is used by people of all ages in both urban and rural areas for both simple and chronic diseases [8]. As it stands today, the traditional medical practice is under the Ministry of health. Efforts are being made to scale up traditional medical practice by creating awareness of the importance of traditional medicine and medicinal plants in health care and training of traditional health practitioners on good practice, conservation, and sustainable harvesting [10].

In regions of Ethiopia where modern public health services are limited or not accessible, 80% of the population relies on traditional medicine for primary health care [11]. Traditional medical services are also sought in urban areas of Ethiopia, where allopathic services are more readily available, and contribute considerably to the public health care system in Addis Ababa, the capital city [11].

Like other African countries, South Africa has a pluralistic system of healthcare, in which modern medicine practice coexists with other non-conventional health systems. These include a variety of indigenous systems based on traditional practices and beliefs [12]. Consumers of African Traditional medicine come from all classes and categories of society, including different ages, education levels, religious practices and occupation [13,14]. Study in South Africa demonstrated the dualism in health seeking patterns of those involve in HIV infection therapy. The majority of people living with HIV and AIDS consulted THPs first before visiting conventional

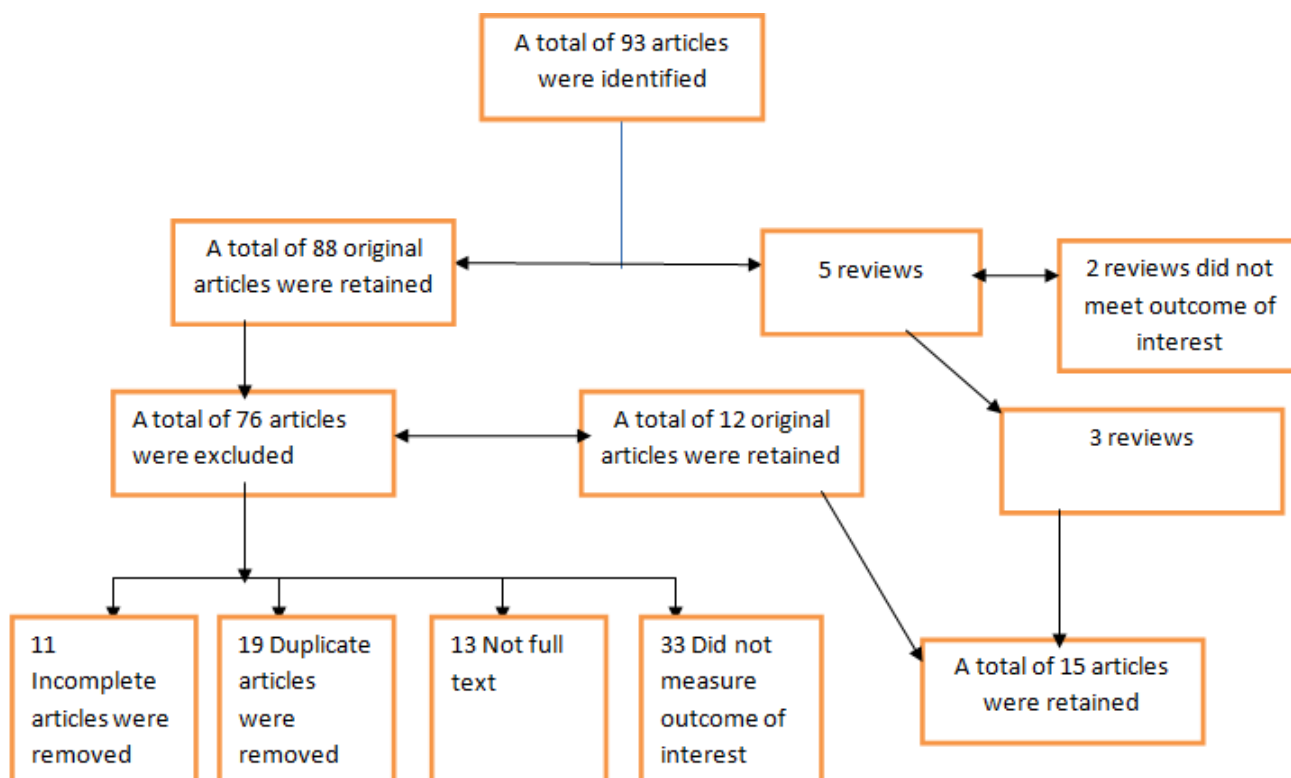
medicine practitioners [15]. Many individuals on antiretroviral treatment (ART) also reported the use of Traditional medicine concomitantly [16,17]. In Nigeria, and indeed the entire West Africa, high population growth rate (2.8% annually) and poverty coupled with declining economic reserves in the country makes Nigerians to resort to more affordable sources of Traditional medicine for their immediate health needs [18].

The World Health Organization (WHO) has recently published a 10-year strategy (2013-2023) to encourage member states to develop policy to incorporate TM in health systems planning [7]. The aim of the strategy was to help member states “harness the potential contribution of TM to health, wellness and people-centered health care” and “promote the safe and effective use of TM by regulating, researching and integrating TM products, practitioners and practice into health systems, where appropriate, and to support Universal Health Coverage through appropriate integration of traditional medicine services and self-health care into national health-care systems [7]. The Alma-Ata declaration on primary health care (PHC) by the WHO in 1978 witnessed a response from several countries to improve their traditional medicine use and regulation of use within primary health care [19]. Although countries such as Ghana, Zimbabwe as well as some western countries have adopted and even incorporated traditional medicine as a component of primary healthcare in the main health care system, little is known on the role this sector plays in PHC delivery in Cameroon as well as its regulation. The purpose of this review is to identify available literature that examines or discusses the extend of research on the role (as in patronage, satisfaction derived and health seeking behaviour) and regulation of TM in PHC in Cameroon. Reviews are one of the best sources of evidence; our study is also envisioned to provide pooled estimates about the role of traditional medicine in Cameroon as well as its regulation which are more dependable than evidence from single studies. This evidence is needful as it will inform researchers, and guide policy makers on loopholes for future research and decision making respectively.

## 3. Methodology

Cameroon has about 90% of the African ecosystems which includes; the Sahelian, Sudan, humid tropical forest, afro mountains, coastal and mountain eco-regions. There is a significant diversity of flora and fauna and ranks the 5th in Africa. Cameroon has a rich biodiversity and ethnic groups which contributes a unique ethno pharmacopoeia and a national therapeutic patrimony, which is the richest in Africa [20].

An extensive literature survey involving database searches was done through the internet using Google scholar, Google, PubMed, Sci-hub, books, reports from national and international organizations, theses, and related websites. Keywords used in the search were: Traditional/ complementary/ Alternative/ herbal medicine; traditional medicine practices; Cameroon; Orthodox; traditional practitioner; traditional health practices; AND one or more of the terms: primary health care; UHC; role of; integration; regulation.



**Figure 1.** Flow diagram for Inclusion and exclusion criteria for articles used in the review

The literature search was inclusive for both qualitative and quantitative research articles and non-research articles such as articles within journals or magazines. Literature excluded from the review either; focused on documentation or identification of medicinal plants and their preparation methods and/or uses. Examination of the biological activity or phytochemical constituents of medicinal plants identified were also excluded. This search was limited to articles published between the years 2000 and 2019. Our search identified a total of 93 articles amongst which only 12 original articles and 3 reviews met the inclusion criteria. The Joanna Briggs appraisal tool [21] was used for the inclusion and exclusion criteria for the articles as shown on Figure 1.

## 4. Results

### 4.1. Primary Health Care in the Household or Community (Role of Herbal Medicine)

Many Cameroonians today, especially those in the rural areas and the urban poor, rely on the use of herbal medicine when they are ill. In fact, several rural communities in Africa still have locations where traditional herbal medicine is the major and in some cases the only source of health care available [22]. Thus, there is no uncertainty about the acceptability and efficacy of herbal remedy within the African society. From this review, the role of traditional herbal medicine in health care was examined in terms of patronage, satisfaction derived and healthcare seeking behavior among community members. A systematic review article on the role of traditional complementary and alternative medicine in the Sub-Saharan Africa with Cameroon inclusive,

showed complementary and alternative (CAM) product use in the general population [22,23,24], with substantial prevalence ranging from 4.6% (urban settlement in Ethiopia) to 94% (semi-urban settlements in Nigeria and Ethiopia), with an estimated average of 58.2%. At least half ( $n=23$ ) of the study population in the majority of the studies reported use of CAM products. Related utilization rates were obtained among large sample size ( $\geq 500$ ) studies and small sample size ( $< 500$ ) studies [22,23,24].

In a cross-sectional study conducted in the rural and urban populations of Bui Division, in the North West Region of Cameroon, Questionnaires were administered to inhabitants who use the services of Traditional Healers (TH) [25]. More than two thirds (67.3%) of the community members were satisfied with the treatment the TH provided and those who were dissatisfied reported that there was no significant change in their presented complaint and pain persisted even after treatment. For 76% it takes about 30 minutes to get to a TH and for more than half an average of 4 hours to get to the nearest oral health care facility [25].

Medical pluralism (the use of multiple health systems) is common among people living with HIV/AIDS (PLHIV) in sub Saharan Africa (SSA) [26,27]. Formal calls for the integration of Orthodox and traditional health care for people living with HIV have been made since at least the early 1990s, when the World health organization (Who) recommended that traditional medicine be included in national responses to HIV [28]. Early efforts to combine the best of both systems included a number of projects that looked at the usefulness of traditional herbal remedies for the treatment of illnesses associated with AIDS [28]. Study conducted in Cameroon [29] showed that 71% of traditional practitioners had proper knowledge on the

transmission of HIV/AIDS while 67% based on evidence could treat oral HIV lesions.

Abdol Karim's qualitative investigation [30] in exploring potential preventative health roles show that TPs could play a role in HIV prevention, and as recommendation TPs be incorporated into AIDS prevention programmes where they can play a role in community-based AIDS education. There is increasing recognition on the role of TPs in preventing and controlling HIV/AIDS and other sexually transmitted infections (STIs) [30].

A survey by Tsabang et al., 2016 [31] showed that 84.67% of the diabetic patients in 58 tribes and in all the phytogeographic units of Cameroon use herbal medicines against diabetes.

A Study conducted in Bamboutos Division [32] of Cameroon recorded 70 medicinal plant species used in

treating reproductive health ailments which were highly patronized and used by the community members. Respondents in the study area prepared drugs for reproductive ailments, either from single plant or plant parts, or by mixing several of them [32].

#### 4.2. Improving Population Health in Herbal Clinics (Role of Herbal Homes or Clinic)

In Cameroon, as in other African countries apart from self-herbal medications a number of Cameroon's population values/frequently visits traditional healer's homes and clinics [33].

In a study conducted in Cameroon, majority (85.4%) of the tradi-practitioners manufacture their concoctions in/around their homes, while 14% of them, produce theirs in a local clinic [34].

**Table 1. Some studies on traditional (herbal) medicine in Cameroon**

Author(s) and year	Region/Study area/Study design	Article Title	Objectives	Methods
Hillenbrand, 2006	Center Region/ Yaounde/Qualitative	Improving Traditional- Conventional Medicine Collaboration: Perspectives from Cameroonian Traditional Practitioners	To show where traditional and conventional medicine meet, where they diverge, and how the relationship between modern and traditional medicine might be improved by assessing TPs views	Administration of questionnaires, Interviews and observations
Abia., et al, 2015	Northwest, West and Center/	Interest and perceptions on traditional medicines in Cameroon	To find out the perceptions, prevailing ideas and interest of consumers and tradi- practitioners of the different traditional remedies available in Cameroon	Administration of questionnaires and interviews
Tsobou, et al., 2016	West Region/ Bamboutos	Medicinal Plants Used for Treating Reproductive Health Care Problems in Cameroon, Central Africa	To obtain information about Medicinal plants used in the treatment of Reproductive problems among TPs and community members who practice TM	Participant observation, administration of questionnaires, indepth interviews
Arnold Nyiegwen Muweh Thesis 2011	SouthWest/Kumba	Modernity in Traditional Medicine Women " s Experiences and Perceptions in the Kumba Health District , SW Region Cameroon	To assess perceptions of women in the Kumba Health District regarding modernity in traditional medicine and their attitude towards traditional medicine in general	Indepth interviews, Observations and informal discussions
Titanji, et al., 2008	Center/Yaounde/	Review of unpublished library thesis	To identify plants used for antimalarial in Cameroon	Record review
Agbor, et al., 2011	NorthWest Region/Bui/Crossectional	Knowledge and practice of traditional healers in oral health in the Bui Division, Cameroon	To determine the oral care knowledge and practices of Traditional Healers (TH) on oral health delivery in the urban and rural areas . To determine factors for oral health seeking options in the community.	Adminitration of questionnaires
Orang-Ojong, et al., 2013	Impact of natural resources and research on cancer treatment and prevention: A perspective from Cameroon (Review)	Cameroon	To identify the scope and potential impact of herbal products from Cameroon as anticancer remedy.	Literature review
Tsabang, et al., (2016)	Herbal Medicine and Treatment of Diabetes in Africa: Case Study in Cameroon	Cameroon	To determine the role and motivation factors of traditional(herbal) medicine in the management of diabetes in Cameroon	Administration of questionnaires in diabetic units in Cameroon, ethnobotanical survey

Author(s) and year	Findings	Recommendations	References
Hillenbrand., 2006	TP's views revealed that they were aware of the many weaknesses of their practice and are eager to collaborate with the conventional medicine sector for their eventual inclusion into the national public health strategy. The practice of traditional medicine in the urban environment is evolving, influenced by the proximity and availability of health-care centers and pharmacies.	Educating and training of traditional practitioners will be a valuable instrument in attaining the goals of health for all especially in areas of limited medical resources	[35]
Abia. et al, ... 2015	Many participants patronized herbal medicines because they were cheap and they mostly purchase from mobile vendors and at bus stations. Some of these tradi-practitioners are specialized in treating several common but harden diseases such as rheumatism, infertility, sexually transmitted infections, pile, gastritis, prostate cancer, some cardiovascular diseases, and yeast cell The majority (85.4%) of the tradi-practitioners manufacture their concoctions or remedies in or around their homes. some tradi-practitioners (14%) actually have laboratories (or factories) where they led the manufacturing of their medications.	There is need for routine surveillance of available concoctions routinely sold by mobile vendors.	[32]
Tsobou., et al., 2016	Study documented 70 medicinal plants and their uses.	The preservation of plant species is the gateway towards developing efficacious remedies. reported plant species can serve as a basis for formal analysis of active compounds and validation of results	[37]
Arnold Nyiegwen Muweh Thesis 2011	Some women supported the fact that poor quality of modern medical services and failure of the modern health system to meet the expectations of their clients and patients cause some women to start making use of traditional medicine All women although they acknowledge the useful potentials of traditional medicine, thought that traditional medicine constitute a potential danger to health because the drugs used were untested and largely unregulated	To aid the process of modernization of traditional medicine ,I recommend that the government of Cameroon should put in place educational, professional and legal frameworks to govern the practice of traditional medicine in Cameroon. Research in traditional medicine using biomedical techniques should be fostered so that practice of traditional medicine will be backed by evidence from research.	[38]
Titanji, et al., 2008	Crude extracts and or essential oils prepared from 54 other species showed a wide range of activity on Plasmodium spp. Moreover, some 137 plants from 48 families that are employed by traditional healers remain uninvestigated for their presumed antimalarial properties	surveys and laboratory investigations are needed to fully exploit the potential of the identified species in the control of malaria in Cameroon	[39]
Agbor, et al., 2011	There is little collaboration between the oral health workers and TPs and only 6% of all patients seen by TPs are referred to the dentist. Socio-cultural and economic factors affect the oral health care seeking behavior of patients in this area and only 6.5% of patients visit dental clinics	A follow-up study, collaboration with plant scientists to investigate the plants being used by TH for healing oral problems will be useful.	[25]
Orang-Ojong, et al., 2013	Studies reveal some medicinal plants with antiproliferative effects on cancerous cells.	Assess the extent of acceptance of traditional medicines by the population in general; and the point of integration between western and traditional medicines in Cameroon.	[40]
Tsabang, et al., (2016)	84.67% of patients use herbal medicines for the management of their health condition. The belief in herbal medicine efficacy, the low cost, the easy access to herbal medicines, the percentage of patients with complications and the cases of hypoglycemia were some propelling factors for usage	Further studies like constant research of convinced antidiabetic species, toxicity tests, clinical trials and antidiabetic improved traditional medicine, are needed.	[41]

Some herbal clinics have been operating in the major towns of the country and many other Traditional mental clinics and herbal homes which serve a proportion of the Cameroonian population. These clinics handles a wide variety of ailments, ranging from Sexually Transmitted Infections (STIs), Gastritis, Filariasis, Skin Infections, Epilepsy, Chronic Dysentery and Diarrhea, Hernia and Fibroids, Appendicitis, Gout, Arthritis and Rheumatism, Diabetes, Menstrual problems, Complications in pregnancy and delivery, Typhoid and Malaria Fevers, Cancers/Tumors of all types, Heart, Liver, Spleen, Kidney, and Bladder problems, Hypertension, HIV/AIDS and many other tropical illnesses [33,34]. A new breed of Chinese doctors specializing in traditional medicine is gaining ground in Cameroon. It is estimated that at least one hundred Cameroonian patients are consulted everyday by Chinese traditional healers. Chinese clinics, shops, and even mobile drug vendors have inundated almost every town in Cameroon especially big cities such as Yaounde, Douala and Bamenda. They offer services such as acupuncture and other Chinese herbal preparations [34].

It was found that almost seven percent (7%) of the average budget in most houses in Cameroon goes to these traditional practitioners for medicines that they provide irrespective of what their income patterns were. Sixty nine percent (69%) of the patients go to the traditional healers for treatment because they do not charge them excessively [35]. In Cameroon, it is recognized that traditional healers may be instrumental in preventing the spread of the HIV virus as well as caring for the sick, particularly in rural areas with few conventional medical facilities or practitioners [35]. A descriptive case series of children diagnosed with Burkitt lymphoma (BL) in Cameroon showed that 55% of parents/guardians had consulted a TH, of whom 76.1% consulted the TH as first choice [36]. From their findings, THs were involved in BL management in Cameroon and many were ignorant about BL diagnosis and management. Hence the authors recommended collaboration with Orthodox Health practitioners [37]. Few studies on traditional herbal medicine conducted in Cameroon are shown on Table 1.

#### 4.3. Modernity in Cameroonian Traditional Medicine

Modernity in traditional medicine could be thought about as a marriage between modern medicine and traditional medicine. It could be viewed as a transition from the primitive method of traditional medicine in which witchcraft was used to diagnose and treat patients to a more scientific-based approach in diagnosis and treatment of ailments [38].

Modernity in traditional medicine is controversial as many people have different views and opinions about modernization [42]. Nyiegwen-Muwah [38] discusses modernity in traditional medicine taking into account four important points which he describes as the tenets of modernization of traditional medicine namely;

**Training:** Undertaking training of traditional health practitioners will improve traditional knowledge systems, practices, capacities and capabilities. This will consequently improve the quality and efficacy of traditional medicine.

Training of traditional medicine practitioners could involve identifying diseases that can be effectively cured by traditional medicine, so as to avoid making traditional medicine appear to be a panacea for all illnesses. Training will also help to preserve indigenous knowledge [38].

**Autonomy:** He acknowledges that granting autonomy to traditional medicine practitioners would increase their self-awareness, highlight their central role in society, and enable them to exercise their rights as traditional practitioners and citizens [38].

**Documentation:** Documentation is essential if traditional medicine is to gain status in the National Health Service [38]. Documentation has the advantages of recording the treatment successes as well as failures of traditional health remedies. Making traditional knowledge available for future generations and dispelling the false and imperialistic notions that traditional medicine is not scientific, showing evidence of the efficacy of traditional medicines and systematizing the discourse [42]. It is worth noting that most traditional practices in developing countries are not documented thus making it impossible for traditional medicine to be evaluated [38].

**Peer Education, Monitoring and Regulation**  
**Autonomy:** Training and documentation pave a way for the evaluation of traditional medicine. Evaluation may be done by independent evaluation bodies or peers. The aim of evaluation is to verify whether traditional doctors are doing what they are suppose to be doing or how well they do the things they ought to do.

In a study conducted in the Kumba health district, participants had correct perceptions as to the meaning and application of modern traditional medicine: Modernity in traditional medicine was perceived by the informants as the use of scientific methods in the diagnosis of disease before the administration of proper traditional medical products or procedures. They summarized modernity in traditional medicine as “traditional medical practice which makes use of modern medical techniques” in the diagnosis of diseases and monitoring of treatment outcome in patients [38].

### 5. Orthodox Medicine Alone or in Combination with Traditional Medicine?

The process of integrating herbal medicine with biomedicine has been slow and difficult in most countries [43].

In a study conducted by Emily Hillenbrand (2006) [35] in Cameroon, she showed that the proximity to hospitals and availability of medical tests in the urban environment primarily serves as a sort of backup for the healer. One traditional healer reported;

“It must be said that traditional medicine has evolved a lot,” said Ernest, “I often send my patients to the hospital for this or that exam— to be sure that I know at what level he has this sickness. Usually, venereal diseases, diabetes, hypertension... and after the treatment, I send him back for the control, to see if I should add something or change something.”

Emily Hillenbrand (2006) [35] still in her study conducted in the Northern Region of Cameroon found that

many patients see both traditional and modern doctors, or will get a diagnosis at a hospital and go to a traditional healer for treatment [35]. From this study, it was discovered that patients play a larger role in the integration of Orthodox and traditional medicine. In 2000, countries in Africa agreed to integrate traditional medicine into their health systems, with the ultimate aim of enhancing collaboration and complementarity between practitioners of the two systems of Medicine [35].

With reference to integration, Chan in her speech at the WHO Congress on Traditional Medicine [1] comments that; ‘The two systems of traditional and western medicine need not clash. Within the context of primary health care, they can blend together in a beneficial harmony, using the best features of each system, and compensating for certain weaknesses in each.’

From these accounts, integration can be viewed as not only the combination of pharmaceutical and plant medicine but also the combination of traditional healers and western medical doctors. Integration of both systems requires an understanding of the social and cultural constructions of each medical system and the complexity of the whole.

In Cameroon, traditional healers and biomedical doctors work independently from each other. While biomedical clinicians have known reluctance to collaborate with traditional healers, a few biomedical clinicians nevertheless engage in some sort of informal interactions with the latter [44].

## 6. Legislative and Regulatory Framework Governing Herbal Medicine Products, Practitioners and Practices

As the global use of herbal medicinal products continues to grow and many more new products are introduced into the market, public health issues, and concerns surrounding their safety are also increasingly recognized. Although some herbal medicines have promising potential and are widely used, many of them remain untested and their use also not monitored [45].

In a study conducted in Cameroon, among the 21 traditional health practitioners, 76% of them were registered with the Traditional Healer's Association of Cameroon. Increasing the number of registered TH may be a way of regulating the profession and controlling bad practices. There are no laws guiding the TMPs, products and practice in Cameroon. The TM sector is volatile and isolated and uncensored, and anyone can enter the trade and this has consequently led to breeding quacks or what is known as “charlatans” [46]. More recently, attention and policy discourses have focused on the regulation of traditional medicines. Regulators, encouraged by the WHO, have argued that regulation could improve the delivery of traditional healthcare [7]. In 1981, a Traditional Medicine Unit was set up in the Central Hospital, Yaoundé-Cameroon, followed in 1989 by the creation of a Community Health and Traditional Medicine Service with a Unit in charge of Traditional Medicine. The sector was boosted in 1990 by law n° 90/053 of 19 December 1990 on Freedom of Association. In 2002, a

service for Traditional Medicine was established in the Ministry of Health, including a unit for ethics and deontology and another for legislation and control [47].

In spite of all these, appropriate legislative and regulatory protocols for TMPs, products and practices have not been put in place, revised or followed up for proper services or collaboration.

## 7. Discussion

It is evident that there is a gap in literature that seeks to examine specifically the role of TMP for PHC and in UHC. This review highlights a relatively high use of complementary/Alternative Traditional medicine both in the general population and health subpopulations, which tally with findings of previous studies conducted in developed nations [48]. In a study conducted in Cameroon [29], more than two thirds (67.3%) were satisfied with the treatment the TH provided and those who were dissatisfied reported that there was no significant change in their presented complaint and pain persisted even after treatment. For 76% it takes about 30 minutes to get to a THP and for more than half an average of 4 hours to get to the nearest oral health care facility [29]. Ngilisho et al. (1994) [49] reported that sixty per cent of the villagers in Tanga region, Tanzania who suffered from toothache sought treatment from TH. They were treated with local herbs and obtained pain relief for months [29]. They concluded that the presence of modern health facilities did not influence the villagers' use of TH services, and that TH play an important role in the relief of acute pain, in underserved rural areas.

It is recognized that traditional medical providers may be instrumental in preventing the spread of HIV as well as caring for the sick, particularly in rural areas with few conventional medical facilities or practitioners [35]. There is evident that medicinal plants actually hold the key to combating the HIV/ pandemic hence the need for collaboration with THPs. Available evidence indicated that when THPs are equipped with referral, counseling, and communication skills, coupled with timely and accurate information on HIV, they can greatly contribute to HIV prevention, care, and support [50]. The Role of Traditional Healers in Comprehensive HIV/AIDS Prevention and Care in Africa: Untapped Opportunities.). From our findings, modernization of traditional medicine in Africa has commenced and is on-going in many nations. However its end- Modernity in traditional medicine - is still long ahead and the road is bumpy [50].

Fostering collaboration between THPs and OHPs, who often disregard the contribution of THPs to healthcare delivery, is one of the main challenges. However, this situation is changing in many African countries where stakeholders had fostered cooperation between THP and OHP. For example, in South Africa, Rachel et al [51] reported evidence-based recommendations to facilitate professional collaboration between OHPs and THPs. Similar findings were obtained in Mali, Senegal, Uganda [52] and Tanzania [53]. However such collaborations are yet to be realized in Cameroon.

As far as integration of traditional medicine in the national health system is concerned from our review, this

has not been fully realized in Cameroon. Findings are opposed to other studies which show a success in collaboration in other African Countries. Success rates of collaboration have also been recorded in Nigeria, Ghana and Kenya. Acceptance of traditional medicine as part of mainstream health care is growing. For example, both Ghana and Mali have succeeded in establishing traditional medicine clinics in hospital settings. In addition, Ghana has selected 80 traditional medicine products for use in a pilot study in primary care in hospitals [7]. Some countries such as Mali, Senegal, Uganda and the United Republic of Tanzania have created formal networks of medical doctors and traditional health practitioners working together in patient diagnosis and treatment, patient referral and research. For example, the organization, Promotion of Traditional Medicine (PROMETRA), based in Senegal, has for many years been promoting collaboration between Orthodox and traditional systems of medicine [7]. After treatment, the THP sends the patient back to the modern medical unit in order to measure the impact of the traditional medicine treatment. Physical examinations and laboratory tests are carried out before and after the treatment, and the impact and outcome of treatment are determined by comparison of pre and post-treatment laboratory results, vital signs and physical examination findings [7]. This collaboration helped to reduce health workers' scepticism and strengthened mutual appreciation, understanding and respect between practitioners of the two health systems of medicine. Integration in four countries including: Nigeria, Tanzania, Ghana and Kenya indicate that collaboration is mainly limited to herbalists [44]. The increasing uptake of TCAM services across the African continent in recent decades has attracted the attention of policy makers, researchers and healthcare professionals. In the past 20 years, the WHO regional office for Africa spearheaded the implementation of a regional strategy endorsed by African Heads of State in Lusaka, Zambia to promote the role of TCAM in health systems in the African region. The gains experienced since the adoption of the regional plan include policy formation in 36 countries and research promotion, including the establishment of TCAM research centres in some countries like Nigeria, Ghana and South Africa [7]. The regional plan has also promoted the inclusion of TCAM courses into the curricula of healthcare training institutions in countries across the continent. For instance, such plan has seen the inclusion of TCAM courses in some South African and Ghanaian universities. Although WHO has developed guidelines for the safety monitoring of herbal medicine product within the existing WHO pharmacovigilance framework [54]. The regulation of Traditional, complementary herbal products safety across Africa is still a challenge as many countries across Africa with Cameroon inclusive still lack adequate regulatory framework to ensure the safety and quality of TCAM [55].

However regulation of traditional medical practices, practitioners and products as well as collaboration with orthodox medicine or integration into the healthcare system is far-fetched in Cameroon [19].

Despite the advancement in Orthodox medicine, traditional medicine has gained renewed interest in the health care services throughout the continent [56]. This

has probably been motivated by the rapidly increasing awareness of the potential and curative abilities of alternative medicines, especially from the use of medicinal plants, as well as the inadequate access to Orthodox medicine and physicians and the high cost for modern drugs [56].

Collaborative projects have demonstrated that encouraging greater dialogue between THPs and OHPs is feasible but complex. Bringing about change in individual attitudes or perceptions is not always straightforward [57]. Compared to Senegal, Niger, and Chad where collaboration between traditional and Orthodox medicine has advanced, the collaboration in Cameroon is still at its infancy. Furthermore, TM is too valuable to be ignored in the research and development of modern drugs and it has been demonstrated that the many valuable drugs derived from plants were discovered through their application in TM [58].

## 8. Conclusions

There remains a dearth of research evidence in Cameroon on the drivers and facilitators of traditional, complementary and alternative medicine (TCAM) use, factors associated with use, the impact of use on broader healthcare (adjunct to UHC) and regulation policies. Traditional medicine occupies a very important place in health care in Africa and Cameroon in particular. About 4.6% (urban settlement) to 94% (semi-urban settlements) in Sub-Saharan Africa with Cameroon inclusive use and patronize traditional herbal medicine. From our review it is undoubtedly evident that traditional medicine plays a role in primary healthcare sector in Cameroon, if properly harnessed it can serve as an adjunct in meeting up with UHC. Thus it should be further assessed to see specific roles, ensure collaboration as stipulated by the WHO as well as sort out hindrances to collaboration and also regulated to ensure quality products, practices and practitioners.

## 9. Recommendations

From this review there is no doubt that traditional medicines plays a vital part as far as primary healthcare is concern in Cameroon. As a recommendation from this review, there should be evaluation of policies involving THPs in health care delivery in Cameroon and in Africa at large; evaluation of the impact of THPs in health care delivery and How to make traditional medicine safer and fully involved in primary health care as well as an adjunct in UHC.

With regards to regulation, there is need for researchers to work with traditional practitioners to produce scientific evidence on the safety, effectiveness and quality of their products.

It is important that researchers as well as the government of Cameroon should hasten the process of integration, collaboration and modernization of traditional medicine as it moves towards the World Health Organization's definition of an integrative health system of Traditional and Orthodox medicines, through research



on the perceptions, attitudes, practices of orthodox/traditional health practitioners towards Traditional herbal medicine, collaboration as well as regulatory policies, efficacy and toxicities should all be assessed.

## 10. Perspectives for Further Studies

Hillenbrand [35] in her study in Cameroon found that there is need for the integration of traditional herbal medicine in health care system which largely will be determined by the perceptions and utilization of community members of herbal medicine. Thus up to date studies on the perceptions, attitudes, practices and healthcare seeking behaviours of community members, orthodox and traditional health practitioners is required to foster collaboration and integration through policy formulations and regulations. More studies are also needed to test the efficacy of TP's claims for specific diseases which will equally serve as spring boards for new formulations and safety to Public Health. To better understand the role of traditional medicine, multidisciplinary collaborative research, involving the knowledge attitudes and perceptions of Orthodox health care practitioners, as well as efficacy and toxicity studies of traditional herbal medicines should be conducted as all these serve as indices of the role and as well the base for the development of new therapies for orthodox medicine.

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## Competing Interest

This review was researched and written independent of employment and the author declares no financial assistance was given nor any financial gain is promised as a result of publication. The authors declare no competitive interest.

## Author's Contribution

NDS participated in the conception, oversaw review process, supervised the work and substantially revised the manuscript for academic content; ACW participated in the conception, designing, conducted the review and drafting of manuscript. ANJC participated in design, and drafting of the manuscript and substantially revised the manuscript for academic content. NNT participated in the review, read and corrected the manuscript; All authors read and approved the final copy of the manuscript.

## List of Abbreviations

CAM-Complementary and Alternative Medicine  
 TM-Traditional Medicine  
 THP- Traditional Health Providers  
 ATM-African Traditional Medicine  
 OHPs - Orthodox Health Practitioners  
 PHC-Primary Health Care  
 WHO-World Health Organisation  
 UHC-Universal Health Coverage  
 TH-Traditional Healers

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