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Review Article

African traditional medicine: relevance, regulation, potential challenges and possible remedies

Oluwafemi O Oguntibeju

Phytomedicine and Phytochemistry Group, Oxidative Stress Research Centre, Department of Biomedical Sciences, Cape Peninsula University of Technology, Bellville, 7535, South Africa

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**Corresponding author email:*
oguntibejuo@cput.ac.za

Abstract

There is no doubt that advances have been made and significant improvement reported on the application of orthodox therapies in the management and treatment of various acute and chronic diseases. However, different reports seem to show that orthodox therapies are restricted by mechanisms of action, which tend to focus on the symptoms of the disease instead of the main cause. On the other hand, throughout history, African traditional medicine (ATM) using products majorly from medicinal plants have been applied to alleviate symptoms of various diseases such as diabetes, hypertension, infertility, parasitic, bacterial, viral and fungal infections. Globally, information in respect of certain medicinal plants and their activities has been passed on from generation to generation. Fortunately, scientific studies have been able to confirm some of these claims and established the importance of medicinal plants in health care. Although African traditional medicine has contributed significantly to health care in Africa with over 80% of the population using African traditional medicine for their primary health service, it is faced with some challenges in term of its regulation and practice. Indiscriminate or non-regulated applications of various herbal medicines has put the health of people especially in African countries at the risk of toxicity or adverse effects or even death. It is for this reason that this paper examines the relevance of African traditional medicine, its regulation, the challenges associated with its regulation and the way forward.

Keywords: Medicinal Plants, Diseases, Treatment, Management, Tradition, Africa

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Introduction

African traditional medicine is as old as nature itself and has been in use for centuries in the prevention, treatment and management of many acute and chronic diseases. The truth is, it has also evolved and undergone various metamorphosis and challenges. Several people in African countries have benefited from the use of African traditional medicine. Unfortunately, scientists/researchers and practitioners of orthodox medicine have severely criticized its use and practice (Qato et al., 2008; Mahomoodally, 2013). In few cases, there are scientists who wish to see its complete extermination or ban from public use. Is not surprising therefore that its integration into national health system in many African countries is still a very big challenge (Qato et al., 2008; WHO, 2010). Despite

the challenges facing African traditional medicine, over 80% of African population is heavily dependent on it for their primary health care and perhaps for their survival.

African traditional medicine and its relevance

African traditional medicine is known to provide a vital health care to meet health, spiritual, cultural, psychological, emotional and social needs of the African people especially that it is believed to be safer than synthetic medicines coupled with its natural content. It is possibly the oldest and the most diversified of all therapeutic medicines. It is holistic in approach involving the body and mind; usually diagnosis is made, followed by treatment which is based on psychological foundations prior to prescribing medicines (Mahomoodally, 2013). It is assumed to correspond with patients' ideology, satisfying personalised health care and allowing for greater public access (Qato et al., 2008). Its accessibility, affordability and knowledge of the local communities' play key role in the widespread use of ATM (Truter, 2007; White, 2015). Agbor and Naidoo (2016) documented that most patients visited ATM for their oral health due to low cost (60%), understands their problems better (12%), fear of death (8%) and long distance of health care delivery service (5%). It is used for health promotion and chronic conditions and has been reported to found value where orthodox medicines have been unable to solve human health problems in effectively managing known disease conditions (Truter, 2007; Cohen and Ernst, 2010). The realization of effective health care in Africa cannot be the exclusive role of orthodox medicine. The WHO has recognized the contribution of ATM indicating that ATM has a role to play in order to achieve health for all in the African continent (WHO, 2001; WHO, 2004). The traditional medicine commonly practiced in Africa is the application of medicinal plants in the preparations of most herbal therapies with history documenting that various plants have been used to manage and treat different diseases. For example, aqueous extract of *Ajuga iva* administered for three weeks at specific dose produced a significant decrease in plasma glucose levels, showing its strong hypoglycaemic effect and supports its traditional use in diabetes mellitus control (El-Hilaly et al., 2003). Various ether soluble fractions as well as insoluble fractions of onion powder show anti-hyperglycaemic activity in diabetic model (Kumari et al., 1995). Oral administration of garlic extract (*Allium sativum*) significantly decreased serum glucose, total cholesterol and triglycerides making the plant an excellent choice for use in ATM (Eidi et al., 2009). An estimated 70% of the people in Ghana use ATM while about 27 million South Africans (predominantly black) depend on ATM to treat and manage various disease conditions (Roberts, 2001; Lekotjolo, 2009).

A study reported that ATM has played a vital role in alleviating conditions such as convulsions especially in poor areas, for example in Tanzania and in some cases patients use ATM and orthodox medicine concurrently with the aim to alleviate sufferings linked with diseases. A significant percentage of hypertensive patients on orthodox medicine were reported to be simultaneously taking ATM (Amira and Okubadejo 2009). Thorne et al. (2002) opined that individuals with chronic diseases in developing countries (Africa inclusive) have attested to the benefits of ATM, primarily based on the use of medicinal plants.

In an ethno-botanical survey of medicinal plants used by Bapedi healers to treat diabetes mellitus in the Limpopo province of South Africa, Semenya et al. (2012) spent about seven months in 2011 collecting information from every Limpopo municipality. The authors used appropriate techniques to collect information from the traditional healers who participated in the study. In each municipality, the researchers selected two traditional healers randomly. Interviews were aimed at gathering data on plants used to treat diabetes mellitus in their various localities. Interestingly, of the anti-diabetic plants surveyed by Semenya et al. (2012) as being used in the management and treatment of diabetes mellitus by Bapedi traditional healers, 42% were also sources of food. This highlights the strong relationship between medicinal plants and traditional medicine in the management and treatment of various diseases including diabetes mellitus on one hand and the important role medicinal plants have played and continue to play in human health and nutrition.

Studies on red palm oil (RPO) and rooibos from our research group represent the first diabetic animal model using a combination of RPO and rooibos. To investigate the effect of RPO and rooibos tea extract (RTE) and their combined treatment on antioxidant status in an STZ-induced diabetic animal model, diabetes mellitus was induced by a single administration of STZ (50 mg/kg) and the rats treated for seven weeks. Both endogenous and exogenous antioxidants were measured including conjugated

dienes and MDA. Treatment with RPO plus RTE significantly improved specific liver antioxidants and sperm motility. The results revealed the anti-oxidative stress potentials of RPO & rooibos combination in a diabetic-diseased state, which could therefore be useful in the management of diabetes and its complications (Ayeleso et al., 2014a; Ayeleso et al., 2014b).

Kolaviron (V), from *Garcinia kola* has been documented to show significant hypoglycaemic effect in alloxan-induced diabetic rabbits. For the first time, we reported on a new biflavonoid isolated from kolaviron (Ayepola et al., 2013) that showed an additional functional hydroxyl group. There is a relationship between the number of functional groups and their scavenging power. The outcome from this study thus provides an insight into and better understanding of the mechanism of action of kolavironi with reference to its activities, especially its scavenging activities. Our group also examined the antioxidant and anti-apoptotic activities of the extract from *Garcinia kola* on a diabetic-induced animal model. We evaluated the protective effects of kolaviron on blood and hepatic (liver) antioxidants, lipid peroxidation and apoptosis in the livers of diabetic rats. The animals received Kolaviron (100 mg/kg) via oral route for 6 weeks. It was observed that diabetic rats showed significant increase in MDA levels in liver lipids. It also caused decrease in plasma glucose levels in non-diabetic normal rats and diabetic rats that were treated with kolavirion. The results indicate glucose-lowering, anti-hyperglycaemic and lipid-lowering activities of kolavirion.

Glycosylated haemoglobin (HBA1c), expressed as a percentage of total blood haemoglobin concentration is an effective index for the screening of glycemic control (how best is the glucose level controlled) over time. Higher level of HBA1c observed in our diabetic rats is due to reaction of excess blood glucose with haemoglobin. Evidence of glycemic control by KV in our study is the significant reduction of HBA1c levels in KV treated diabetic rats. Kolaviron protected the liver against oxidative damage induced by hyperglycaemia (Oyenihi et al., 2015).

In another study, our group examined the anti-hyperlipidaemic, anti-diabetic and antioxidant activities of *Acacia ataxacantha* bark extract in STZ-induced diabetic rats. We reported notable decrease in fasting blood and liver glucose levels; notable reduction in lipids and important reduction in pancreatic MDA levels (Arise and Oguntibeju, 2014).

The anti-diabetic activities of the aqueous leaf extract of *Phyllanthus amarus* was assessed in rats. In this experiment, acute toxicity test was done to evaluate the toxic effects of the plant extract; we observed that no animal died, did not show adverse sign of toxicity. In the acute phase, rats that received the plant extract, showed no adverse sign, meaning that the extract was non-toxic. The aqueous extract showed notable decline in fasting blood glucose of normal rats. Long-time oral administration of extract significantly decreased blood glucose of diabetic rats (Adedapo et al., 2014). The various above-mentioned studies and others on African medicinal plants demonstrate the relevance and importance of African traditional medicine in the treatment and management of various diseases, notwithstanding the challenges facing the regulation and practice of African traditional medicine (Oreagba et al., 2011).

Oreagba et al. (2011) evaluated herbal medicine use in Nigeria in adults who did not report having long-time diseases. In this study, the author observed frequent use of herbal medicine (66.8%). In the study, the authors reported that 25.9% of the participants used herbal medicines for no specific reason (general well-being), 20.8% to treat malaria, 16.2% for blood sugar reduction, 10.0% for fever while 3.5% used it to treat diarrhoea. In the same study, it was observed that over half of the participants consider herbal medicines as safe while a few participants reported that they experienced adverse effects due to the use of herbal medicines.

In a streptozotocin-induced diabetic animal model, Oguntibeju et al. (2016), reported that at specific dose, the plant extract *Hypoxis hemerocallidea* notably decreased blood glucose levels and improved antioxidant activities after the animals received the extract for six weeks.

It is reported that an estimated 25% of the drugs prescribed worldwide come from plants and that 121 clinically active compounds originating from plants are in current use. It is documented that out of the 252 basic drugs, 11% of them are from plants and that a number of them are synthetic drugs (Barrett et al., 1999; Rates, 2001). Some examples of drugs derived from plants include digoxin from *Digitalis* spp., quinine and quinidine from *Cinchona* spp., vincristrine and vinblastine from *Catharanthus roseus*, atropine from *Atropa belladona* and morphine and codeine from *Papaver somniferum*. It is suggested that 60% of anti-tumour and anti-infectious drugs in

the market or under clinical trial are plant-derived (Shu, 1998)

African Traditional Medicine has shown great potentials in contribution to orthodox medicine and significant number of orthodox therapeutic agents are either directly or indirectly obtained from medicinal plants (Kasilo and Trapsida, 2010). In most African countries, traditional practitioners are in greater number than orthodox doctors. For example in Ghana, it is believed that there are 10000 patients or more to one orthodox doctor, however there are 100 or more patients to one traditional practitioner. The proportion of patients to medical doctors is far more in some of the African countries than the average figure quoted for Ghana. In view of the number and coverage of African traditional medicine practitioners and their services, ATM have contributed significantly to the training and development of manpower for health care coverage in the African continent. Scientific documentation shows that 60% of children with high fever due to malaria in Mali, Nigeria and Ghana use medicinal preparations to treat it (WHO, 2001).

Ekeopara and Ugoha (2017) reported that traditional medicine has contributed to delivery of healthcare and that it has played a role in reducing child mortality, combating HIV/AIDS, malaria and child malnutrition in Africa. African Traditional Medicine is believed to promote spiritual and physical health and that this role is largely associated with the use of medicinal plants (Ekeopara and Ugoha, 2017). ATM is also known to provide mental health services through the use of leaves, roots bark of various African medicinal plants. In some cases, spiritual approach is employed along with medicinal preparations in the treatment. Traditional midwives play important role in low-risk pregnancy, childbirth and postpartum stage, helping women to have healthy pregnancy and natural birth experience. African traditional medicine practitioners are involved not only in treating sick people, they also provide training services to young men and women which provide manpower for the next generation of African Tradition practitioners. Training and promotional services of ATM assist in instilling discipline, good character and knowledge in the practitioners (Ekeopara and Ugoha, 2017).

In a study on the role of traditional health practitioners in rural KwaZulu-Natal in South Africa (Zuma et al., 2016), ATM or THP serve roles which include but not restricted to being custodians of traditional African religion and customs (an integral part of African traditional medicine), educating others about the culture, counselling, mediation and spiritual protectors. They are equally involved in difficult situations such as reconciling relationships or marriages that have gone wrong/broken. This agrees with the opinion of Abdullahi (2011) that ATM provides an opportunity through which culture and customs can be preserved for the benefit of future generations. The Kenya Demographic and Health Survey (KDHS) 2008 report shows that traditional birth attendants do play a role in child delivery, assisting 28% of births (Ministry of Health, Kenya, 2008).

The increase demand and utilization of ATM has also impressively contributed to the African economy. Mander et al. (2000) noted that ATM has contributed significantly to the South African economy. ATM has also made huge contribution to the Nigerian economy and health services and the economy of other countries in Africa (Ekeopara and Ugoha, 2017).

African traditional medicine has moved from being primitive to an advanced stage where universities now offer training in African traditional medicine. Some African countries are producing traditional medicines locally and are being used for different disease conditions (WHO, 2000; WHO, 2001, WHO, 2004; Mumo, 2012). The Nigerian government also established college of traditional and complementary medicine to train manpower in African traditional medicine. To ensure that only quality herbal products are available in the market, few African countries have established scientific research centres to conduct meaningful research into plants and their applications. This is part of the promotion of African traditional medicine and preparation for its integration into the national health system. In Kenya, there is an existing research collaboration between herbalist and the Kenya Medical Research Institute. It should be noted that few African herbs have received government approval in the management of certain ailments while African scientists continue to conduct research into medicinal plants and producing new medicines in various forms (WAHO, 2008; Mumo, 2012; Mahomoodally, 2013).

Motivation and purpose of regulation

The recognition and the reality of the fact that majority of people in Africa rely on traditional medicine for their healthcare, calls for the need to regulate its registration and practice. There is a general assumption that herbs are safer than orthodox drugs. However, studies have shown that not all herbal

products are safe and some could elicit harmful actions/effects. Several herbal products in Africa have not gone through rigorous drug approval process to assess their safety (Ekeanyanwu, 2011). It is important to note that liver problems have been linked to the use or abuse of herbal medicines. It was reported that 25% of blindness among children in Nigeria are associated with the use of African traditional medicines (Harries and Culliman, 1994). Another reason to regulate traditional medicine is the lack of standardisation of the herbs in most African countries. There must be botanical, chemical and biological standardisation of herbal products to demonstrate safety, efficacy and shelf-life. The lack of scientifically proven approved dosage in most cases is a clarion call for the need to regulate African traditional medicine. The purpose for regulation is for public safety, public protection, transparency, accountability, responsiveness, risk assessment (minimum harm, maximum benefits), standardisation and to deal with offences relating to practice and marketing of herbal products (WHO, 2005).

Regulation and registration of African traditional medicine

Sequel to high demand in African traditional medicine, WHO, researchers and African Union (AU) have suggested that ATM be integrated into the national health systems of African countries. However, this cannot be done blindly. For any integration to take place, certain things must be put in place. Like any other important aspects of the society that affects human health, ATM cannot be left unregulated if the government desire to protect the health and wellbeing of her citizens. Regulation of ATM should firstly commence with the development of national policy on ATM. For instance, the role of Nigerian government in promoting ATM dated back to 1966, the time the Federal Ministry of Health officially requested the University of Ibadan to perform rigorous research into medicinal plants and their applications. This intervention can be viewed as a possible starting key point in the regulation of ATM in Nigeria. The Nigerian government has since made improvement especially in developing an effective workable policy on ATM. The drive to institutionalise ATM into the national health systems in the African continent and repeated calls by WHO Regional Office for Africa has stimulated certain countries in Africa to have developed national policies on ATM. Interestingly, regulation and registration of practice and products is one of the components of such policies. It has been reported that 18 countries have developed national policy on safety and quality of African traditional medicines. Sadly, many countries have not implemented their policies and only few countries have put in place documents that highlights how ATM should be regulated. It is good news to report that specific number of countries have put in place frameworks that allow for appropriate regulatory council over registration and practice. A country like South Africa have an interim council for the regulation, registration and practice of ATM (WHO, 2001; Traditional Healer Organization, 2014). Three aspects are key in examining the regulation of ATM and this include regulation of traditional health practitioner (THP), regulation of practice of ATM and the regulation of traditional medicines. With regards to regulation of herbal products, the World Health Assembly has adopted a resolution for the compilation of an inventory and assessment of medicinal plants, regulation and control of medicinal plant products and that they should be included in the national formulary of pharmacopoeia of products that are safe, effective and of good quality. The question is how many of the African countries have developed national pharmacopoeia of African herbal products that have undergone rigorous standardization processes? There is still a lot to be done. Researchers need to work with traditional practitioners to produce scientific evidence on the safety, effectiveness and quality of their products. Government need to do more to establish regulatory bodies and strengthen existing structures if they want to be taken seriously on the issue of regulation of African traditional medicines. Regulation of traditional health practitioners and practice is another aspect of ATM that needs regulation. Because of the contribution of ATM to primary health system, there is the need to officially recognise its role in each country by developing national policies and establish relevant councils to regulate registration and practice of ATM. Practitioners of ATM should be equipped with the necessary skills and be provided with detailed framework on registration and practice which should include appropriate training, registration, licencing, offences, appeals and cancellation of registration and withdrawal of licences. It is believed that regulatory and legal framework will enable THPs to have functional associations and councils for effective policy implementation while membership, accreditation, registration and licencing will greatly

help in reducing if not eliminating quacks and would enhance the development or advancement of ATM in Africa (WHO, 2001; WHO, 2004; WHO, 2005). Besides, part of the regulation should provide specific training and development of programmes that are necessary to enhance better practice and communication between THP and clients.

It is important to understand and appreciate that legal requirements in respect of herbal products is different from one to the other. Although guideline to facilitate the regulation which include among others registration, marketing and distribution of traditional medicines has been developed, however each country need to develop legislative framework (WHO, 2004, 2005). It is important to note that where herbal and related products are not registered or controlled by regulatory bodies, it is recommended that a special licensing system must be put in place to allow relevant government personnel to screen and monitor the content of herbal products and ask for proof of quality, safety before marketing (De Smet, 1995; Sharad et al., 2011).

What regulation entails

Regulation of African Traditional medicine entails the establishment of a body to develop a comprehensive policy; the establishment of a national council by an act of government. The act should stipulate the objectives and functions of the council, determine who the members of the council should be, how long they should hold office (membership of the council), meetings of the council, establishment and appointment of committee members, determine the allowances of council members, establishment of state or provincial offices of the council, control the registration of practitioners, have a role on what the qualifications of health practitioners should be, renewal of certificate of registration, determine the appropriate title of practitioners, able to suspend registration of erring practitioner, be able to cancel registration of practitioner, provide guidelines for application and spelt out criteria for the practitioners to obtain a license, and the criteria to meet in order to renew their licenses. Determine and provide clear guidelines on the display of license by practitioners, determine whether non-citizen can apply for registration as African traditional health practitioner. The council should provide detailed information on the revocation, suspension and refusal to renew license, effect the suspension or cancellation of license and the council should have the power of entry and inspection of premises of African traditional health practitioner and be clear on penalties if inspectors are obstructed from carrying out inspection of premises and products (Busia, 2010; Anna, 2013; Adesina, 2013; Ekeopara and Ugoha, 2017).

Regulation and registration of African traditional medicine: selected countries in Africa

South Africa: In 2014, the Traditional Healers Practitioners Act was enacted in order to control and regulate the activities of traditional practitioners in South Africa. Through the Act, government was able to establish an interim council to detail a workable and reliable framework which will allow traditional practitioners to be registered and placed in line with their different specializations. This Act requires all the traditional practitioners to register before they can be allowed to practice; meaning that each traditional practitioner should apply to the council for registration, pay specific amount of money (registration fee) in order to obtain a practicing license. As part of the requirements, each applicant should hold South African citizenship; present character reference and evidence that the applicant has obtained relevant qualifications or training. It is hoped that legislation would be the appropriate approach to provide protection to the African traditional medicine as a profession, the practitioner themselves and the clients (Traditional Healer Organization, 2014).

Ghana: The Traditional Medical Practice Act 595 was passed in 2000. Through the Act, the government established a council with the aim to regulate the practice of traditional medicine, register practitioners and license qualified people to practice. The Act provides definition of traditional medicine as "practice based on beliefs and ideas recognized by the community to provide health care by using herbs and other naturally occurring substances". It defines herbal medicines as "any finished labelled medicinal products that contain as active ingredients aerial or underground parts of plants or other plant materials or the combination of them whether in crude state or plant preparation" (Ministry of Health, Ghana, 2012).

Nigeria: Efforts towards the regulation of traditional medicine practice in Nigeria led to the development of a national policy on traditional medicine in 2007. The policy document was designed to address issues of regulation, strategy, system and information management, human resources, development technology, financing, conservation of biodiversity, intellectual proper rights and partnership between

traditional medicine and orthodox medicine (Jegede et al., 2016). In respect of orthodox medicine, legislation is under the Federal legislative power. However, regarding traditional medicine in Nigeria, legislative power lies within the federal and state governments. There is also a Traditional Medicine Practice Bill of 2004. The bill was sponsored by Senator Yaya Abubakar (in the National Assembly of Nigeria but is not yet an Act). The regulation and registration of traditional medicine in Nigeria can be viewed from the case of Kwara State which provides a general benchmark for the regulation of traditional medicine in Nigeria since Nigeria does not currently have a national council on traditional medicine. In order to regulate traditional medicine, Kwara State government passed a law (Law of Kwara State, Nigeria, LKSN, 2006) of Traditional Medicine Regulation and Registration Law in 1994. The law stipulates appropriate guidelines to take in terms of registration, certification, offences and penalties, prohibition of certain activities, categories of registration, power to cancel registration, enter any premises, make regulations and appoint committee. Under this law, it is illegal for any person to practice as a traditional medicine practitioner without being registered. Guidelines for registration under the law are detailed in section 3(3). In order to avoid false claims, once a person is registered, the individual is given a certificate of registration and is expected to hung the registration certificate in the area of operation. To apply for registration as a traditional medicine practitioner, the applicant would be required to state the area (s) of practice. The individual would be required to identify the specific area of traditional medicine under which the person sought for registration (Kwara Sate Government, 2006). The concern is whether the government visits and monitors practice of registered practitioners to ensure compliance. It is sad to report that despite all the efforts made towards the development of traditional medicine in Nigeria, the Nigerian government has not been able to integrate traditional medicine into the national health care system due to the ineffective implementation of the national policy on traditional medicine (Egharevba et al., 2015).

Kenya: It is interesting to note that traditional medicine was integrated into Kenya's national health policy framework in the late 1970s. Kenya Development Plan (1989-1993) recognized traditional medicine and committed to promoting the welfare of traditional medicine practitioners and the general public. The Ministry of Health and regional authorities require registration of traditional medicine practitioners. In 1999, Kenya's patient law was revised to include protection for traditional medicines (Ministry of Health, Kenya, 2008).

Challenges facing the regulation of African traditional medicine

Some individuals or groups still belief that ATM refuse to agree with scientific procedures in regard to objectivity, measurement, that products used in African traditional medicine do not have detailed and adequate codification and classification (this may be true to certain degree especially the spiritual aspect of ATM), hence some oppose its registration. Traditional approaches of identification and preparation of medicinal products is still largely in question. There are arguments that it should be replaced with more accurate and reproducible methods to ensure quality, safety and consistency of the products. International and national policies in terms of regulation of the production and use of herbal products in relation to health claims also pose a problem in the regulation of ATM. The problem of harmonization of the market for herbal medicines for industry, health professionals and consumers is equally militating against its regulation. The lack of modern science-based public monographs such as European pharmacopoeia is a big challenge. There is little information on the constituents and quality of herbal products as a result of lack of up-to-date and comprehensive policies and control. Lack of intensive and comprehensive research on herbal products which will be able to provide detailed information on the individual constituents of herbal products (Richter, 2003). The problem of compliance by practitioners and poor control system has not been addressed. Training at accredited academic institution may be a challenge for would-be African traditional practitioner since accredited academic institutions may require that would-be student of African tradition medicine fulfil certain requirements before they can be admitted to pursue a formal training. In some of the African countries, there are still no accredited training institutions that are dedicated to the study of traditional medicine. One major challenge facing the regulation of ATM is the widespread of reported cases of fake traditional practitioner (although this is not limited to African traditional medicine) (Ekeanyanwu, 2011).

Notably, some herbal products used in ATM are still classified as food, dietary supplements or herbal

medicines in some countries, making regulation difficult. In some instances, the required skills are not clearly stipulated in the regulation documents. Manpower may be a challenge in the regulation and registration of ATM. Inadequate allocation of resource for ATM development and capacity building. Corruption is a big problem in Africa and this may compromise regulation and practice, consequently the quality of products and service of ATM (WHO, 2005; Giordano et al., 2005; Kantor, 2009; Busia, 2010; Sahoo et al., 2010).

The way forward

According to WHO report, some countries in Africa have appropriate framework in place for regulation of ATM and registration of practitioners. The government of some countries in Africa has put in place the relevant council to oversee the regulation of traditional medicine practice and products. Governments need to demonstrate the will and political power to control the regulation and practice of traditional medicine. Support from WHO may provide some kind of support to countries in their determination to regulate the practice of traditional medicine. The West African Health Organization (WAHO) regulatory framework could be used by countries within and outside the regional block in order to monitor practice of traditional medicine. A 2005 WHO global survey found that about 60% of WHO Members State have no national policy on traditional medicine. Without national policy, there cannot be any regulation on traditional medicine. These countries must awake to develop a national policy first. Establishment of quality control to ensure that source of plant material is authentic and microbial contamination properly handled according to principles of good laboratory practice (GLP). Proper classification of traditional medicines for registration. Proper marketing, distribution and post-marketing surveillance is key factor in tackling the challenges facing the regulation and registration of traditional medicine in Africa. Adequate and continuous education of people who use herbal products on the proper use of herbal products is highly solicited to solving the challenges. Adequate knowledge on traditional medicines by national regulatory authorities is required if the government is serious in solving the challenges (WHO, 2005; Abdullahi, 2011).

Conclusion

The application of medicinal plants is growing globally and interest in traditional medicine is equally increasing in Africa for various reasons. For an average African, it must be understood that health is not simply about the proper functioning of body organs, rather it consists of mental, physical, spiritual and emotional stability of oneself, family members and community. This understanding or knowledge should be the basis for a strong motivation in the use of medicinal plants in the treatment and management of various diseases by Africans. In the African traditional medicine, the healing process is holistic implying that the healer deals with a complete person and thus provides treatment for physical, psychological, spiritual and social symptoms. There are countries in Africa that have produced herbal products for use in the treatment of diseases such as diabetes, hypertension, malaria and infertility. As a consequence of the role that African traditional medicine is playing in Africa in meeting peoples' primary healthcare, it is important to provide proper and adequate regulation and legal frameworks to guide against fake practitioners, provide safety for the users, assess quality and efficacy, hence this article focused on the regulation of African traditional medicine, the challenges facing its regulation, registration and practice and the possible ways forward. It is envisaged that government, universities, religious organizations and African traditional practitioners will work together in tackling the challenges facing the regulation, registration and practice of ATM. There should be no delay in solving these problems if ATM must continue to play its significant role in contributing to the wellbeing of over 80% of African population.

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