

Indigenous Knowledge Creation in Africa: Bridging The Gap Between Traditional African Medicine and Modernity

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Abstract

For several millennia of human evolution and humankind search for advancement, one most neglected, unexplored but critical aspect of human development is the issue of Indigenous knowledge creation. This knowledge system is grossly underutilised chiefly because western knowledge is used to design the agenda for global development. However, recently, there is a global awareness towards using indigenous in the search for solutions to several problems that beset humanity. Critical to the different aspects of indigenous knowledge is traditional African medicine. In fact, there is no gainsaying that the neglect of traditional medicine cannot be divorced from the predicament of Africa especially regarding the overwhelming impact of diseases. Since the World Health Organization's Alma Atta of 1978, traditional medicine has come to fore in the global discussion concerning health and healing for humankind. The most debated and most compelling aspect of this is the need for the integration of traditional medicine with modern medicine. This study therefor designed is to stimulate discussion on indigenous knowledge creation and its implication for synergizing traditional medicine with modern medicine.

Key words: Modernity; Indigenous knowledge; Traditional African medicine; Integration

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INTRODUCTION

Study of the traditional medicine and the compelling interaction with modernity has not produced adequately rich theoretical literature. This literature points to what is now accepted as a basic principle of medical pluralism: although biomedicine may become structurally dominant as a result of the overwhelming influence of modern allopathic medicine in a particular setting, it is practically impossible to displace indigenous, non-biomedical alternatives. It is getting clear that traditional medicines are of great importance. Such forms of medicine as traditional Chinese medicine, Ayurveda, Kampo, traditional Korean medicine, and Unani have been practiced in some areas of the world and have blossomed into orderly-regulated systems of medicine. One major issue is the question on to advance the possibility of synergizing traditional African medicine with the modern medicine for providing health for all. However, more emphasis, placed on medical pluralism, which profoundly has been politicized, and thus culminating in serious tensions that have continued to ravage the potentiality of bridging the gap between traditional African medicine and orthodox medicine. Superficially, the idea of pluralism is geared towards the promotion of the practice of orthodox medicine and many other existing medicines e.g. Ayurvedic in India, traditional Chinese medicine, the activities of traditional healers, as well as chiropractic, naturopathy, osteopathy and homeopathy. Conversely, its underlying complexities and intricacies permeate monopolistic westernized medical practice to the detriment of traditional medicine, which by implication contradicts the urgent need to promote health for all. Since prehistoric times, humans have used natural products, such as plants, animals, microorganisms, and marine organisms, in medicines to alleviate and treat diseases. According to fossil records, the human use of plants as medicines can be traced back at least 60,000 years. The

use of natural products as medicines must, of course, have presented a tremendous challenge to early humans. It is highly probable that when seeking food, early humans often consumed poisonous plants, which led to vomiting, diarrhea, coma, or other toxic reactions—perhaps even death.

Consequently, this has generated enormous interests and tensions among the practitioners of traditional and orthodox medicine. The practice of tradition medicine has been widely acclaimed by WHO, UNESCO, AU among others for its viability, accessibility, availability, acceptability, and dependability in spite of the struggles to find its place in the overall search for health in Africa. Statistics has shown that the use of traditional medicine remains widespread in developing countries particularly some Asian and African countries in which 80% of the population depend on traditional medicine for primary health care. There is also the effort of the orthodox medicine to regulate to systematize traditional medicine. Coupled with this, is an increase in cross-cultural communication, which has resulted in the need for traditional medicine to be integrated with modern medicine (Latif, 2010, p.60). Therefore, traditional medicine is becoming an essential aspect of the agenda of an African search for her kind of modernity.

Thus, there is a compelling need for integration, collaboration and synergisation of both traditional and modern medicine for the purpose of promoting and maintaining sustainable human health. However, the quintessence of achieving this paramount motive is by dismissing politicization that is deeply engrossed in the monopolistic nature of orthodox medicine through the promotion of mutual respect, recognition, collaboration and legitimisation of traditional medicine. Hence, this paper does not definitely aim at condemning modern medicine, but it tries to bring to fore, the impending need to legitimized traditional medicine for realizing its complimentary role in the field of medicine and in the global provision of health care and services. In fact, appreciating the legacy of traditional medicine in the midst of overriding modernity is key to understanding the intersection of modernity and traditional medicine. This is one area of remarkable importance, which is often neglected in contemporary African Studies. Thus, this research lays the foundation for an appropriate intellectual dialogue on bridging the gap between the orthodox medicine and African traditional medicine, and its implications in promoting sustainable health in Africa.

This paper is particularly enchanted by Stephan's integration approach, which entails official promotion of the integration of two or more medical systems within a single recognized health care service. This approach constitutes a basic feature of medical pluralism, which has been consciously neglected or abandoned. It sees integrated training of health practitioners in both

traditional and modern medicine *vis a vis* as the official policy. According to Arnold Nyiegwen Muweh (2011, p.14), across the world, only four countries – the People's Republic of China, the Democratic Republic of Korea, the Republic of Korea and Vietnam - have successfully integrated traditional medicine into their national health care systems. This further infers that Africa particularly Nigeria is still very much behind in the integration process as none has been able to achieve such full integration experience in the continent. The paper argues that proper integration of modern and traditional medicine in Africa is visible if monopolistic politicization of the orthodox medicine can pave way for legitimisation of the tradition medicine.

IDENTIFYING AND BRIDGING THE GAP BETWEEN TRADITIONAL AND MODERNITY

The forces of modernity such as industrialism, nationalism and imperialism wave through the earth space like a wind. When it comes, it meets with indigeneity. This meeting can either be conflictual or congruous. When indigeneity resists modernity, it is conflictual and when it is accepted, it is congruous. It is on this basis Awoh (2004), is of the opinion that, Fanon, Achebe, and Mudimbe and other Africanists see the relationship between modernity and indigeneity as conflictual and incongruous, which considerably constitutes the basis for the big talk on decolonisation. As a consequence, the indigenous is regarded as the “old” while the modern is the “new and alien” (Molotlegi, 2002). Similarly, Scully (2012) argues that there is a complicated and entangled relationship between modernity and indigeneity. Gusfield (1967) refers to the issue of conflict between modernity and indigeneity as misplaced polarities, instead he argues for a synergy of the two. He further argues that indigeneity is the basis for modernity and therefore, they are not opposing ideologies, they are rather complimentary. However, others see them as two opposing phenomena such that it is the goal of modernity to eliminate indigeneity. Therefore, in their views, it is impossible to fathom any relationship between them. In some other arguments, it was demonstrated that the nature of the relationship between modernity and indigeneity, whether conflicting, polarising or synergizing depends on the moderniser, the modernised and the type of modernity.

Western modernity is therefore construed as being antithetical to African religions, as western modernity is quite alien when applied to indigenous people (Gyekye, 1977). In his interpretive analysis of Chinue Achebe's *Things Fall Apart*, Jeyifo (1993) states that in the bid of the indigenous to adjust itself to the modern, there exist a tension. This tension is exemplified in the indigenous

struggles to construct and reconstruct itself. Clearly, therefore, there exists a process of adjustment and re-adjustment, construction and reconstruction despite tensions, struggles and conflicts, which could be made possible through effective integration.

Although there were conflicts between modern medicine and traditional medicine and even the specified integration process have inherent challenges. For instance, in South Korea despite the adoption of integration approach, there were many political conflicts between modern and traditional medicine due to fees and the absence of a strong central control mechanism. As enumerated by Bodeker (2001, p.164), the possibility of integrating traditional medicine with modern medicine is profoundly accompanied with numerous challenges which include:

- The fear about the loss of some concepts in traditional medicine and the loss of the traditional medicine systems.
- The regulation of traditional medicine in most African countries is weak, which leads to the misuse of the medications and the system loses credibility.
- Practitioners and manufacturers oftentimes tend to oppose the strengthening of the regulation, as it may stifle the ancient methods of making medicine.
- The public and users of traditional medicine (TM) request safe, quality and effective remedies.
- Most of the western health practitioners and scientists doubt that TM is useful and require scientific based evidence to trust its safety and effectiveness.
- Governments need to regulate and update traditional medicine using scientific based evidence which will make it more credible.

In spite of these challenges, it has been advanced that the therapeutic essence of traditional medicine can be further enhanced through effective and efficient modernization. Odebiyi (1990, p.341) has averred that the formal recognition and cooperation with traditional healers were expected to improve health care in two main ways: enhancement of quality of care and supply of low-cost primary health care, while the consumers would also benefit from a smooth referral system. Equally important is the fact that indigenous and local knowledge(s) in alliance with the science(s) as enablers of sustainable development should play critical roles in closing knowledge and technology gaps, and directing its powers of innovation towards the eradication poverty and inequality in the world (Scientific Advisory Board, 2016). This further implies that to deal with rapid environmental and social change, not only do we need all sources of information and knowledge; we also need a diversity of ways to think and learn, adapt and transform. Thus, by combining insights and enabling exchanges between diverse knowledge systems creates a richer understanding for decision-making (Scientific Advisory Board, 2016).

As regard the issue of safety, quality and effective remedies, Jegede has strongly argued that the efforts

of the international communities to further integrate traditional medical practice with modern medicine is epitomised in the fact there have not been adequate intervention in the area of bioethics in traditional African Medicine (TAM) (Jegede, 2017). He avers that aside from reaffirming the pivotal role of traditional knowledge worldwide, the capacity to provide some essential guidelines so as to protect users and prevent any possible risk of discrimination, exploitation and danger to human life cannot be undervalued. Owing to the duly importance and the worldwide recognition of traditional African medicine as a potential field of medicine, the principles guiding traditional medicine bioethics must be adequately explored so as to meet the requirements appropriate for traditional medical practice, in terms of safety, effectiveness and quality. Indeed, every traditional medical system of knowledge, skills and practices is supposed to help improve health outcomes, including physical, mental and social well-being.

More importantly, Emeagwali and Dei have vehemently argued that for the gap between indigenous and western medicine to be properly bridged, and for indigenous medicine to serve complementary role to other existing knowledge, African medicine has to be accorded equal importance with the modern medicine (Emeagwali and Dei, 2016). This opinion largely brings to focus the need to liberalize, and subsequently, integrate traditional African medicine just as it was successfully done in China in the 1949. This was made attainable owing to the fact that the integration process in China was strictly guided by officials trained in modern medicine, while the harmonisation with modern medicine was the key goal (Latif, 2010, p.60).

THE GLOBAL PERSPECTIVES OF INTEGRATING TRADITIONAL MEDICINE WITH ORTHODOX MEDICINE

Moreover, empirical evidence globally clearly reaffirms the possibility of integrating modern medicine with traditional medicine. For instance, in China, hospitals practicing traditional Chinese medicine treat 200 million outpatients and 3 million in-patients annually. In India a parallel model was adopted by the Indian Central Council Medicine Act of 1970. The council was established to maintain good overall standards of practice and training. Also, in 2000, there were new regulations set to improve standard manufacturing practices and quality control, while drug testing laboratories were established to provide licensing authorities with high quality evidence on the safety and quality of herbal medicines. Malaysia has adopted a self-regulation by complementary professions approach to integration. In Malaysia they use the approach of having five different umbrella organisations where Indian, Malaysian, Chinese and complementary

medicines as well as homeopathy are all under different organisations. Each body recognises, accredits and trains their own discipline and separate code of ethics is determined (Latif, 2010, p.60).

In Africa, most African countries use a parallel model between western and traditional medicine. According to the African Union's plan for traditional medicine, a large number of AU countries, under the World Health Organization African Region, have policies in place and have institutionalised traditional medicine. Some of these countries are Burkina Faso, Cameroon, Ethiopia, Kenya, Ghana, and Malawi. These countries have made progress towards recognising the importance of traditional medicine and have attempted to empower traditional medicine as part of the public health care system (Van der Geest, 1997). The Southern African development community has also developed a Strategy on traditional medicine, while the Economic community of West African States has established a traditional medicine programme under the umbrella of the West African Health Organisation (WAHO). More so, in 2004, herbal medicines were prescribed and dispensed in hospitals in Ghana. Nigeria has also developed regulations for traditional medicine, however, only a draft policy has been prepared (Latif, 2010, p.60; Bodeker, 2001). However, as rightly argued by Shahzad Hussain and Farnaz Malik (2013, p.2954), there is need for public health professionals to develop a comprehensive and targeted public health research agenda, and to set policy priorities, to concentrate on the public health dimensions for the use of traditional medicine.

To this end, the research shall achieve the following objectives:

- The emergence and sustenance of networked community of bio-medical scholars who specialise in traditional and orthodox medicine in order to improve upon the practice of medicine.
- Acquainting professional health personnel and students of modern systems with the principles of traditional medicine in order to promote dialogue, communication, mutual understanding and eventual integration.
- Promotion of methodological and conceptual innovations in research on the practice of both traditional and modern medicine that enable the generation of tangible knowledge through the integration pattern and the application of this knowledge.
- Encourage a structured dialogue between traditional and orthodox medicine as part of the quest for a holistic approach to understanding and solving health challenges in Nigeria and Africa so as to build a community based infrastructure in human capacity in regards to the practice.

SELECTED COUNTRIES WITH VIABLE INTEGRATION APPROACH: A TEMPLATE

FOR AFRICA

China

The People's Republic of China entered a new period of development in traditional Chinese medicine from 1949 onwards. The new government attached great importance to it, giving energetic support to it and taking effective measures to speed up its modernisation. To "foster unity between Chinese and Western-trained doctors" became one of the principal policies for health work laid down by the government and formulated according to the actual needs of the country (Bannerman et al, 1983, p.71). The main objectives of the new strategy were, inter alia to develop, systematise and raise the level of traditional Chinese medicine; to organise ways for Western-trained doctors to learn and study traditional medicine; and to gradually modernise traditional medicine and pharmacology (Bannerman et al, 1983, p.72).

A special policy provided that no discrimination against the old medical system was to be allowed. An article of the State's Constitution stipulated that "the nation in developing health care and hygiene programmes shall develop both modern and traditional medicine" (Cai, 1988, p.525). Whereas before the liberation, traditional Chinese medicine had been regarded as illegal, after 1949, it gained a new legal status, and an integrated medical system eventually evolved (Cai, 1988, p.525). Accordingly, Bannerman et al (1983, p.72) report Chinese medicine and Chinese *materia medica* have become a part of free medical care. Pharmacies and wards of traditional medicine have been accommodated in the hospitals of Western medicine departments.

At the same time, fundamental changes in both the social status and the academic position of traditional doctors occurred. Many doctors specialised in both Western and traditional medicine, so that currently there are three types of doctors in China, namely traditional, Western-trained, and Western-trained with qualifications in traditional medicine. In many conditions, the effect of the combined treatment is much better than that of either system applied alone (Bannerman et al, 1983, pp.73-74).

In order to enable traditional doctors to master some modern science and technology, many provinces and municipalities have organised various types of training and orientation courses for teachers of traditional medicine, as well as advanced courses for traditional doctors (Bannerman et al, 1983, p.72). At present, there are twenty-three institutions of higher learning in traditional medicine, while students in the Western medical colleges are obliged to pursue some courses in the traditional system. Furthermore, China has five hundred and twenty-two hospitals of traditional medicine, and almost all hospitals of Western medicine have set up traditional medicine departments. The so-called "barefoot doctors" who work in the rural areas have all received

appropriate training in both Western and traditional methods of treatment, but most of them mainly apply acupuncture and herbal treatment.

According to Cai (1988, p.526), China's integrated medical policy is based on the conviction that both schools are aiming at a common target, the curing of disease, and that only their approach to and interpretations of the mechanism of disease pathogenesis differ. By combining the two systems, the overall clinical result will be improved. In this context it is important, however, that both traditional Chinese and Western medicine should be placed on an equal footing. Cai (1988, p.528) states that both systems "should cooperate with each other, and learn from each other's merits to make up for their respective shortcomings". Bannerman et al (1983, p.74) concur, stating that the two schools of medicine should be mutually supporting and complementary, and there should be no strife.

The Government of China has indicated its commitment to the integration of traditional and allopathic medicine on a number of occasions. Article 21 of the Constitution of the People's Republic of China, adopted in 1982, promotes both allopathic and traditional Chinese medicine. In 1988, the Central Secretariat of the Chinese Communist Party stated that both systems of medicine should be attributed equal importance. In 1997, the Government reiterated that traditional and allopathic medicine should be practiced alongside each other at all levels of the health care system.

Bannerman et al (1983, p.73) state that the unique features of traditional Chinese medicine were formed and passed down through several thousand years, and to date traditional Chinese medicine has generated over 10 000 medical books, 5 000 kinds of herbal drugs, and a wide range of clinical therapy. At the same time, the production of Chinese herbal medicines has increased and gradually developed into an industrial system over the last thirty years. According to the WHO (2001, p.149), there are 800 manufacturers of herbal products in China, with a total annual output worth US \$ 1800 million; over 600 manufacturing bases, 13 000 central farms specializing in the production of materials for traditional medicines, and 340 000 farmers who cultivate medicinal plants, on a total planting area for medicinal herbs of 348 000 acres. There are 170 research institutions across the country, one of the most prestigious being the Academy of Traditional Medicine in Beijing. Traditional Chinese medicine and pharmacology have not only contributed to the development and prosperity of the Chinese people, but have also had a significant influence on the development of medical science in general (Bannerman et al, 1983, p.70).

However, Stephan (1983, p.307) points out that it should be borne in mind that the revival of the old Chinese medical system that occurred in the People's

Republic of China resulted in a truly integrated system of health care, the procedures and structures of which were determined by party policies and implemented by representative political agencies. Thus, the successes of China's health care system are not likely to be repeated by other governments simply by imitating the methods employed. The system works in China as it does owing to the Chinese political system, and more particularly, its economic policy. Consequently, other countries can scarcely hope to adopt China's system of health care while not at the same time adopting its economic system.

India

Aside from China, India has successfully integrated traditional medicine with the orthodox medicine. The traditional systems practiced include Ayurveda, Siddha, Unani, yoga, naturopathy and the Tibetan systems of medicine (Bannerman et al, 1983, p.237). These systems are recognised by the government for the purpose of national health services. A statutory Council regulates the practice of these systems of medicine, and maintains minimum standards of education in all undergraduate colleges throughout the country. In order to promote research, the Government has also set up four independent Central Research Councils, one each for Ayurveda and Siddha, Unani, homeopathy and yoga, and naturopathy. The practitioners of traditional medicine are actively involved in the official health care delivery programme, and the Government has drawn up a list of traditional remedies for purposes of providing primary health care. There are also a number of traditional hospitals and dispensaries in the country. Tomar avers that there are over 8000 licensed pharmacies which manufacture drugs and formulations to be used by Ayurvedic practitioners (Tomar, 2016, p.13).

Evidence abounds that Ayurveda, Siddha, Unani and Yoga are now widely adopted through government policy and included in the curricula of several institutions of learning including universities, colleges of medicine, and secondary and primary schools, as well as in centres for the training of diverse types of health personnel. There are about 500,000 registered Ayurvedic (Traditional Medicine) practitioners supported with 300 Ayurvedic colleges producing 20,000 Undergraduate and 2500 Postgraduate Ayurvedic doctors every year in India but this system runs parallel in India with medical/ modern medicine. There are 108 colleges of traditional medicine, and a statutory National Central Council directs their activities, controls standards of training, education and practice, and awards recognition status, which is necessary for employment in the public health service.

One major advance in the integration of traditional medicine was the passage of the Drug Act of 1940, which also covers traditional medicaments, demand licensure for practice, and assures the safety and control of drugs in India. Thus, integration of the various systems of

traditional medicine is already institutionalized at the national and state levels, in universities and other training centres, and in the utilization of all types of personnel in health care delivery systems in the rural areas, and in drug manufacturing establishments.

SPECIFIC ACTIONS TOWARDS BRIDGING THE GAP

- The communication between orthodox and traditional medicine providers should be strengthened and appropriate training programmes be established for health professionals, medical students and relevant researchers. More importantly, training must be standardized in both traditional and modern medicine. This further implies that the western medical practitioners, on one hand, will be properly trained in the practice of traditional medicine, and the traditional practitioners, on the other hand, will as well be trained in order to be well grounded in medical practice.

- The lack of adequate institutionalization of traditional medicine is a strong draw-back as this inhibits proper utilization of traditional medicine for optimum health care. In Nigeria, considerable efforts have been made towards the institutionalization of traditional medicine at tertiary level, which has been spearheaded by the University of Ibadan. The University has successfully commenced M. A. and Ph.D. programme in Traditional African Medicine and is making remarkable progress in this field.

- There is urgent need for legalization towards legitimisation that is devoid of politicisation. Indeed, the legalisation of traditional African medicine will considerably remove every form of barriers against the practice itself, while it will as well stimulate recognition. Furthermore, the impending issues of magicalisation and mystification cannot be divorced from lack of legalisation. Once traditional African medicine is legalized, magicalisation and mystification phenomenon will be properly regulated for the purpose of promoting professionalism in traditional medical practice. This can be achieved through the incorporation of traditional medicine as an integral part of a country's formal health care system, with each being separately recognized as legitimate forms of health care within the same framework.

- The formation of professional boards will enable control and regulation and protect the users and the practitioners. For instance, in Lagos Nigeria, there is a considerable improvement in this regard with the formation of Lagos State Board of Traditional Medicine. This implies that each field must have a framework of practice and share knowledge.

- The ensuing formation of professional associations should be seen as a political move by the healers themselves to achieve social acceptability in accordance

with European criteria.

- There is need to regulate the practice of traditional healing by issuing licences to those whom the government officers judge to be competent.

- It is as well crucial to establish a research institute of traditional medicine so as to foster research projects on traditional medicine in universities.

- Research activities in traditional medicine must also be formulated based on challenges as found in western medicine. This will give a brighter future to this area of research and position traditional medicine research to play a critical role in global health as in China, India, Nigeria, the United States of America and WHO have all made moderate research investments in traditional herbal medicines (Antwi-Baffour *et al*, 2014, p.51).

- It is imperative to dismiss the usual prohibitions against cooperation with non-physicians that is included in codes of medical ethics and other laws regulating professional conduct in allopathic medicine for the integration to be realistic.

CONCLUSION

Several scholarly research and studies both within and outside Africa have considerably acknowledged and reaffirmed the fact that traditional African medicine has lots of hidden realities with regard to sustaining human health and promoting the ontological harmony between man and its environment, much of which have largely remained unraveled due to lack of legitimation, sufficient scientific research, as well as collaboration and synergy with modern medical practice. This has constituted immense gap in the professionalism of traditional medicine. Hence, for the intrinsic utility of traditional African medicine to be properly tapped for wider use and benefits of mankind, traditional must be duly recognised as a medicine with complementary potentials and roles not only in Africa but whole world at large. According to WHO Report of 1978, the basic key to bridging the gap between traditional medicine and modern medicine is mutual respect, recognition and collaboration.

REFERENCES

- Adelaja, A. (2006). Nigeria boosts research into traditional medicine. *Science and Development Network*.
- Antwi-Baffour, Samuel S. *et al*. (2014). The place of traditional medicine in the African society: The science, acceptance and support. *American Journal of Health Research*, 2(2), 49-54.
- Awoh, K. (2004). Democratic development: Gender insights from the grassroots in Nigeria. *Canadian Journal of Development Studies*, 25(2), 292-309.
- Bannerman, R. H. (1982). Traditional medicine in modern health care. *World Health Forum*, 3, 8-26, 90-94.
- Bannerman, R. H., Bibeau, G., Dunn, F. L., Fosu, G. B.,

- Heggenhougen, K., Maclean, U., & Zempleni, A. (1981). Professional associations, ethics and discipline among Yoruba Traditional Healers of Nigeria. *Social Science and Medicine*, 15B, 93-102.
- Bannerman, R. H., Burton, J., & Wen-Chieh, Ch'en (Eds.) (1983). *Traditional medicine and health care coverage*. Geneva: WHO.
- Cai, J. F. (1988). Integration of traditional Chinese medicine with western medicine: Right or wrong? *Social Science and Medicine*, 27, 521-529.
- Churchill, W. (2003). *I am Indigenist: Notes on the Ideology of the Fourth World*. New York: Routledge Press.
- Emeagwali, G., & Shizha, E. (2016). Interconnecting history, African indigenous knowledge systems and science. In G. Emeagwali & E. Shizha (Eds.), *African indigenous knowledge and the sciences (journey into the past and present): Anti-colonial educational perspectives for transformative change*. Rotterdam. Boston. Taipei: Sense Publishers.
- Geschiere, P., et al. (2008). *Indiana reading in modernity in Africa*. Indiana University Press.
- Gusfield, J. R. (1967). Tradition and modernity: Misplaced polarities in the study of social change. *American Journal of Sociology*. University of Chicago Press.
- Gyekye, K. (1977). *Tradition and modernity: Philosophical reflections on the African experience*. New York.
- Hussain, S., & Malik, F. (2013). Integration of complementary and traditional medicines in public health care systems: Challenges and methodology. *Journal of Medicinal Plant Research*, 7(40), 2952-2959.
- Jegade, O. C. (2017). *Taboos and medicine in traditional African medicine: The unexplored aspects of bioethics*.
- Jeyifo, B. (1993). Okonkwo and his mother: *Things Fall Apart* and issues of gender in the constitution of African postcolonial discourse. *Callaloo*, 16(4), 847-58.
- Latif, S. S. (2010). *Integration of African traditional health practitioners and medicine into the health care management system in the province of Limpopo*. A thesis presented in partial fulfilment of the requirements for the Degree of Master of Public Administration, University of Stellenbosch.
- Muweh, A. N. (2011). *Modernity in traditional medicine women's experiences and perceptions in the Kumba health district, SW region Cameroon*. Master Thesis Submitted in Partial Fulfillment for the Award of Master of Science Degree in Public Health Sciences, UMEA University.
- Scientific Advisory Board (2016). Indigenous and local knowledge(s) and science(s) for sustainable development. *Policy brief by the scientific advisory board of the UN secretary-general*, October 5, 2016.
- Scully, P. (2012). Indigeneity agency and modernity. *Culture and Social History*. Berg Publishers.
- Stephan, J. (1983). Legal aspects: Patterns of legislation concerning traditional medicine", in Bannerman, R. H. et al (eds.) *Traditional medicine and health care coverage*. Geneva: WHO.
- Taylor, B. (2005). A new (old) religion and politics. In B. Taylor (Ed.), *Encyclopedia of religion nature*. London and New York: Continuum.
- Tomar, B. S. (2016). *Integration of the traditional medicine of the individual country to modern medicine is the better way of medical health care*. The 5th Global Congress for Consensus in Pediatric and Child Health.
- Tuhiwai Smith, L. (1999). *Decolonising methodologies: Research and indigenous peoples*. London: Zed Books, Oxford University Press.
- Wells, K. B. (1999). Treatment research at the crossroads: The scientific interface of clinical trials and effectiveness research. *Am J Psychiatry*, 156, 5-10.
- WHO. (1978). *The promotion of and development of traditional medicine: Report of a WHO meeting*. World Health Organization Technical Report Series.
- Yuan, H., Ma, Q., Ye, L., & Piao, G. (2016). The traditional medicine and modern medicine from natural products. *Molecules*, 21(5), 559.