

E-ISSN: 2321-2187 P-ISSN: 2394-0514 IJHM 2019; 7(6): 23-30 Received: 13-09-2019 Accepted: 15-10-2019

Albert Ahenkan

Department of Public Administration and Health Services Management, University of Ghana Business School, Post Box, LG 78, Legon, Accra, Ghana

Foster Opoku-Mensah Abrampa

Department of Public Administration and Health Services Management, University of Ghana Business School, Post Box, LG 78, Legon, Accra, Ghana

Emmanuel Kwesi Boon

International Centre for Enterprise and Sustainable Development (ICED) 38 Adjirigano Street, East Legon P. O. Box KA16461, Airport-Accra, Ghana

Corresponding Author: Albert Ahenkan Department of Public Administration and Health Services Management, University of Ghana Business School, Post Box, LG 78, Legon, Accra, Ghana

International Journal of Herbal Medicine Available online at www.florajournal.com



Integrating traditional and orthodox medical practices in healthcare delivery in developing countries: Lessons from Ghana

Albert Ahenkan, Foster Opoku-Mensah Abrampa and Emmanuel Kwesi Boon

Abstract

Over the years, traditional and modern healthcare practices are combined in different proportions in the treatment of ailments in different societies. The call for the integration of traditional and modern health systems has gained prominence in the global health development agenda. This paper examines the critical factors that influence the integration of traditional medical practices (TMPs) and orthodox (modern) medical practices (OMPs) in Ghana via a case study of the Wenchi Municipality in the Brong Ahafo Region. A qualitative research approach was used to analyse pertinent existing literature on the subject while field was collected through face to face interviews with orthodox and traditional healthcare providers as well as healthcare seekers. Purposive sampling was employed to select 35 key informants for interview. The information collected from desk research and field work was subjected to content analysis and the results systematically presented in this paper indicated that, the critical factors that influence the integration of traditional health system and the orthodox or modern health system in the Wenchi Municipality in Ghana were multi-dimensional in character and included policy and institutional difficulties; poor attitude of both the orthodox and traditional healthcare providers; inadequately trained traditional healthcare providers; improper diagnosis and dosage of traditional medicines; and unethical practices.

Keywords: Traditional medicine, orthodox medicine, traditional medical practitioners, and orthodox medical practitioners

1. Introduction

All over the world, individuals with health needs have the possibility to seek assistance from different healthcare providers ^[1] such as modern and western trained orthodox medical professionals or from traditional/alternative medical practitioners. In some cases, the services of healthcare providers from the two systems are used as complements while in other cases they are employed as substitutes ^[2, 3]. Although extensive research has been done on these two types of health systems ^[3-5, 8-10], these studies mostly compared numbers such as the percentage of individuals who use the services of practitioners in the two systems. Literature indicates that 80% of rural and 72% of urban healthcare seekers have at least respectively used traditional and/or orthodox medicine ^[3, 5]. Some of these studies focused on factors that influence the choice of health seeking behaviour such as poverty; cultural values; religious background; availability and/or perceived quality of medical care; location; generation; age; gender; and the kind and nature of health problems ^[5-13]. Other factors influencing health seeking behaviour include accessibility to healthcare services; the efficacy of treatment; perceived side effects; the level of education of healthcare seekers; acceptability of health services provided; availability of employment; population growth; trust in caregivers; and urbanization ^[2, 14].

1.1 Unpacking the semantics

Traditional medicine refers to the collection of knowledge, skills, and practices based on beliefs and experiences in indigenous cultures for treating and preventing diseases. Put differently, "traditional medicine is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness" ^[15]. The Traditional Medicine Practice Act 595 of Ghana, which was passed by Parliament in the year 2000, defines traditional medicine (TM) as beliefs and ideas of people who use herbs and other naturally occurring substances recognized by the community in healthcare provision ^[16]. Clearly, TM is an ancient and culture-bound healthcare practice, which existed long before the application of science in health matters.

Some frequently used synonyms for TM include indigenous, alternative, folk, ethno, fringe, and medicine ^[17].

Orthodox medicine (OM), on the other hand, is defined as a medical system that is based on sound experimental data, toxicity and human clinical studies. It is a healthcare system in which knowledge expansion is achieved through scientific research. It is thus said to be evidence-based and deploys the use of discrete and well-defined chemical practices in the treatment of diseases. Orthodox medicine is sometimes referred to as Western medicine, modern medicine, biomedicine, scientific medicine, or allopathic medicine^[18]. Literature indicates that the integration of OM and TM practice has slowed down and in fact made impossible in some cases by a number of factors ^[19-23]. In the case of Ghana, no comprehensive study has been done on this subject ^[24, 25]. The factors constraining the process of integrating the two systems of healthcare are not derivable from studies that focus directly on traditional and orthodox medical practice but are rather by-products of studies that focus on different issues. This paper therefore aims to bridge the existing information and knowledge gaps on the integration of the two distinct and competing health systems ^[24]. The factors influencing their integration process in Ghana are critically analysed ^[26]. In view of the country's quest for developing a comprehensive healthcare system, this analysis is particularly important.

Information provided on the link between TM and OM in the paper will help to provoke further debate and research on the subject. The paper also seeks to adequately inform health policy-makers and practitioners, healthcare seekers and other stakeholders in Ghana about the critical factors affecting access to healthcare services and the enormous opportunities that can be unleashed by integrating the two healthcare systems in the Wenchi Municipality in the Brong Ahafo Region in Ghana. The principal premise of the paper is that an effective integration of TM and OM practices in the Wenchi municipality will significantly help to improve access to healthcare services. The second assumption of the paper is that the process of integrating the two healthcare systems is influenced by a number of critical factors.

1.2 Conceptual Framework

The conceptual framework that guided the investigation is presented in Figure 1. It consists of three main components input, process and output. The input stage consists of the two types of medical practitioners - traditional medical practitioners (TMPs) and orthodox medical practitioners (OMPs) while the process stage refers to the integration of the two systems to ensure improved healthcare provision. The integration process refers to the combination of TM and OM practices in the treatment of diseases and illnesses in healthcare centres in the study location. This implies that healthcare institutions in Wenchi municipality and Ghana in general should adopt TM and OM practices. The process is assumed to be influenced by a number of factors that are identified and analysed. The third component of the conceptual framework is the output stage and the expected outcome of the OM and TM integration process. The final component of the framework is monitoring and evaluation (M&E) of the process to ensure quality healthcare delivery in the municipality. The importance of the M&E component of the conceptual framework lies in facilitating feedback to permit redress of emerging issues and continuous improvement of the integration of the two healthcare systems.



Fig 1: Conceptual Framework of the study

2. Materials and Methods

The geographical scope of the paper covered seven communities in the Wenchi municipality: Wenchi Township, Amponsakrom, Subinso, Awisa, Nkonsia, Akete and Nwoase (see Figure 1 and Table 1). These communities were purposively selected to satisfy the availability or otherwise of orthodox and traditional healthcare facilities and the inclusion of urban and rural communities. Wenchi Township was selected because both types of healthcare systems are practised and the fact that it is an urban centre in the municipality. Amposakrom, the second study location, did not have any modern healthcare facility while the Awisa and Nwoase each had a well-established shrine and therefore represent traditional healthcare practising communities. Akete is very close to Nwoase and the inhabitants are believed to patronize the services of an existing traditional shrine. Subinso and Nkonsia were selected because they each had orthodox health centres and a host of traditional healthcare practitioners.



Fig 2: Map of Wenchi Municipality and the Study Locations

Both secondary and primary data on traditional and orthodox healthcare systems in the study locations were collected and analysed. Secondary information was gleaned from relevant books, periodicals, journals, reports, and internet sources and subjected to content analysis. Qualitative research design facilitated the collection and analysis of the views of individuals and groups of healthcare seekers using the traditional and orthodox healthcare systems in the study locations ^[27]. The qualitative approach was preferred because it focused on the examination of processes and meanings that do not gain sufficient description through the use of quantitative methods ^[28]. The main instrument that was used to obtain information on the critical factors that influence health seekers' decision to use traditional and / or orthodox healthcare systems was an interview guide [29]. Nonprobability techniques such as snowball sampling were used to sample practitioners of TM and OM for face-to-face interview. The interviewees included traditional leaders, herbalists, orthodox medical practitioners, priests and priestesses, pastors, healthcare seekers and other relevant stakeholders. Information was obtained from 35 key informants with the help of an interview guide. Fourteen of the respondents were sampled through purposive sampling while the rest were selected through the snowball sampling method. Although it has been observed that a larger sample can give an accurate representation of the characteristics of the population [30, 31], practical realities such as time and access to the population limited the sample size to 35^[32-35]. The sample size is however justified because of the rule of thumb which suggests that the suitable sample size for most behavioural science research works is larger than 30 and less than 500 ^[36] and even less for qualitative studies ^[35].

Community	Selected trough purposive sampling	Selected through snowballing	Total
Wenchi Township	9	3	12
Amponsakrom	-	6	6
Awisa	-	6	6
Subinso	3	4	7
Nkonsia		2	2
Akete		1	1
Nwoase		1	1
Total	12	23	35
Source: Field data 2015			

Table 1: Distribution of Respondents and their communities

Source: Field data, 2015

2.1 Data Analysis

To analyse the data, recordings from the interview sections were first transcribed. A relational analysis proposed by the Southampton Education School was used ^[37]. The purpose for using this method is because of its advantage over the normal content analysis as it helped to explore relationships (if any) after identifying concepts and themes. This involved first reviving the data line by line in details. The transcribed data was then grouped thematically and this involved taking one piece of data and comparing it with all others that were similar or different from it. In doing this, the researcher was able to develop conceptualizations of relations between the various pieces of data. As a concept became apparent, a code was assigned to that segment of the document (or the entire document). To ascertain whether a code was assigned appropriately, text segments were compared with segments that have been assigned the same code previously to check whether the segments reflect the same concept. The results of the data analysis are discussed in the next section of the paper.

3. Results and Discussion

3.1 Education and training

The results of the data analysis indicated that there are several factors affecting the integration of traditional and orthodox medicines in the Wenchi municipality. About 83% of the respondents cited lack of trained TMPs as the most important factor influencing the integration of TM and OM in the municipality. According to an OMP at Wenchi, the "*TMPs are very few*". However, it is not that the TMPs are few but rather the trained TMPs. One medical doctor claimed that "*very fewof them are trained*". The scarcity of trained TMPs and the call for more of them to be trained was also reported by another OMP thus:

So, I can only advise that the Government should train more herbal practitioners and employ them at the hospitals...even we are talking of job creation and all that. Training them will create more jobs. As a Ghanaian and having used herbs and knowing their efficacy, I can't say we should abandon herbal medicine, but I will advise that we train more herbal practitioners so that we can even have herbal prescriptions at the hospitals. In that case, if a client comes and opts to be treated with traditional medicine, there will be professionals to serve them.

The TMP-patient ratio in the country is 1:400 While that of the OMPs is as huge as 1:12,000^[38]. In southern Ghana for instance, while there are only 34,000 doctors who practise OM, TMPs are estimated at 185,500^[3]. The claim that TMPs are few is probably referring to those that are trained. In other words, even if TMPs abound in the country, the trained ones are very few. It is clearly established in literature that there are few traditional healers that are trained. It may therefore be observed that the objective of crafting traditional healthcare policies and centres in Ghana and across Africa ^[23] like the establishment of Traditional Medicine Units in Ghana in 1991 and a National Traditional Healers Board in Nigeria ten years earlier [39] have not been very effective. The principal aim of these policies was to develop the human resource base of the traditional healthcare system. The objective in Ghana was to develop a comprehensive training programme in traditional medicine from the basic to tertiary level but this has largely not been achieved.

However, the question as to whether one must learn TM in the classroom before s/he can be considered a professional TMP and allowed to prescribe herbal drugs needs objective investigation. Using formal education as the basis for determining standards for TM practice seems to be an unfair treatment of TMPs. This is because literature indicates they do not enter their profession until they are spiritually called. For instance, they hear a 'voice' that makes them feel they are called to be TMPs. After the call, they obtain permission from their relatives and the community to pursue apprenticeship under the supervision of a person whose practices were ordained by the same influence ^[40]. African culture and history are mostly transmitted orally, including traditional healthcare practices ^[23, 41]. This training lasts a minimum of three years before one can graduate and is allowed to commence full practice as a TMP [41]. The training is quite rigorous because "if in the course of the programme the trainee fails to observe even one of the core instructions, he or she must start the whole process again". According to one instructor, "throughout the three years of training, trainees don't shave their heads, don't have sex, and must stay isolated from the rest of the community". These rules are meant to allow the trainees to concentrate fully on their training programme. It is therefore unfair to use lack of formal education as the main standard to judge African TMPs. There are many other professionals like seamstresses, tailors, headdresses/barbers who learned their jobs through apprenticeship but are considered professionals in their various fields. Why should TMPs who train under similar circumstances be considered unprofessional and bared from prescribing traditional medicines? Inasmuch as the classroom learning from basic to tertiary level in Ghana is good and is in no way condemnable, TMPs who have this education should be recognised. In addition, TMPs should be supported through refresher training programmes, testing the efficacy of their drugs/treatment and licensing them to practise.

3.2 Attitude of orthodox medicine practitioners towards traditional medicine

It was also realised that the attitude of OMPs and TMPs is an important factor influencing the integration of the TM and OM. Responses by 57.14 per cent of the respondents indicated that the attitude of some OMPs towards Herbal Medicine (HM) and its practitioners is discouraging the TM and OM integration process. One TMP lamented that "some doctors have a very poor attitude towards the work we do". Notwithstanding the fact that OMPs believe that TMPs play a role in healthcare delivery in their communities, some of them will not be happy at all if a patient tries to seek traditional healthcare before visiting an orthodox hospital or request to seek the services of a herbalist. An OMP gave a reason for his attitude as follows: You see we deal with evidence-based medicine. The signs and symptoms used in handling a case could be masked by the fact that the person took herbal drugs before coming to the hospital. In that case, you might provide the wrong medication or an inadequate medication. How would I be happy in such case?

Another OMP also expressed his feeling about a client seeking herbal treatment either before or after consulting him thus: My brother, I feel bad, especially when you see you have the capacity to treat a disease but a patient will not allow you and rather request to seek treatment from traditional medicine. The attitude of orthodox medical practitioners (OMPs) towards traditional medical practitioners (TMPs) is significantly influencing the integration of the two healthcare systems in the Wenchi municipality. While TMPs have positive attitudes towards OMPs, the latter do not trust the former. The TMPs do not hesitate to refer patients to OMPs when they are unable to treat them. The data analysis indicated that some OMPs agreed that TM plays an important role in healthcare delivery in society. But this view was not shared by all the OMPs. For instance, one OMP argued that "TM is notevidence-based" and therefore "felt bad" anytime he discovered that his clients were using it. The majority of the OMPs indicated that they will never refer cases to TMPs. The poor attitude of OMPs towards TM is probably because of the fear that numerous quacks are associated with TM and the unwillingness of TMPs to share the knowledge of their practice ^[23]. This finding is corroborated by the literature review results. For example, Langwick argues that OMPs have tended to set boundaries between 'modern' and 'traditional' medicines, 'purifying the space of biomedicine from all that was not deemed scientific or modern' [20]. To correct this 'wrong impression' or attitude, it is important to intensify education of the both the TMPs and OMPs. It is well established that since the introduction of the modern healthcare system in Africa and Ghana for that matter, TMPs have not been bothered about the distinction between OM and TM^[20]. In fact, TMPs have made conscious and continuous

efforts to engage OMPs, especially those working as physicians in hospitals, with the sole aim of bringing their antiseptic regime into their communities ^[20]. This argument is not however unanimous in the literature. Some writers ^[15, 42] suggest that it is the TMPs that rather set divisions and would not like to hear anything about OM. It is argued that TMPs believe there is a balance between man and the environment and which gives them immutable supernatural laws that help them in explaining disease causation ^[19]. It is therefore asserted that TMPs always view biomedical knowledge of germ theories to disease causation as very irrelevant to their traditional cosmology and conceptual explanation of disease.

3.3 Herbal drugs and national health insurance

Another factor affecting the integration of TM and OM process is the inclusion of TM in the National Health Insurance Drug List (NHIDL). Despite the quest and efforts to integrate TM into the mainstream healthcare system, 65.7 percent of the respondents mentioned that herbal medicines are not included in the NHIDL and saw it to be quite worrying: Although those of us in the rural areas don't know much about herbal medicine, we know it is effective. However, as of now, the Government has not added herbal drugs in the National Health Insurance Drug List... I hope that will happen in the near future.

As stated above, another OMP thinks this is neither a problem of the doctors nor those who created the drug list. This OMP opined the following: "Who will prescribe herbal drugs even if they areavailable? If we have to prescribe them, then they must be added to what we learn at the medical school. If herbal drugs are not taught, how do I prescribe them? Every drug that am prescribe today, belief me I learned about it in the medical school. Even if I don't know all, I studied almost all of them and when I prescribe them, I know what I am doing". It looks as if this situation is not only peculiar to Ghana and Africa. For example, according to the American Hospital Association Company, most Complementary and Alternative Medicine (CAM) services in the US are not covered by insurance plans. Consequently, their services are most often self-paid by the patients ^[43].

3.4 Challenges with dosage and diagnosis of traditional medicines

Improper dosage of traditional medicine was cited as another factor that affects the integration of TM and OM systems in the study locations. This practice makes TM to be regarded as unscientific. With the exception of the head of the TMPs at Subinso community, who doubled as a snakebite specialist and always insisted on the proper dosage of drugs, all the other TMPs interviewed did not control the dosages of their drugs and this often led to overdose and drug abuse. One interviewee complained thus: Sometimes, the health situation of patients becomes worse after taking traditional medicine and this is partly why some modern/orthodox health practitioners feel reluctant to accept traditional drug preparations in some cases. An OM practitioner conveyed his opinion about TMPs in these words: If a herbalist gave you a drug and said take two cups a day, your cup may be different from mine. About 97 per cent of the respondents mentioned dosage as a significant factor influencing the integration of TM and OM practice in the Wenchi municipality. The issue of diagnosis and dosage can lead to a phenomenon of over dosage which is very serious and risky because most of the medicinal plants contain chemicals which when taken in wrong dosage can be very harmful. For example, certain

medicinal plants are known to contain chemicals like phenolic compounds; acids ^[44, 45]; serpentine ^[46]; tetrahydrocannabinol ^[47]; alkaloids, saponin, tannins and phenols ^[48]; and a varied number and amounts of compounds. With these and even other chemicals with more side effects, if dosage is not established, the use of traditional medicine may end up causing more disease conditions than it cures. The dosage related problems can be mitigated by improving the knowledge base of TMPs through education and training. The sharing of information and the results of research on traditional medicines can help TMPs to standardize the dosages and efficacy of their drugs ^[23, 39]. It is necessary to have well established institutions to test and determine the correct dosage and efficacy of drugs before licensing and allowing them for public consumption. Provision of guidance on regulatory mechanisms to TMPs will significantly help to enhance quality assurance and improve the safety herbal medicines in Ghana.

The data analysis also revealed that 51.4 percent of the respondents indicated that TMPs do not have proper ways of diagnosing diseases before administering treatment. As a result, they usually resort to try and error. One herbalist elaborated on this issue thus:

Because I don't have machines to diagnose to know what actually causes a disease, usually I advise my clients to first go to hospital to know the cause of the disease. When they come back and the cause of the disease is known, it makes my work easier. This is however not the case when the cause of the disease is spiritual.

Another TMP added, "at times you apply a particular herb and it doesn't work. In that case you will have to try others".

3.5 Enforcement of rules and ethics

Except one traditional birth attendant (TBA) who confirmed she strictly followed the laid down regulations, all the other TM practitioners interviewed indicated they operate freely without any guidelines, rules, regulations or ethics. They do not even know the existence of any rules, regulations or ethical codes. A chief traditional healer echoed the point in these words:

"As for us, we are not regulated by any rules, regulations, ethics or whatever. Everybody does things in his/her own way except during the time that the priest at Nwoase was alive. During that time, we used to meet at his shrine occasionally to discuss issues relating to our practice".

In the contrary, OM professionals follow well defined and enforceable codes of practice. For instance, the Ghana Health Service Code of Ethics [49] contains well defined moral principles and rules for OMPs in the country. Therefore, integrating OM and TM providers (those that are guided and those without any guidelines and who do things the way they like), is not an easy task. However, the view that there are no rules and regulations on TM practice is not completely true. Evidence in the literature indicates the existence of a host of rules, regulations and ethical codes on TM practice. As far back as the 1960s, Dr. Kwame Nkrumah, the first president of Ghana, initiated the formation of the Ghana Psychic and Traditional Medicine Practitioners' Association to license and register traditional medicine practitioners ^[50]. The association was also tasked to ensure a high standard of care to be provided by TMPs [39]. The Ghana national drug policy and the Nurses and Midwives Decree of 1972 (under the Medical and Dental Decree of 1972) allow indigenous Ghanaians to practise traditional medicine that does not use lifeendangering procedures ^[51]. Within the framework of this policy and decree, several rules and regulations have been introduced to guide the ethical conduct of traditional healthcare practitioners. Furthermore, a Traditional Medicine Practice Act was passed in Ghana in 2000 and a council established to regulate and license TMPs ^[16]. Parts 2 and 3 of the Act respectively cover the registration of TMPs and licensing of all their practices including mandatory licensing; method of application and conditions for licensing; issuance and renewal of licences ^[46]. The council is also tasked to regulate the preparation and sale of herbal medicines.

In 2002, the World Health Organisation (WHO) formulated a strategic policy plan which stressed that policy, safety, efficacy and quality of traditional medicine are critical areas that must be considered during the process of integrating TM into healthcare systems. Despite the formulation of thesepolicies and regulations, most healthcare practitioners claim to be unaware of their existence. Moreover, none of these policies has been implemented in the Wenchi municipality. This is an indication that information on the regulatory mechanisms has not been effectively disseminated to TMPs. This situation may be blamed on ineffective policy implementation and the slow pace of development and manufacture of herbal products in the country ^[41].

4. Recommendations

From the discussion of the results of the data analysis, it is clear that an effective integration of TM and OM systems in the Wenchi municipality and Ghana in general require deep reflection and action on the ground. To this end, the following recommendations are provided for enhancing this vital process:

- To effectively deal with the issues relating to the lack of trained TMPs, it is recommended that the legislations relating to TM should be properly implemented and included in school curricular at all levels. This is vital for providing continuous training to TMPs and OMPs on the integration of the two healthcare systems.
- The process of integrating TM and OM in Wenci municipality and Ghana must be anchored on issues relating to policy, education and training, safety, efficacy and quality.
- Details on dosage should be included as part of the information on the packages of traditional medicines. This will help add extra value to branding of traditional medicines.
- The monitoring of TMPs and OMPs should be effectively undertaken by the National Pharmaceutical Council and Ghana Food and Drugs Authority. This will help to ensure that existing codes of conduct relating to the practice of TM are enforced.
- Certified herbal drugs should be included in the list of medicines covered by the National Health Insurance Scheme (NHIS).

5. Conclusion

Literature is replete with an unending list of advantages of traditional medicine (TM) which have lured many governments in Africa to formulate policies to facilitate its integration with orthodox medicine (OM) practice. However, the integration process has been hindered by a number of factors such as inadequate education and training of TMPs and OMPs leading to the existence of very few trained TMPs; poor attitude of OMPs towards TM and their refusal to refer cases to TMPs; ineffective implementation of TM policies and regulations; improper diagnoses and dosage of traditional medicines; and non-inclusion of traditional medicines in the national health insurance approved list of drugs. Clearly, a positive change in the attitudes of OMPs towards TMPs and the willingness of the former to refer patients to the latter will significantly facilitate the integration of the two medical systems. Finally, strengthening the capacity of healthcare monitoring teams, TMPs, OMPs, and other relevant stakeholders is critical for a successful integration of the two healthcare in the Wenchi municipality and Ghana in general.

6. Reference

- 1. Sato A. Revealing the popularity of traditional medicine in light of multiple recourses and outcome measurements from a user's perspective in Ghana. Health policy and planning. 2012; 27(8):625-37.
- Van Andel T, Myren B, Van Onselen S. Ghana's herbal market. Journal of Ethnopharmacology. 2012; 140(2):368-78.
- 3. McLeod H, Chung VC. The integration of traditional and complementary medicine in health systems. In Joint IACA, IAAHS, and PBSS Colloquium, 2012
- Agyei-Baffour P, Kudolo A, Quansah DY, Boateng D. Integrating herbal medicine into mainstream healthcare in Ghana: clients' acceptability, perceptions and disclosure of use. BMC complementary and alternative medicine. 2017; 17(1):513.
- Williams VL, Victor JE, Crouch NR. Red listed medicinal plants of South Africa: status, trends, and assessment challenges. South African Journal of Botany. 2013; 86:23-35.
- 6. Aderibigbe SA, Agaja SR, Bamidele JO. Determinants of utilization of traditional bone setters in Ilorin, north central Nigeria. Journal of preventive medicine and hygiene. 2013; 54(1):35.
- Bahall M. Complementary and alternative medicine usage among cardiac patients: a descriptive study. BMC complementary and alternative medicine. 2015; 15(1):100.
- 8. Culverhouse SE, Wohlmuth H. Factors affecting pharmacists' recommendation of complementary medicines–a qualitative pilot study of Australian pharmacists. BMC complementary and alternative medicine. 2012; 12(1):183.
- 9. Ebuehi OM, Akintujoye IA. Perception and utilization of traditional birth attendants by pregnant women attending primary health care clinics in a rural Local Government Area in Ogun State, Nigeria. International journal of women's health. 2012; 4:25.
- Duru CB, Diwe KC, Uwakwe KA, Duru CA, Merenu IA, Iwu AC *et al.* Combined orthodox and traditional medicine use among households in Orlu, Imo State, Nigeria: prevalence and determinants. World Journal of Preventive Medicine. 2016; 4(1):5-11.
- Reid R, Steel A, Wardle J, Trubody A, Adams J. Complementary medicine use by the Australian population: a critical mixed studies systematic review of utilisation, perceptions and factors associated with use. BMC complementary and alternative medicine. 2016; 16(1):176.
- 12. Xiao-feng Z, Zhe C, Bai L, Feng S, Jia F, Wei-ping Z *et al.* Traditional herbal medicine in preventing recurrence after resection of small hepatocellular carcinoma: a multicenter randomized controlled trial. Journal of integrative medicine. 2018; 11(2):90-100.

- 13. Okafor IP, Sekoni AO, Ezeiru SS, Ugboaja JO, Inem V. Orthodox versus unorthodox care: a qualitative study on where rural women seek healthcare during pregnancy and childbirth in Southwest, Nigeria. Malawi Medical Journal. 2014; 26(2):45-9.
- 14. Thompson AE, Anisimowicz Y, Miedema B, Hogg W, Wodchis WP, Aubrey-Bassler K. The influence of gender and other patient characteristics on health care-seeking behaviour: a QUALICOPC study. BMC family practice. 2016; 17(1):38.
- 15. Muweh AN. Modernity in Traditional Medicine: Women's Experiences and Perceptions in the Kumba Health District, SW Region Cameroon (Doctoral dissertation, Umeå International School of Public Health).
- 16. Oguntibeju OO. AJAB. Asian J Agric & Biol. 2019; 7(1):166-75.
- Hosseinzadeh S, Jafarikukhdan A, Hosseini A, Armand R. The application of medicinal plants in traditional and modern medicine: a review of Thymus vulgaris. International Journal of Clinical Medicine. 2015; 6(09):635.
- 18. Adams J, Tovey P, Easthope G. Mainstreaming Complementary and Alternative Medicine: Studies in Social Context. Routledge, 2017.
- 19. Antwi-Baffour SS, Bello AI, Adjei DN, Mahmood, Ayeh-Kumi PF. The place of traditional medicine in the African society: The science, acceptance and support. American Journal of Health Research. 2014; 2(2):49-54.
- 20. Sen S, Chakraborty R. Revival, modernization and integration of Indian traditional herbal medicine in clinical practice: Importance, challenges and future. Journal of traditional and complementary medicine. 2017; 7(2):234-44.
- 21. Taye OR. Yoruba Traditional Medicine and the Challenge of Integration. Journal of Pan African Studies, 2009, 3(3).
- 22. Asante E. Scientific medical practitioners and traditional medicine in contemporary Ghana: A study of attitudes and perceptions (Doctoral dissertation, University of Cape Coast).
- 23. Ngozi OR, Ihekwoaba EC, Ugwuanyi FC. Strategies for Enhancing Information Access to Traditional Medical Practioners to Aid Health Care Delivery in Nigeria. Library Philosophy and Practice. 2014:0_1.
- 24. Gyasi RM, Poku AA, Boateng S, Amoah PA, Mumin AA, Obodai J *et al.* Integration for coexistence? Implementation of intercultural health care policy in Ghana from the perspective of service users and providers. Journal of integrative medicine. 2017; 15(1):44-55.
- 25. Appiah B, Amponsah IK, Poudyal A, Mensah ML. Identifying strengths and weaknesses of the integration of biomedical and herbal medicine units in Ghana using the WHO Health Systems Framework: a qualitative study. BMC complementary and alternative medicine. 2018; 18(1):286.
- 26. Adu-Gyamfi SA. From Vital Force to the Scientific or an Admixture: A Historical discourse on Individuals value for Indigenous Medical Practices in Ghana. Journal of Basic and Applied Research International, 2018.
- 27. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC medical research methodology. 2013; 13(1):117.

- 28. Aspers P, Corte U. What is Qualitative in Qualitative Research. Qualitative sociology. 2019; 42(2):139-60.
- 29. Gibson B, Hua Z. 12 Interviews. Research Methods in Intercultural Communication. 2016, 181.
- Ben-Zvi D, Bakker A, Makar K. Learning to reason from samples. Educational Studies in Mathematics. 2015; 88(3):291-303.
- 31. Fosnacht K, Sarraf S, Howe E, Peck LK. How important are high response rates for college surveys?. The Review of Higher Education. 2017; 40(2):245-65.
- 32. Robinson OC. Sampling in interview-based qualitative research: A theoretical and practical guide. Qualitative research in psychology. 2014; 11(1):25-41.
- 33. Marshall B, Cardon P, Poddar A, Fontenot R. Does sample size matter in qualitative research?: A review of qualitative interviews in IS research. Journal of Computer Information Systems. 2013; 54(1):11-22.
- 34. Caine K. Local standards for sample size at CHI. In Proceedings of the 2016 CHI conference on human factors in computing systems ACM, 2016; 7:981-992
- 35. Gentles SJ, Charles C, Ploeg J, McKibbon K. Sampling in qualitative research: Insights from an overview of the methods literature. The Qualitative Report. 2015; 20(11):1772-89.
- Mutalib HA, Jamil CZ, Husin WN. Institutional Investors Types and Sustainability Reporting: A Study on Malaysian Listed Firms. Terengganu International Finance and Economics Journal (TIFEJ). 2017; 3(2):25-39.
- 37. Schulz J. Analysing your interviews [Southampton Education School]; 2012. [Video File].
- Barimah KB. Traditional healers in Ghana: So near to the people, yet so far away from basic health care system. TANG. 2016; 6(2):3-8.
- 39. James PB, Wardle J, Steel A, Adams J. Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review. BMJ global health. 2018; 3(5):e000895.
- 40. Opoku-Mensah FA. Integrating Traditional and Orthodox Medicines in Healthcare Delivery in Ghana: A Study of Wenchi Municipality (MPhil dissertation, University of Ghana).
- 41. World Health Organization. WHO Traditional Medicine Strategy 2014-2023, WHO Geneva, 2013.
- 42. Campbell-Hall V, Peterse I, Bhana A, Mjadu S, Hosegood V, Flisher AJ *et al.* Collaboration between traditional practitioners and primary health care staff in South Africa: developing a workable partnership for community mental health services. Transcultural psychiatry. 2010; 47(4):610-628.
- 43. Ananth S. Complementary and Alternative Medicine Survey of Hospitals: The Samueli Institute and Health Forum (American Hospital Association Company). Online document at: http://siib.org/news/2468SIIB/version/default/part/Attach mentData/data/CAM% 2OSurvey% 20FINAL.Pdf. Accessed October. 2010; 3:2011.
- Oliveira AP, Valentão P, Pereira JA, Silva BM, Tavares F, Andrade PB. Ficuscarica L. Metabolic and biological screening. Food and Chemical Toxicology. 2009; 47(11):2841-6.
- 45. Pereira DM, Ferreres F, Oliveira JM, Gaspar L, Faria J, Valentão P *et al.* Pharmacological effects of Catharanthus roseus root alkaloids in acetylcholinesterase inhibition and cholinergic neurotransmission. Phytomedicine. 2010;

17(8-9):646-52.

- Mustafa G, Arif R, Atta A, Sharif S, Jamil A. Bioactive compounds from medicinal plants and their importance in drug discovery in Pakistan. Matrix Science Pharma (MSP). 2017; 1(1):17-26
- 47. Abdel-Rahman RF. Natural Products as a Source for Novel Analgesic Compounds. Pain Reli.-From Analg. to Altern. Ther. 2017; 37(8):689-701.
- 48. de Magalhães PM, Dupont I, Hendrickx A, Joly A, Raas T, Dessy S *et al.* Anti-inflammatory effect and modulation of cytochrome P450 activities by Artemisia annua tea infusions in human intestinal Caco-2 cells. Food chemistry. 2012; 134(2):864-71.
- 49. Dadzie G, Aziato L, Aikins AD. We are the best to stand in for patients: a qualitative study on nurses' advocacy characteristics in Ghana. BMC nursing. 2017; 16(1):61.
- 50. Kpobi L, Swartz L. Indigenous and faith healing for mental health in Ghana: An examination of the literature on reported beliefs, practices and use of alternative mental health care in Ghana. African journal of primary health care & family medicine. 2019; 11(1):1-5.
- 51. Aziato L, Odai PN. Exploring the safety and clinical use of herbal medicine in the contemporary Ghanaian context: a descriptive qualitative study. Journal of herbal medicine. 2017; 8:62-7.