

Indigenous Medical Plants: Of what Value to Primary Health Care in Rural Ghana?

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Abstract

Ghana was colonised in 1482 when Europeans, accompanied by a number of missionaries, arrived at a small coastal town called Edina in the present day Central Region. Colonialism brought with it Western education, religious values, and medical care. The missionaries opened schools, clinics, and hospitals in several parts of the country but these facilities were not available in many remote areas. Before colonisation Ghanaians made medicines from plants to cure sicknesses and diseases. Although the missionaries and the colonisers regarded African medicine as *fetish* and attempted to annihilate it—Ghanaians—especially those living in areas without hospital facilities, continued to rely on local medicines for curing illnesses. Medicinal plants such as the *neem* tree, lemon, *moringa*, ginger etc., are used as concoctions to alleviate the symptoms of malaria, headaches, boils, diabetes, high blood pressure, and stomach pains. When the government recently introduced primary health care, indigenous medicines became a *de facto* partner in health care delivery, particularly in the rural areas where hospitals and medical facilities are inadequate. This study employed qualitative methods to explore the value of indigenous medicinal plants in the country's primary health care programme. The study found that indigenous medicine plays an important role in health care delivery because it is accessible and affordable. Even people who visit hospitals still use indigenous medicines side by side with the pharmaceutical drugs offered by medical practitioners.

Keywords: colonialism; indigenous knowledge; indigenous plants; medicinal plants; primary health care; rural Ghana



Introduction

As a victim of European incursions on the African continent, Ghana, like most African countries, endured foreign-imposed rule for centuries. The first encounter with Europe was in 1482 AD when a group of Portuguese arrived at Edina, a small fishing town on the shores of the Atlantic Sea. Quan-Baffour (2012) attests that through series of skirmishes, diplomacy and counter incursions among some European countries Ghana (*the Gold Coast*, the name given to it by the colonialists) finally became a British colony until its political freedom in 1957 AD. The missionaries who accompanied the self-imposed rulers established schools, clinics, and hospitals in some of the remotest parts of the country—but most people from the countryside did not have access to such facilities. The local people therefore, continued to depend on traditional or indigenous medicines for health improvement.

Indigenous medicines are medicines which belong naturally to the local environment and form part of the general indigenous knowledge system. The medicines from the indigenous knowledge system are part of the Ghanaian heritage, which most households take for granted and use when necessary. Boven and Morohashi (2002, 12) for example, define indigenous knowledge as “local knowledge that is unique to a particular culture or society that is useful for decision-making within that local context especially for activities carried out in rural communities”. Some scholars and writers conflate indigenous knowledge and traditional knowledge. UNESCO (2002, 9) for example, describes traditional or indigenous knowledge as

a cumulative body of knowledge, know-how, practices and representations maintained and developed by peoples with extended histories of interaction with the natural environment. These sophisticated sets of understandings, interpretations and meanings are part and parcel of a cultural complex that encompasses language, naming and classification systems, resource use practices, ritual, spirituality and worldviews.

In the context of this article, indigenous knowledge refers to the manifestations of people’s belief systems and values. It is a form of knowledge that is passed from generation to generation—irrespective of background (Kardooni et al., 2014, 42).

Indigenous knowledge is not documented but passed on from generation to generation by word of mouth. It is part of the heritage bequeathed to the people of Ghana by their forefathers. Ghanaians are endowed with a wealth of indigenous knowledge systems that transcend every aspect of life. As part of their indigenous knowledge heritage, Ghanaians used plants and herbs to concoct indigenous medicines to cure various diseases before and during the colonial era and even today. Traditional or indigenous medicine and traditional healers form part of a broader field of study, which medical anthropologists refer to as ethno-medicine (Richter 2003, 6). In considering the nature of indigenous medicine the World Health Organisation (WHO 2005) describes it as:

The sum total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or societal imbalance, and relying exclusively on practical experience and observation handed down from generation to generation whether verbally or in writing.

Although after the political independence in 1957, modern or Western medical facilities have been expanded by successive governments, missionaries, and the private sector, indigenous medicines continue to be used by most Ghanaians. When the government introduced primary health care recently, indigenous medicines and traditional healers became the *de facto* partners in health care delivery, particularly in the rural areas, where hospitals and medical facilities are inadequate.

The thesis of this article is that it is prudent, in this era of African renaissance, for the people of Ghana to revisit their indigenous medicinal plants and medicines, in order to include them as key elements in the country's health care delivery system. As a niche area and an important heritage of the country, it is argued here that concerted efforts should be made to popularise, tap, refine, process scientifically, and utilise indigenous medicinal plants and medicines as important component of the primary health care programme to ensure self-care sufficiency among all citizens. This study, which was informed by an ethnography of Ghanaian indigenous medicines, employed qualitative research methods to investigate how Ghanaians perceive indigenous medicinal plants and medicines in the country's primary health care programme.

Objectives of the study

The study was undertaken to:

- explore the value of indigenous medicinal plants in Ghana's primary health programme
- strengthen the bond and partnership between indigenous and western medicines in Ghana
- ascertain the importance of indigenous medicinal plants in the era of Africa's rebirth.

Some Popular Indigenous Medicinal Plants in Ghana

The missionaries and the colonisers regarded African medicines as *fetish* and made frantic efforts to annihilate their usage. In spite of the attempt by both the colonial authorities and the missionaries, Ghanaians, especially those who lived in areas with limited access to modern health care facilities, continued to rely on local or indigenous plants and herbs for medical care. In Ghana indigenous medicinal plants such as the *neem* tree, lemon, *moringa*, ginger, cinnamon and honey abound in forests and the

savannah belts, and are often tapped by traditional healers and general community members to cure or manage malaria fever, cold, headaches, boils, diabetes, high blood pressure, asthma, arthritis, heart diseases, ulcer, cancer, cholesterols, tuberculosis, and stomach pains..

The mixture of cinnamon powder and wild honey has been identified by some of the local people as a good remedy for high cholesterol, colds, stomach aches, arthritis, heart diseases, indigestion, skin infections, cancer, and cough (Canadian Weekly World News 1995). The daily use of cinnamon powder and honey can also strengthen the immune system and assist the body to fight diseases.

Malaria is a common killer in Ghana and most tropical regions. During the time when European countries scrambled for colonies in Africa, the West Coast of the continent was dubbed the *white man's grave*, because of the scourge of malaria. In Ghana the indigenous tree popularly called the *neem* tree (or *dua gyeene*) is an effective cure for Malaria. The leaves and twigs of the tree are boiled and the patient inhale the steam and drink and bathe in the brew to kill the germ transmitted through mosquito bites. The medicine causes the patient to sweat and pass urine frequently, thus flushing out the germ from their system. Continuously using the medicine in the morning and evening for five to seven days restores the health of the patient.

Another significant indigenous medicinal plant, which is fast gaining acceptance in Ghana today is *moringa* (popularly known as the *wonder tree*). All parts of the plant—from the leaves, roots, stem, bark, and branches—are medicinal, and the value is enormous. In rural communities in Ghana local residents chew its bark, stem, roots, leaves, or branches to boost their immune system. In some homes the powder made from *moringa* dry leaves is put in porridge, stew, or soup to boost the immune system in people who suffer from diabetes, high blood pressure, and other ailments. Women also sell the pounded leaf powder to the public for medicinal uses.

The wonder tree has become very popular not only in Ghana but also in many regions in the developing world. It is known in Western, Eastern, and Southern Africa, and also in South America and Asia. Price (2007, 4) attests that boiled moringa leaves or powder provides at least three times more bio-available iron than raw moringa leaves. The boiled leaves enhance antioxidant activity; they contain high levels of nutrition and antioxidants, vitamins A, B, and C, and iron, cure anaemia and malnutrition, and reduce high blood pressure and high levels of blood sugar. The table below, adapted from Price (2007, 4) provides a summary of some of the plant's medicinal importance.



Figure 1: Moringa. *Source:* Price (2007, 4).

Table 1: Nutritional content of *Moringa*

<i>Nutrition component supplied</i>	<i>Parent</i>	<i>Child</i>
Protein	21	42
Calcium	84	125
Magnesium	4	61
Potassium	22	41
Iron	94	71
Vitamin A	143	272
Vitamin C	9	22

Source: Price 2007, 4

In a number of rural communities in Ghana and also in West Africa *moringa* production is developing into a serious business—people grow it on small- to medium-scale farms.



Figure 2: *Moringa* cultivation in Northern Senegal. Sources: Caroline Olivier, Church World Service (2014).

Recent research into the agricultural importance of *moringa* in Nicaragua by BIOMA SA found that *moringa* can be used as a foliar spray to increase plant growth and as green manure to improve soil fertility. The research established that the leaf of *moringa* contains a plant hormone that can increase yield by 25–30 per cent for nearly in any crop: onions, bell peppers, soya, maize, sorghum, coffee, tea, chilli, melon etc. In one instance the use of the hormone (spray) increased maize yields from 60–130 sacks per hectare. The foliar from the wonder tree can be used in addition to other fertilisers, watering, and sound agricultural practices.

In developing countries, its herbal applications are commonly used to treat skin infections, although few investigations have been conducted to validate its scientific use. The ECHO Technical Note (2014) reports that *moringa* seeds are effective for fighting skin-infecting bacteria (*staphylococcus aureus* and *pseudomonas aeruginosa*). Graham (2011, 1) adds that the leaves of the wonder tree (*moringa*) are loaded with nutrients and contain more vitamin C than oranges, more vitamin A than carrots, more iron than roasted beef, more potassium than bananas, and more protein than milk and eggs. Therefore, *moringa* tree is nature's gift to humankind (Graham 2011).

Theoretical Framework: Orem's Theory of Self-care and Self-care Deficit

The study (on the value of indigenous medicinal plants in primary health care) was grounded in Orem's theory of self-care and self-care deficit. The theory was

propounded by Orem as a conceptual framework for nursing education and clinical nursing practice. Orem's concept of nursing as provision of self-care focuses on the individual. Orem (1995) sees the individual physical well-being as the dominant concern of nursing. She intimates that the individual's needs for self-care action and the provision and management of it on a continuous basis is crucial to sustain life and health, recover from disease or injury, and cope with their effects. Thus, the ultimate goal of nursing is to educate the individual to be responsible for his/her health care needs and become self-care sufficient. The theory of self-care postulates that humans have the capability to provide continuous care for themselves and their dependents, such as children and the aged.

The theory describes human capability as the power that can be acquired through training or learning (Orem 1995). The possession of the power is however, different from its use or exercise—that is the possession of the power or capability to act and achieve self-care sufficiency does not necessarily mean everyone might use it for self-care sufficiency—which is why the general public, particularly those living in areas where medical facilities are limited, should be taught and encouraged to learn to become self-care agents for themselves. The achievement of health care sufficiency can save lives and also reduce patients' dependency on health care givers.

The central thesis of the theory is that when patients are taught and guided they can take control of their health and move away from a self-care deficit (dependency) to self-care independency (sufficiency). According to Orem (1995), self-care deficit occurs when patients with chronic diseases lack the relevant information, knowledge, and skills to engage in self-care or take responsibility for their own health care. The objective or essence of nursing therefore, is to reduce patients' dependency on health care professionals by assisting them to become self-care sufficient.

The responsibility of the ministry of health and all health care givers is therefore, to educate patients to become self-care agents and take care of their own health—that is to move from self-care deficit (dependency) to self-care sufficiency (dependency).

Orem presents three theoretical constructs of her general theory of nursing:

- the self-care constructs
- the self-care deficit construct, and
- the nursing systems constructs.

Self-care is the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and wellbeing. Adults normally voluntarily care for themselves— however, their children, the aged, the ill, and the disabled require

complete care or assistance with self-care activities. Those who provide self-care are self-care agents, and those who provide care to infants, children or dependent adults are dependent care agents.

Self-care is an intentional action developed in day-to-day living, aided by intellectual curiosity and experience in performing self-care measures. The human ability to engage in self-care is referred to as self-care agency. The self-care deficit construct is the core of Orem's general theory of nursing because it delineates when nursing is needed. A self-care deficit that is health-related is the criterion for identifying one who needs nursing care.

The domain of nursing practice can be described in terms of activities in which nurses engage when they provide nursing. Primary health care personnel should educate and provide feedback to patients and the general public towards the achievement of self-care independency. Primary health care should also educate the public to participate in decision-making and be able to control their conditions. There are many people who suffer from chronic diseases who should be encouraged and taught how to manage their conditions on their own. Once patients are able to do this they move from dependency (self-care deficit) to health care sufficiency, by taking control and responsibility of their own health care.

Research Design and Methodology

The study aimed at understanding the views of local residents on the value of indigenous medicinal plants (medicines) in the Primary Health Care Programme in Ghana. The municipality of Techiman was deliberately chosen for the study because of its large population—made up of both rural and urban, illiterate and literate, rich and poor, and people from all the major ethnic groups in the country, who follow both indigenous and modern ways of life—that is, they use both western and indigenous medicines concurrently. The above characteristics made this area the most suitable for the study.

Research Design

The study employed qualitative research methods (Creswell 2009) to collect data from both urban and rural communities within the Techiman municipality. As the data resided with the local residents, the ethnographic and phenomenological approaches were utilised in data collection. The above research approaches were used because they help researchers collect descriptive data in participants' own words (De Vos, Strydom, Fouche, and Delpot 2011). Thus, the approach enabled this researcher to describe the phenomenon and understand the participants' lived experiences as well as the personal meanings they constructed from such experiences (Johnson and Christenson 2012). This openness of a qualitative inquiry also allowed the researcher

to approach the inherent complexity in social interaction, which enabled them to explore behaviours and expand their understanding of complex social interaction (Glense and Peshkin 1992).

Sampling Procedure and Recruitment of Participants for the Study

The research was conducted in the municipality of Techiman in the Brong Ahafo region of Ghana. The area is 432 square miles and comprises one large town and over 19 small towns and villages with an estimated total population of over 104, 200 (Techiman District Municipality 2016).

The researcher employed the simple random sampling technique to select 100 residents from the municipality (including chiefs, community leaders, priests, teachers, nurses and medical practitioners, peasant farmers, drivers, petrol attendants, unemployed and self-employed, as well as literate and illiterate men and women) to participate in the study. As residents and opinion leaders in the community, these people were purposively selected to participate.

In each of the 20 towns and villages five participants were recruited. Using the population register of the various towns and villages the researcher randomly selected 5 households where the head (male or female) was enlisted to participate in the study. The following eligibility criteria (Polit, Beck, and Hungler 2008) were used to ensure that the sample was well defined and restricted to make it more homogenous:

- resident of Techiman Municipality
- employed or unemployed
- adult of 21 years and above
- willingness to take part in the study
- awareness of the use of some indigenous medicinal plants, and
- awareness of primary health care programme by the ministry of health.

Data Collection

The researcher sought verbal permission from the local chiefs of the various towns and villages before collecting the data. He made appointments with the selected individuals and met them in their homes, (i.e. in their natural setting) to collect data for the study. Based on the objectives of the study the interviews focused on the type of medicinal plants commonly used by people in their homes and communities, their views about indigenous medicinal plants and medicines as a whole, the role they think

indigenous medicines play in the primary health care system in their communities, and whether they think it is good to use both modern and indigenous medicines side by side. Each interview lasted for approximately 40 minutes and throughout the interviews the researcher made numerous notes based on the participants' responses, and where he was not sure he requested the participants to repeat or clarify the answers. The data gathering took place in June 2016 and lasted for three weeks because the participants lived in 20 different communities and had restrictive socio-economic schedules. A local resident who was a student at the University of Oslo worked with the researcher as a volunteer research assistant in the data collection.

Data Analysis

After collecting the data the researcher condensed the information and broke it down into smaller units, with each of the units arranged under the appropriate specific theme before analysing them manually using the open coding approach. This approach was adopted because as Mouton (2004) attests; it enables the researcher to understand the various constitutive elements in the data through an inspection of relationships between concepts, constructs, and variables, and to see whether there are any patterns or trends.

Results and Discussion

After the field work the researcher condensed the data and arranged the relevant information under four specific themes before analysing it. He arranged the data under the following four main themes, namely. participants' views on the use of indigenous medicines, the type of indigenous medicinal plants known and used, the value of indigenous medicines in the primary health care programme, and the relationship between indigenous and Western medicines and medical practices.

Theme 1: Views on the use of indigenous medicines

The researcher asked the participants for their views on the use of indigenous medicinal plants and medicines. In response 60 per cent (N=60) of the total participants (100) agreed in their answers that the use of indigenous medicinal plants and medicines is part of Ghanaian life. As one participant who was a chief put it verbatim:

These medicines are part of our heritage. They were passed on to us by our forefathers. We know these medicinal plants and use them when necessary to improve our health with or without consultation.

The above response indicates that Ghanaians in general have knowledge of traditional or indigenous plants, which they use as medicines to improve their health.

The remaining participants, constituting 40 per cent (N=40) agreed in their responses that indigenous medicines have saved their lives and the lives of their family members. This also indicates the extent to which indigenous medicines are valued in both rural communities as beliefs bequeathed to them by their forbearers

Theme 2: The type of indigenous medicinal plants known and used

As a sequel to their views on the use of indigenous medicines was the question regarding the type of common medicinal plants and medicines they used commonly. In responding to the above question all the participants (100) agreed in their responses that they often use ground ginger in their homes to cure piles, boils, high blood pressure, and stomach ailments. They also mentioned that they often use the leaves and twigs of the *neem* tree to cure malaria fever, cinnamon and honey for coughs, and *moringa* to improve diabetic conditions, asthma, stomach ulcer, high blood pressure, periodic pains, and other stomach ailments. Twenty of the respondents—comprising 20 per cent of all the participants sampled, added that they were aware of people who use *abugyentia* (a shallow rooted shrub) to cure sexual weaknesses among men.

The responses above indicate that Ghanaians rely on indigenous medicines, medicinal plants, and herbs to improve their health, and by so doing may achieve self-care sufficiency (Orem 1995)—that is they can take the responsibility for their own health. The indigenous medicines are more accessible and affordable to people, particularly rural residents in communities where western medical facilities are few, far-off, and even costly.

Theme 3: The role of indigenous medicines in the Primary Health Care Programme

Regarding the role of indigenous medicinal plants and medicines in the primary health care programme all respondents (100%) upheld the consensus that indigenous or traditional medicines play an important role in the primary health care programme. As one of the participants, a traditional healer said (translated verbatim):

There should be a collaboration between practitioners of indigenous and western medicines to make the programme succeed. What one medicine cannot cure, one from the western or African practice can; so the two must support each other. There is a traditional mid-wife in this village who sometimes helps nurses in the district hospital to deliver babes.

It is clear from the above responses that practitioners and users of both indigenous and western medicines need to collaborate because of the role the indigenous medicines and practitioners play in western or modern medical practices and in the life of the Ghanaian. The indigenous medicine is a heritage that forms part of the Ghanaian way of life. Western medicines have entered the market, but they do not preclude

Ghanaians from using indigenous medicines—hence the need for collaboration between both practitioners and users of the two types of medicines. It is clear from this discussion that indigenous medicines have an important role to play in the primary health care programme. The two must work in alignment, with western practitioners assisting their indigenous counterparts to be more scientific in their approach. This can ensure a more effective health care delivery.

Theme 4: The Relationship between Indigenous and Western Medicines

The participants were asked about the relationship between indigenous and western medicines and it was interesting to note that all the respondents (100) agreed that there is a very strong relationship between the two sets of medicines and practices. The participants supported their responses by adding that many Ghanaians use both the indigenous and the western medicines concurrently. Again, the investigation revealed that some Ghanaian pharmacists now manufacture some of the indigenous medicinal plants in the form of capsules, powders, and tablets to treat the same ailments that African medicines are used for. This was confirmed by two of the participants who were themselves western medical practitioners who said,

the strong relationship between indigenous and western medical practices and medicines has become more apparent as some of the indigenous medicinal plants are now scientifically processed into western medicines.

The responses above indicate that the two forms of medicine and medical practices overtly or covertly work hand-in-hand to achieve the same goal—that is the improvement of the health of Ghanaians and self-care sufficiency (Orem 1995). As the responses indicate, Ghanaians in general use both medicines side and side. This was confirmed by two of the respondents who said,

Many of us go to the hospital and clinics but use indigenous herbs together with the doctor's prescription for effective and fast relief.

From the information provided by the participants above, it is clear that Ghanaians use both indigenous and western medicines side by side because of their belief in holistic treatment, which does lead to patients occasionally consult both the western and the traditional healer for the same illness. As Maiello (1999, 224) affirms, “when part of me is ill, the whole of me is ill.” It is because of this strong relationship between the two types of medicines that collaboration becomes crucial for the success of the primary health care programme in Ghana. Thus, all stakeholders need to work in tandem to enable the successful integration of indigenous and western medicines for an overall improvement in the country's health.

Conclusion

This article was informed by a study, which investigated the role that indigenous medicines and medicinal plants play in the primary health care programme in Ghana. This was an ethnographic study in which the researcher employed qualitative research methods in the form of interviews for the investigation. The study found that there is a strong relationship between indigenous and western medicines and medical practices in Ghana, and that indigenous medicines have invaluable role to play in the primary health care programme at this time of the African renaissance.

The article concludes that in view of the strong connection between the indigenous and western medicines and medical practices, western health care practitioners should provide public education to assist traditional healers to modernise their practice and to scientifically administer indigenous medicines for the achievement of self-care sufficiency and the success of the primary health care programme.

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