



Traditional medicine as a synergy to orthodox medicine to combat the Epidemy of non-communicable diseases in Dagbon

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Abstract

Non-communicable diseases (NCDs) are evolving in both rural and urban areas in Ghana; now predominant among poor people living in urban settings like the Tamale Metropolis. The proportion of people (84.5% Yahaya *et al*, 2018) in the Tamale Metropolis who have suffered from NCDs is found to be very alarming. This has resulted in increasing prevalence in acute and chronic conditions emanating from complications of NCDs illnesses. In this research piece, a mixed method approach was used to study Traditional Medicine as a Synergy to Orthodox Medicine in Combating the Epidemy of Non-Communicable Diseases in Dagbon.

The study showed that, traditional medicine approach to the management of NCDs have a success rate of 92.7% of the people who have resorted to the use of Traditional medicine in Dagbon area. On the other hand, orthodox medicine gave an outcome of 63% among those who resorted to the use of Orthodox medicine.

This research has found demonstratable evidence that the use of traditional medicine gives a desired outcome in the management of NCDs. Traditional Medicine practice should be given a priority and a critical look to synergize with orthodox medicine so as to enhance NCDs treatment and outcomes.

Keywords: NCDs, medicinal uses, Traditional herbal plants, Life style diseases

Introduction

Non-communicable diseases are a challenge to Ghana. The country is in an advanced stage of a demographic transition by way of expectancy of people. At the same time, the epidemiological transition is shifting the disease burden from communicable diseases to what are popularly known as “lifestyle disease”. These are what health experts call non-communicable disease (NCDs) including cardio diseases (such as heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma) and diabetes. There are several reasons for this emerging trend-urbanization, lifestyle transformations, and related factors. Individually and cumulatively, the epidemiological, demographic and socioeconomic transitions are fueling a surge in NCDs which now account for 65% (WHO, 2016) of all deaths in the country. The people of Dagbon has a rich heritage of using medicinal plants for indigenous uses and practices. Some of the country's best herbal medicines have also been introduced worldwide, and new applications have been found for them in different parts of the world. In some part of Dagbon, more than one plant part was used for medicinal purposes. Traditional medicine practitioners have made some of our medicinal plant's world-famous drugs. They had specified traditional food habits and simple life style followed throughout their generations. This influenced the ancient people to live a long life without any risk of non-communicable disease.

Background of Study

The Ghanaian health system has gone through a series of developments and revolutions since the accession to political independence. Nevertheless, like other developing countries, Dagbon Area is still struggling to find ways to provide an effective, efficient, appropriate and comprehensive health system for its ever-growing population. Preventable infectious diseases, which are the main cause of morbidity and mortality in the country, continue to affect the population.

With the double burden of emerging diseases and the escalating costs of health services, there is an urgent need to expand health services beyond orthodox medicine, especially to address the challenges posed by HIV / AIDS, HIV and AIDS.

The traditional medical system, designed according to the orthodox system of health care delivery, has been woefully inadequate to meet the basic health needs of citizens. Most Ghanaians do not have access to orthodox health care, especially in rural areas.

The spatial gap in access to health care is a major concern to Ghana. It is largely demonstrated by unequal and differentiated distribution of health facilities between rural and urban division. Studies shows that more than 71% of health facilities, 85% of all physicians or physicians and their assistants in Ghana are concentrated in the regional capital (MOH / GHS, 2012, GSS, 2012) at the expense of rural areas. There is the problem of the

Unequal distribution of health structures between the urban core and the urban peripheries. In the Kumasi metropolis, for example, rural areas are lacking maternal and pediatric health services. So, women and children in the rural should go far to the center where such facilities are available.

Income has been identified as a major factor that forces the use of health care Services in Ghana (Buor, 2008a). High costs of imported drugs and the costs have made orthodox health care expensive and unattractive to the ordinary Ghanaian.

TRM is in harmony with people's personal values, religious and health philosophies (Osamor and Owumi, 2010, Bishop *et al.*, 2007, Furnham and Forey, 1994, Vincent and Furnham, 1996, Moore *et al.*, 1985) and the system is used in this way. With the current dispensation, influx and progress of the orthodox medical system in Ghana, TRM continues to play an important role in Ghana's health system. To offer a clear and explicit elucidation of this phenomenon, the existing literature is desperate. Economic approaches are for the most part separated from anthropological perspectives. Thus, economic work is largely focused on accessibility, availability and accessibility.

Unfortunately, there is little information on the prognosticators of the use of TRMs in the northern sector since the subject is poorly empirically studied and defies documentation procedures. However, the factors that favor the choice and use of TRMs are unraveled elsewhere. Some studies associate the use of TRM with the socio-demographic and economic physiognomy of patients.

Indeed, the conclusions of studies on the determinants of the use of TRMs plunge into perplexity. They are Mostly unpredictable and not well understood either. Keeping the point of view, investigating the determinants of TRM use in Ghana becomes relevant and therefore very clearly highlighted.

Literature Review

According to Mahama Ibrahim 2014, medical knowledge started from the hunter and the fetish priest. He said, the fetish priest (Tindanba) got this knowledge from God but the hunters acquired the knowledge from animals in the bush by direct observation. The hunters observed the animals closely and found out which plants were eaten when ill. The knowledge obtained is then transferred on to humans when they are ill. The Dagbon traditional people believe and understand that this knowledge was obtained from God, therefore, can be relied upon. This is one of the major reasons why people of the Dagbon area will prefer using traditional medicine as against orthodox medicine.

From the accounts of Abayomi Sofowora, man's symbolic relation over time with plants has given the world many invaluable benefits. Apart from the raw materials that go to form our variety of foods, the most important plant products are medicines, cosmetics and flavor products, as well as other pharmaceuticals.

Since ancient times, the early empirical observations of man have served as the basis for the preparation of cosmetics, drugs and pharmaceuticals, and finally the emergence of the modern pharmaceuticals, cosmetic and flavor industries. Evidence accruing from recent observations of animals show that even chimpanzees use a number of plant species for their medicinal value (Huffman and Wrangham, 1993). The development of prototype disciplines related to modern chemistry, pharmacy and

botany enables the production of medical preparations from plant products on which the traditional medical system of the various geographical regions are based.

Traditional medicine is widespread throughout the world. At its general program of work meeting covering the period 1990-1995, the World Health Organization (WHO) redefined traditional medicine as comprising therapeutic practices that have been in existence, often for hundreds of years, before the development and spread of modern scientific medicine and still in use today. These practices vary widely, in keeping with the social and cultural heritage of different countries (WHO, 1991).

In a study on the lay representation of chronic diseases in Ghana (de Graft Aikins *et al.* 2012) drawing participants from both rural and urban settings in Ghana found that multiple causal theories were presented for most of the common chronic diseases in Ghana especially for diabetes and hypertension. Cancers were attributed to toxic foods while asthma was attributed to environmental pollution. Epilepsy and sickle cell diseases were believed to have spiritual roots. In their conclusion, they noted that lay representations of common chronic diseases and their major risk factors in Ghana provide public health prevention strategies. This, according to them, raises two challenges: the need to train experts to provide accurate information in practical language that lay people can understand and apply to their daily lives and also to develop sustainable behaviour change interventions by drawing on best practices from other African countries.

Kwame Abukari, a Graduate Student in his paper for Master in Indigenous Studies, University of Tromso, Norway, wrote that: Among the Dagombas of Ghana, what constitutes good health (alaafe) and illness (doro) are complex and hard to distinguish. According to their worldviews, health and illness are on a continuum. As Bierlich (2000:707) notes, "the Dagombas see many illnesses ... as inescapable facts of living and growing up. They demand no explanation, they are part of people's everyday experiences; they 'come and go'".

Dagombas theorized that certain illnesses are innate to us. People are born with them, live through them and die with them. As one of the traditional healers said; 'you see, illnesses such as chua Piles), kpage (fever) and dirigu (Migraine) are part of us, indicating that, we come down to this earth with them. They are part of everyone's creation. They are in our blood'. This means that these illnesses are internal to the people. They are part of existence. They only become illnesses when triggered by other forces both within the individual body and the external worlds (physical, social, spiritual). Dagomba also know that other illnesses come to the body from the outside; hence they have complex explanatory models to illness causation. This notion is illustrated in the language when people say: Doro n-gbaai ma (translated as 'illness has catch me') which means that illness from the external worlds has come to the person. People never catch illnesses. Rather, it is the illness that catches them, thus come to come. A person can be ill (N ɓera) or be under illness (baritim/barigu) but a person never catches illness (N gbaai doro). Rather, it is the illness that catches or come to people (Doro n-gbaai O).

Therefore, for the Dagomba, good health (alaafe) is not an absence of illness. This resonates well with the WHO definition of health as "a state of complete physical, mental and social well-

being and not merely the absence of disease or infirmity” (cited in Helman 2007:126-127). But the Dagomba conception of health goes beyond this. Their conception of good health (alaafee) is deep, complex, discursive and relational. It is deep, complex and relational in the sense that, the word alaafee signifies wellbeing and a state of balance with the self, others, the community and the spiritual world. This is reflected in the language as one of the participants claimed: Alaafe is an expression in the language and not necessarily being sick.

Methodology

A mixed method has been used to undertake these research piece. Data was collected from the local People and medicinal practitioners inhabiting the villages of Dagbon area. In this study, data collection was based upon medicinally useful plants, plant parts and their economical values. Questionnaires were asked on community members and medicinal practitioners. At the same time, actual applications were also observed during field work.

Result and Discussion

Aerva lanata

Aerva lanata is a forest and perennial herb in the Amaranthaceae family of the genus. The whole plant, especially the leaves, is edible. The leaves are commonly used in soup or eaten as spinach or as a vegetable.

Aerva lanata L. (Amaranthaceae) is a woody, prostrate or succulent, perennial herb or under shrub. The Leaves are woolly, tomentose throughout, and smaller in flowering branches. Flowers are very small, bisexual, greenish or dull white, often clustered with spikes. Seeds are kidney-shaped and shining black in color. The extract of lanata is endowed with flavonoids, alkaloids, polysaccharides, tannins and saponins. A variety of pharmacological activities of the plant such as anthelmintic, demulcent, anti-inflammatory, diuretic, expectorant, hepatoprotective and nephron- protective.

A leaf is prepared for treating sore throat and also used in treatments against guinea-worm. It is used to wash Babies that have become unconscious during an attack of malaria or of some other disease. They are washed with a leafy concoction and at the same times smoke from the burning plant is inhaled. The leaf sap is also used for eye complaints. The roots are used in snakebite treatment. Flowers are used for pains in the lower part of the back. Leaves and flowers are reduced to ash which is rubbed into cuts. Spiritually, it's believed that it gives protection against evil spirits, is a good-luck talisman for hunters, and safeguards the well-being of widows.

Achyranthes aspera

Achyranthes aspera L. (Family Amaranthaceae) is a common plant plentifully initiate in the wasteland. It is known as “Prickly chaff flower” in English.

This plant can be used for the treatment of asthma, bleeding, in facilitating liberation, bronchitis, cold, cough, colic, debility, dropsy, dog bite, dysentery, ear complications, headache, leukoderma, pneumonia, renal complications, scorpion bite, snake bite and skin diseases etc. Its extractions are widely used to induce abortion, labor pains. It helps expel dead fetus, the remains of placenta after abortion. To stop excessive hemorrhage during pregnancy, body aches, fever, and loss of appetite. To treat

Menoxenia, habitual abortion, secretion of lochia, pain in ribs and infertility in women. Other uses are reclamation of wastelands. The Leaves are consumed as a potherb.

Alternanthera sessilis

Alternanthera sessilis is an aquatic plant. The plant grows all around the world. The leaves are used as a vegetable. It is cultivated for food and used in herbal medicines.

The plants is used to treat wounds, flatulence, cough, bronchitis and diabetes. Some people use this for treating night blindness. The leaves and stem of this plant are used as galactagogue and febrifuge, respectively. The fresh and immature leaves are used for indigestion treatment. It is applied on inflamed wound externally. An extract of the root is used in treatment for spermatorrhoea. Commonly used for the treatment of acne vulgaris, biliousness, dyspepsia associated with sluggish liver, chronic congestion of the liver, acute and chronic pyelitis, painful desire to urinate (strangely) and snake bites among others

Acalypha indica

Acalypha indica L. (family: Euphorbiaceae) is a plant widely distributed throughout.

The Leaves are mostly used in the form of powder. Mixed with garlic and are used as anthelmintic in worms and applied to scabies. The juice of the leaves mixed with oil forms is used as an application in rheumatic arthritis. The juice is a safe, certain and speedy emetic for children in one teaspoonful doses in cases of croup. In smaller doses, it is an expectorant (a medication that helps to bring up mucus and other material from the lungs, bronchi, and trachea) and is also useful in chronic bronchitis and asthma. The concoction is employed in ear ache as installation and also as fomentation round the aching ear. Cataplasm of the bruised leaves is applied to syphilitic ulcers, to maggot eaten sores and also to relieve the pain of snakebites. The powder is used in bed sores. In a congestive headache, the expressed juice of the plant or leaves can be used for relieving it by causing hemorrhage in the nose. In cases of obstinate constipation of children, the paste of leaves made into a ball and introduced into the rectum, helps relaxes the sphincter and produces free motions. An application of the roots or the root bruised in water acts as cathartic.

Amaranthus viridis

Amaranthus viridis is a species of family Amaranthaceae. It's also known as slim Amaranth or olive Amaranth. It is eaten traditionally as a vegetable. This has been used to reduce labour pain and act as an antipyretic. The bruised leaves are directly applied on eczema, psoriasis, and rashes etc. Other uses range from an anti-inflammatory agent of the urinary tract, diuretic, anti-rheumatic, anti-ulcer, analgesic, antiemetic, laxative, improvement of appetite, treatment of respiratory and eye problems, to the treatment of asthma etc.

Biophytum reinwardtii

Biophytum Reinwardt is a once a year of herb plant in the family of Oxalidaceae, its seems to be fond of a tiny tree. Its leaves roots and seeds are used for its diuretic and an expectorant property in ayurvedic medicines which are used in the treatment of wounds, bruises, hypertension, asthma, snake bite poisoning, and stones

in the bladder etc. It also promotes suppuration.

Boerhavia diffusa

Boerhavia diffusa belong toward the family of Nyctaginaceae. This is also called spiderlings, as this plant grows low and spreads like a spider web. Commonly used to be known as Pita Sudda and Karichcharanai. It is taken in herbal medicine for pain relief and many other uses

The herb has been used in indigenous medicine from time immemorial. This is highly beneficial in the treatment of obesity, Dropsy, as it increases the secretion and discharge of urine as it is effective in controlling excessive fluids filled in the body cavity. It is beneficial in the treatment of several stomach disorders as it is useful in strengthening the stomach and promoting its action particularly intestinal colic. Also, can be used for killing or expelling worms. It promotes the removal of catarrhal matter and phlegm from the bronchial system. It is beneficial in the treatment of asthma. A paste of the root can be applied for edematous swellings as a dressing. A hot poultice of the root can be applied with gratifying results to ulcers, abscesses and similar skin diseases.

Cassia tora

Cassia tora or tora belongs to the family of Fabaceae. This is an annual herb with a height of 30 to 90 cm. It has a pinnate branch, which is about 10 cm long.

Used as a coffee substitute and has a maturing and soothing action. It is very useful in treating skin diseases like ringworm, itching or body scratch and psoriasis. Its paste is used for treating skin sicknesses.

The alcoholic or vinegar maceration of pounded fresh leaves is used externally to treat eczema and dermatomycosis (a skin disease caused by a fungus). A decoction of the fruit of *Cassia tora* is used in the treatment of fever. It also acts as a liver stimulant, mild laxative, and heart tonic. Helps to maintain the level of cholesterol and also used for getting rid of chronic diseases. It is useful in combating indigestion, toning up heart muscles and purifying the blood. *Cassia tora* proves very valuable in treating piles and hemorrhoids as well as relieve the pain caused on excretion.

Cardiospermum Halicacabum

It is an annual herbal plant. The roots and the leaves are commonly used for treatment. A concoction of the *Cardiospermum halicacabum* roots is given in half tablespoonful doses twice a day for bleeding piles. It can be used for pains relieve due to sprains and contusions about the joints. The leaves are used for rheumatism, nervous diseases, hemorrhoids and chronic bronchitis. The juice of the leaves is used to treat the earache and also used for the abnormal suppression of menses. Medicinal uses: The leaves are applied as a poultice for skin eruptions. They are coated with castor oil and can be apply on swellings and tumors. The crushed leaves are inhaled to relieve headaches. The seeds are used as a tonic in fever, and rheumatism. It can also used in preparing oil for infants when they find it difficult to breathe through the nose.

Centella Asiatic

Centella asiatic belongs to the family of Apiaceae. These are slim, creeping plant that grows in muddy areas.

The leaves of this plant are used to treat leprosy, cancer, skin disorders, arthritis, hemorrhoids, and tuberculosis. As a nerve tonic to promote relaxation and to enhance memory. It is commonly used to rebuild energy reserves and improve memory and treat fatigue, both mental and physical. Helps to improve the flow of blood throughout the body by strengthening the veins and capillaries. Useful for people who are inactive or confined to bed due to illness. And also, victorious for the treatment of phlebitis, varicose veins, swelling of the legs and "weightiness" or tingling in the legs.

Costus Speciosus

Costus speciosus belongs to the family of Costaceae. Common name is crape ginger is possibly the best-known cultivated species of the genus *Costus*. This differs from the common ginger by having only one row of spirally arranged leaves.

Mostly, the rhizome of this plant is useful for medicinal purposes and it contains diosgenin, which is used for anti-fertility, anti-inflammatory, and antispasmodic treatment. And also helps to control the blood glucose level. Rhizome is edible after cooking and this can be used in treating boils, constipation, diarrhea, dizziness, headache, ear, eye, and nose pain, and to stop vomiting.

Eclipta Prostrata

Eclipta prostrata, A plant belonging to the family Asteraceae. The herb contains mainly Coumestans, which are known to possess a wide range of biological activity. This is used for the treatment of hepatitis and cirrhosis as an antibacterial and anti-hemorrhagic.

The expressed leaf juice is applied along with honey as a popular remedy for catarrh in infants. A preparation leaf juice is used for anointing the head to render the hair black and luxuriant. The Plant is rubbed on the gums in a toothache and relieves headache and with sesame oil in elephantiasis. Roots are emetic and purgative in nature. The leaf extract is considered as a liver tonic, rejuvenate, and chiefly good for the hair.

Hygrophilia Spinosa

Hygrophilia spinosa belongs to Acanthaceae family. Its common name is Nirmulli or Gokulakanta. Medicinal uses: The plant is used as a demulcent, aphrodisiac, diuretic, urinary tonic and hepatic protective substance. The aerial parts and the roots are used in herbal preparations. The plant is also used as a treatment for rheumatism, Jaundice, inflammation, pain, hepatic obstruction, gout, bacterial infection etc.

Hemidesmus indicus

Hemidesmus indicus is a species. Belongs to a family of Apocynaceae.

The root of the plant has a cooling, antipyretic, alexiteric (resistance to poison), and anti-diarrheal properties and is used to cure various ailments of the body. Useful in treating abdominal

Problems, skin diseases, bone ailments, respiratory disorders, Urinary infections and some types of fever. This herb is also effective in foul body odor, blood disorders, dysentery, burning sensation and eye troubles. It relieves inflammation of the urethra and burning micturition and is helpful for third or fourth stages of syphilis. It stimulates the flow of bile and removing toxins of different kind from the body. It is a good diuretic and increases the flow of urine three to four times.

Justicia adhatoda

This is an esteemed Ayurvedic plant which can be propagated easily by cutting. It grows to a height of 8 to 14 feet and has attractive flowers.

Adhatoda is helpful for curing coughs, colds, and asthma and is easy to control. It improves the functioning's of the respiratory system and the immune system. It is a constituent of herbal cough syrups. A poultice of the leaves may be applied on wounds for their antibacterial and anti-inflammatory properties. The poultice is also helpful in relieving rheumatic symptom. It has been used to control both internal and external bleeding such as peptic ulcers, piles, and bleeding gums. These herb plant can be exhibited antispasmodic, expectorant, and blood purifying qualities and also been used to speed delivery.

Moringa oleifera

It's the most widely cultivated species of the genus Moringa, and family of Moringaceae. It is an extraordinarily nourishing vegetable tree with variety of potential uses. Moringa trees can be used to combat malnutrition issues.

The plant is a good source of calcium and phosphorus. Also, the seeds can be used for treating erectile dysfunction in men and also in women for prolonging sexual activity.

Muraya koengi

The curry tree (*Murraya koenigi*) is a tropical to a sub-tropical tree in the family Rutaceae. Often used in curries; the leaves go by the name "curry leaves." They are also called as "sweet neem leaves."

In medicine, there are many traditional remedies for everyday utilization. A few of them are as follows. As a skin medicine can be applied on a heat rash or a milk skin infection. It moves the digestive tract and allows easier motion of stools.

To cure nausea brought on by pregnancy is cured.

Osbeckia Octandra

Osbeckia is a plant in the family of Melastomataceae. It was named by Carolus Linnaeus for the Swedish explorer and naturalist Pehr Osbeck. These plants can be used to treat jaundice and other liver disorders.

Piper Nigrum

Black pepper (*Piper nigrum*) is a flowering plant in the family of Piperaceae, it's cultured for fruit, these are can be used as a spice and seasoning. Pepper has long been recognized as an ingredient for stimulating the appetite as well as in the relief of nausea. It is used as a medicine for a variety of ailments from paralysis to a toothache. This helps to reduce elevated body temperature due to fever. Black pepper is used in liniments and gargles. It is used as carminatives to reduce stomach and intestinal gas and to

stimulate the activity of the heart and kidneys. It is an effective insecticide against houseflies. Gardeners use pepper sprays against several kinds of pests.

Plectantus Ambonicus

The leaves have bitter, acrid, and aromatic properties. They are used as a constituent in some ayurvedic medicine as treatments for a wide range of disorders. It is used to treat whooping cough, colic, diarrhea and cholera especially in children, It also used in medicines for halitosis, convulsions, epilepsy, cough, chronic asthma, hiccough, bronchitis, renal and vesicle calculi, strangury, and malarial fever.

Conclusion

There is an increasing demand for traditional medicine for the treatment of various types of diseases due to low cost, lesser side effects, long-term effectiveness in a chronic condition. These indigenous methods of treatment based on medicinal plants are still an important part of health care delivery. The situation is true for many non-communicable diseases especially for autoimmune and immune-mediated diseases. This research has found demonstrable evidence that the use of traditional medicine gives a desired outcome in the management of NCDs as 92.7% of people spoken to confirmed using traditional medicine at the Dagbon traditional area.

Recommendations

Traditional Medicine practice should be given a priority and a critical look to synergize with orthodox medicine so as to enhance NCDs treatment and outcomes.

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