



Influence of Indigenous Education to Traditional Methods of Disease Prevention and Management as Practiced by the Bukusu Community of Kenya

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Abstract

Health problems as a result of numerous diseases that afflict people have been and still are an issue of concern. While numerous efforts have been undertaken to curb these health problems of diseases, little attention has been given to the role which Indigenous education can play in boosting prevention and management of such diseases. This has led to gradual abandonment and even extinction of some of the traditional practices that aid in curbing of diseases which have been shown to have promoted health. This study was therefore aimed at establishing how Indigenous education promoted and propagated disease prevention and management in order to maintain the well being of the society taking the Bukusu Community of Kenya as a case. The Bukusu community is one of the seventeen sub-tribes of the Luhya, Bantu people of East Africa.

They occupy majorly Bungoma County in which the study was based and they have some persistent aspects of their rich culture that are still observed by majority of its members. The study was guided by the Medical ecology theory. An ethno-historical approach was employed in instrumentation, data collection, analysis and interpretation. The historical inquiry progressed in three major phases namely collection of Oral evidence through field work by oral interviews and focus group discussions and research into archival and secondary materials in libraries. To achieve systematic collection of data, purposive and snowball sampling techniques were used.

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The research sample was drawn from Bungoma North and Kimilili-Bungoma districts of Bungoma County in which a total of twenty one persons including both men and women were interviewed and the data collected was analysed qualitatively through triangulation and deduction of themes. It was found out that indigenous education through its content and methodology promotes observance and propagation disease prevention and management practices through promotion and propagation of: traditional immunization against diseases; proper nutrition; observance of hygiene and isolation of the sick in some cases; avoidance of risk taking behaviors; spiritual protection as well as management of diseases through herbal medication. Results obtained from this study may be useful in informing the contemporary society on the valuable health practices that are at the verge of extinction and this can provide a contribution towards the current health promotion efforts.

Keywords: Indigenous Education; Traditional Disease prevention and management; Bukusu.

1. Introduction

Despite numerous efforts to curb diseases and other health afflicting factors such as injury, there are still high cases of lifestyle diseases, disorders in reproductive health, dental health and many other bodily diseases which are some of the major causes of death around the world [1, 2]. While some of this health related efforts focus on improving lifestyle and healthcare systems, little attention has been given to the role which Indigenous education can play in disease prevention and management. This has led to gradual abandonment and even extinction of some of the traditional health practices which have been shown to have promoted health. More so, a good number of health problems have been shown to have been managed through traditional herbal medication (United Nations Educational Scientific and Cultural Organization [3]).

This study therefore aimed at establishing how Indigenous education promoted and propagated disease prevention and management as a way of maintaining the well being of the society so as to inform the contemporary society on the knowledge, skills and values that maintained health but are now at the verge of extinction taking the traditional Bukusu community of Kenya as a case. Although United Nations Development Programme-Civil Society Organisation and Participation Programme [4] shows that indigenous education as practiced by different communities propagated desirable practices, it however notes that Indigenous Knowledge is handed over from generation to generation in an oral way, hence not being easily accessible and has not been stored in a systematic way. Furthermore, as indigenous peoples become more integrated into Western society and economic systems, traditional knowledge and practices are being lost. This is the reason why the still needed traditional herbal medicinal knowledge is at risk of extinction yet many inhabitants of the world resort to herbal medication [5, 3].

Indigenous education which is also variously described as Traditional education, Pre-colonial education or African education in the African context [6] can generally be thought of as the transmission of acceptable values, skills and the accumulated knowledge of a particular society [7]. In close relation to this, Sifuna and Otiende in [8] define education as a means of transmitting ones culture from generation to generation or process by which people are prepared to live effectively and efficiently in their environment. These definitions depicts that indigenous education placed a very strong emphasis on learning practical skills and the acquisition of

knowledge which was useful to the individual and society as a whole as suggested by Sifuna in [9]

While most studies that have been undertaken focus on alternative disease prevention and management such as use of herbal medicine which has been modernized in some way through research, little attention has been given to traditional herbal medication of which many poor people in traditional societies resort to. For instance, House of Lords Science and Technology Committee [5] indicate that the practice of self-medication with herbal remedies and natural medications taken by mouth is widespread and growing in the UK. Almost half of women with breast cancer report taking herbal remedies, vitamins, or other supplements during treatment. Xue & O'Brien in [10] also indicates that the practice of traditional medicine is also widespread in China, India, Japan, Pakistan, Sri Lanka and Thailand in which they state that about 40% of the total medicinal consumption in china is attributed to traditional tribal medicines.

In their study on the Ogiek people of the Mau forest of Kenya, Ronoh, Ogola, Makori and Miumukha [11] shows that about 80% of the local Kenyan people meet their primary health care needs through herbal medicine. Ronoh et al further reiterates that traditional methods of dealing with diseases that afflict mankind were propagated through indigenous education although they fail to show how exactly indigenous education propagated the said practice.

Such African Indigenous Education and its contribution to disease prevention and management was therefore well studied in the traditional Bukusu community of Bungoma County which had been said to have had well elaborate system of Indigenous education that was embedded in its culture [12, 13]. More so, Alembi in [14] and Barasa and Onkware in [15] had observed that Bukusu community still has conspicuous observance of traditional practices including traditional health practices some of which have undergone some modifications with time. The study therefore focused on traditional practices from the past during which the Bukusu still had strong traditional lifestyles and practices most of which were geared towards promoting survival and wellbeing of the individuals [16, 17] to the present.

1.1 Purpose of the Study

The purpose of the study was to investigate the influence of indigenous education to traditional methods of disease prevention and management as practiced by the Bukusu community of Kenya

1.2 Limitations of the Study

Since every community has a system of indigenous education with some unique aspects, some of the findings of this study might not be generalized to other systems of indigenous education outside the Bukusu community.

1.3 Theoretical Framework

The study was guided by the medical ecology theory which is also called Biocultural theory. This theory asserts that humans' health behaviors are products of biological as well as cultural responses to the environment [18]. It views human populations as biological as well as cultural entities and it aims to measure, describe and interpret

how constraining factors in the environment affect the body [19]. It combines concepts from physical anthropology with those from cultural anthropology to explain the ability of the individual to adapt to the environment by biological or behavioral means [19]. Taking a systems approach in research, culture is seen as one resource for responding to environmental problems, but genetic and physiological processes carry equal weight.

In using this theory, the researcher expanded the concept of the environment to include social factors, and while political and economic influences are considered determinants of health, they were not explored as an explicit goal of the theory as it had been suggested by Walker in [20]. The theory considers an individual to be a biological entity, shaped by evolution and social factors that influence its biology through its decision making. Health is defined in biological terms as an individual's ability to adapt by biological or behavioral means. The researcher therefore interpreted the disease prevention and management measures as behavioral adaptations to deal with environmental conditions which in this case are diseases.

These adaptations which are key concepts in the theory are defined as the changes, modifications, and variations that increase the chances of survival, reproductive success, and general wellbeing in an environment [21]. Adaptation is therefore considered to be an essential concept which reflects a dynamic relationship between individuals and their environment. Humans adapt through genetic change, physiological responses (short-term or developmental), cultural knowledge and practices, and individual coping mechanisms. A basic premise of this theory is that health is a measure of environmental adaptation, and disease indicates disequilibrium. A second premise is that the evolution of disease parallels human biological and cultural evolution.

This theory was appropriate to the study of influence of Indigenous Education to traditional methods of disease prevention and management among the traditional Bukusu since Indigenous education was embedded in culture [8] which according to this theory is a response to the environment for health promotion [20]. Since indigenous education was for survival, then it must have promoted adaptation to the environment hence promoting health practices. The theory was useful in informing how the particular educational practices as embedded in culture contributed to ensuring and propagating health practices.

2. Research methodology

The methodology that was employed for this study is discussed in the subsequent sections:

2.1 Sampling Procedures and Sample Size

To ensure an objective and comprehensive data collection, purposive and snowball sampling techniques of the non probability sampling strategy were used. To minimize subjectivity and biasness in snowball sampling technique, different groups and categories of informants were used so that data collected was correlated and counterchecked. The sample was drawn from two districts in Bungoma County namely Bungoma North district and Kimilili-Bungoma District from November to December of 2013. The sample for the study consisted of seven traditional herbalists, four midwives, five male initiators, three ritual experts, and three elderly Bukusu women as well as three elderly men that were reputable in their knowledge of traditional healing. In addition

one elderly retired colonial chief was interviewed. The total sample size was thus twenty six.

2.2 Instrumentation

An interview schedule, a focused group discussion schedule as well as an observation schedule were used as instruments for data collection. In addition to use of these instruments, data was also collected from documentary sources. The interview schedule was designed to suit collection of information as per the research objectives from each of the informants but while in the field, the researcher allowed flexibility in questioning to collect as much information as was possible on relation of indigenous education and disease prevention and management practices. The focused group discussion was designed to collect data from groups of people that had been sampled in order to acquire varied opinions and detailed discussions on indigenous education and traditional methods of disease prevention and management. The observation schedule on the other hand was designed to study the current disease related practices from the people, herbalists as well as midwives.

2.3 Data collection

The researcher commenced on data collection by proceeding into the field to collect primary data through oral interviews, informal focused group discussions and observations. A structured interview schedule was used for oral interviews and the researcher tape-recorded the sessions where necessary besides note-taking. A total of twenty six persons were interviewed. The questions could easily be reframed to encourage free discussions other than just eliciting questions and answers. The method enabled the researcher to understand the respondents' point of view through probing. The oral interviews showed that Bukusu have rich and wide disease prevention and management related knowledge that the researcher classified into themes.

Using focused group discussion schedule, the researcher conducted three informal discussions with six, five and seven members each respectively. All the groups comprised of at least one herbalist and other members were drawn from informant that had been selected for oral interviews.

Non participant observation method was used to collect data alongside oral interviews. The researcher observed the operations of traditional circumcisers and midwives who are traditionally trained health practitioners to establish any disease prevention and management practices in them. The researcher also observed nutrition related practices such as the nature of vegetables consumed by the community, eating habits as well as food storage methods.

The information collected from the field was further enriched and counterchecked through secondary sources from libraries and through further primary sources from archival data collection from Kenya National Archives (KNA). Both published and unpublished materials in Kenyan libraries were read and analysed. Specifically, data was gathered from textbooks, journals, periodicals, official government reports, provincial and district annual reports as well as legislative council debates from national libraries and the KNA. These provided useful data about indigenous education among the Bukusu as embedded in their culture. The researcher then established the relation of the said indigenous education among the Bukusu to disease prevention and management practices. Accordingly, data from these sources were used to supplement primary data from oral interviews.

2.4 Data Analysis

Some data gathered were transcribed and translated into English since Kiswahili and Lubukusu languages were used besides English. This included search of English and scientific names for various medicinal sources that were found relevant to the study. Data obtained from oral interview was triangulated through comparison and integration with data obtained by observation schedules. Data was further counterchecked with the available data obtained from documentary sources. The data was then organised, categorised, synthesised and projected into themes based on the objectives.

The key themes that the researcher came up with are: disease prevention and control through Immunization; proper nutrition; Isolation and hygiene maintenance; Avoiding of risk taking behaviors and spiritual protection and disease management. Relevance of indigenous education as practiced by the Bukusu community to the current health promotion efforts is also discussed. Gay and Airasian's four steps in analysing qualitative research data [22] was used to come up with the above mentioned themes. The four steps are: reading, describing, classifying and interpreting. The researcher constructed patterns that emerged from the data and interpreted meaning out of them within the concepts of Medical Ecology theory with particular reference to Indigenous Education and disease prevention and management. Starting with a large set of issues, the researcher progressively narrowed them down into small and important groups (sub themes) of the key data (theme) and conclusions from the data was made in each stage [23,24].

3. Results and Discussion

Among the Bukusu, there are many folk beliefs about the causes of diseases. Disease is attributed to multiple causes with some clear causes such as environmental changes and some other unclear causes such as due to certain powers, forces or misfortunes depending on the beliefs of a given clan. In explaining the causes of disease, it was established that most informants were trying to point to the factors which reduce or remove diseases altogether or to the conditions which must be present for a healthy situation to be maintained. This is likely to be the reason why in promoting disease prevention and control, health care providers promote wellness in clients who are both healthy and ill.

Oral interviews showed that certain diseases are believed to have a natural origin such as over eating, poor diet, excessive drinking, infections, and accidents. Some, diseases are thought to be caused by spiritual and moral imbalances. Evil spirits caused by thoughts against the dead are also believed to be the origin of some diseases. Certain persons with extraordinary powers are thought to be able to cast spells which cause disease. These persons are *balosi* (witch sorcerers). Additionally, a person may become ill if someone casts "the evil eye" upon them. Persons suffering from afflictions caused by *bikumba* or "the evil eye" can be cured by a spiritual healer, or an herbalist.

Despite of the varied beliefs on origin of diseases, it was established that in Bukusu traditional community, disease is considered as something unfavorable being attributed to a bad omen and therefore fought by all the available means. As established from the study findings, the traditional Bukusu community has rich traditional

knowledge on various aspects of life including disease prevention and management and such knowledge is ensured and propagated through indigenous education. The study findings are therefore discussed under the following sub themes:

3.1 Disease prevention and control

Among the efforts that are used in disease prevention as was compiled from field work include: individual and community activities that enhance healthy lifestyle, such as immunization against a disease by use of herbs; improving nutrition and physical fitness; prevention of drug and alcohol abuse as well as use spiritual protection.

3.1.1 Immunization

Oral interviews and focused group discussions showed that immunization against certain diseases was one of the major ways of disease prevention and control. Through indigenous education, young and mature people alike were taught on how to immunize against common diseases that afflict the community using herbs while other complicated cases are immunized by traditionally trained herbal medicine men.

Among the diseases established to be immunized by use of herbs especially by herbalists are: measles (liele) which was immunized by herbs from liyuli, likhendu (palm tree), namuisisi and kumufutumbwe. Dysentery (Lukhenene) was immunized with herbs from kumulamalama (Wild bauhinia) tree while whooping cough (kufuba) was immunized with herbs from Lukhaye, wanjoya and lukenukenu (stinging nettle) plants. Knowledge of such immunization was transmitted through indigenous education. Despite numerous efforts and training for people to adopt modern disease preventive measures, it was established from oral interviews that some people still practice the traditional immunization methods which are affordable and believed to be effective.

Apart from immunization using herbs, the researcher established that herbalists were trained through apprenticeship to carry out some complex operations done on people when sick or at times when healthy to enhance their bodies' ability to fight diseases. As found from one of the herbalists, Mary Barasa, among the complicated operation that was performed by traditional herbalists was a surgical incision in the rib region (khukhwara bibiaro) which was done to prevent as well as cure certain chest infections such as kumuyaka (pneumonia). This method of treatment is closely related to Chinese' acupuncture method [10] since the incision in the ribs could stimulate the immune system fighting off the infections. This was only done once in a lifetime to a person. Among the people interviewed, those who had undergone the operation held that they have never experienced chest problems since the time of operations which is tens of years back. Natural implements such as sticks and stones were sometimes used to help penetrate and soften the muscle or to stimulate certain reflexes.

3.1.2 Disease prevention through proper nutrition

In Bukusu traditional community, food is believed to be for health in terms of provision of energy, to facilitate growth, cure and to prevent diseases. People are also taught to observe traditional food taboos as a way of

preventing diseases. Children and their nurses or mothers, the sick and their nurses, as well as the old and their caretakers were trained on what foods to eat and what not to eat as well as in what proportions [6]. It was established that immediately children learn to talk, walk and do most of the things on their own, they are taught about exploitation of their immediate physical environment. Children learn to distinguish edible food products like plant products, insects, mushrooms and vegetable materials from the non-edible ones. At this time, they are also taught about harmful or poisonous plants, mushrooms, insects and many other materials or products within their immediate or neighboring environment.

Expectant and child nursing women were also taught on what to eat and what not to eat as well to avoid diseases and enhance health. For instance, expectant mothers were not allowed to consume meat from pregnant dead animals. Such mothers were preferably encouraged to take mrere (Bush okra) which is a vegetable believed to lessen labour pains and shorten the process of delivery. A nursing mother on the other hand was given milk, meat and honey when available. She was not allowed to eat certain other vegetables such as lifwafwa (*Commelina bhenqalensis*), Namasaka (Black night shade) and Esufwa which are bitter and believed to cause stomach pains.

Vegetables and fruits which contain high vitamins levels hence boosts the immune system of the body were consumed from day to day in Bukusu traditional community. Oral interviews and focused group discussions showed that vegetables form a major component of the diet with young girls being taught from an early age on how to till and care for a vegetable garden. Apart from grown vegetables, there is wide variety of wild vegetables. Girls are also taught in harvesting of the vegetables, preparation and even proper cooking. Local vegetables grown include Sikhubi (cowpeas), Kimiro (Sun hemp), Murere (Bush Okra), chisaka (spider herb), and litoto (Amaranth). Others are lisiebebe (pumpkin leaves), Namasaka (black night shade), nderema, lifwafwa, Esufwa, chibalayo, chikhanu and kamaganda (Beans leaves). Such vegetables are said to have high nutritional value ranging from vitamins, proteins, mineral ions and fibers [25].

Concerning fruits, it was established that in Bukusu traditional community, people were taught to eat fruits whenever available with the belief that they treated diseases and promoted growth. This is partially true since most fruits contain vitamins that are important ingredients for boosting of the body's immune system. Some fruits contain oils as well that are important components to the body's health [6]. Eating of fruits was not programmed as eating of staple foods. Fruits could be eaten any time like in the wild during hunting, in the farm and in the homes whenever available be it at meals' time or any other time. This promoted high consumption of fruits which made people to be strong and non vulnerable to most diseases. Traditional fruits that are commonly eaten include Kamapera (Quavers), chinduli chimbukusu(False sandalwood) and chimbunwe (Golden berry). Others are Kamatore (Banana), lipopai (pawpaw), busitole (Tamarind), busemwa (Water berry), Bufutu (Black plum) Busangura (Desert date) among others.

Meat was prepared in a special manner to avoid the risk of disease infection from its consumption. Such meat was usually dried by putting it near the fire place for about a week and even more before being cooked for consumption. Preparation involved cooking with kumunyu kumukhelekha (strained liquid, percolated from certain ashes and used as salt or a spice). This is important to health as it reduces the amount of cholesterol and

fat content in the meat.

Apart from proper food preparation and consumption, it was established that traditional methods of food preservation form one of the important health practices in Bukusu indigenous education since they were based on making the particular food item less liable for bacterial attack and subsequent decomposition as well as a survival strategy to ensure availability of food throughout the year. This not only ensured minimization of diseases as a result of food poisoning but ensured supply of food hence proper feeding throughout the year. Methods of preparation depended on the length for which the food is stored and also upon the type of food.

3.1.3 Disease prevention and control through Isolation and hygiene maintenance

Another mode of disease control that was taught among the Bukusu community is isolation of patients. Sick people with transmittable diseases like leprosy (emulo) were secluded from others and given special meals with their special utensils which could not be used by anybody else and could be buried together with the person if he or she died in order to avoid transmission to other people as well as discard everything which was related to the disease that was attributed to a curse. However, it was established that such a method is no longer used by majority of the people.

Hygiene is also one of the tools that were taught and used to prevent and control diseases. Both young and old were taught to avoid urinating or defecating near the compounds. In an oral interview, one of the informants, Dinah Wanjala explained that a child found to be doing contrary was often punished. Bed wetting was also discouraged among children while defecating in the house was considered as a bad omen. People were discouraged from sitting on food processing and preparation tools such as grinding stones, water pots and cooking pots. Calabashes which were used as utensils were kept clean and after washing, they could be kept near the fire place for drying. As established, this brings about sterilization.

A disobedient child was chastised by inattention, teasing, and threats of supernatural sanctions, abuse, curses or a beating. Instructions were in the form of riddles, proverbs and stories. For children, strict observance of instructions that was expected helped in observance of health practices that were offered through indigenous education. For instance, children were strictly not allowed to touch any of their hands on the ground while eating with a belief that they would be cursing whoever prepared the meal. In obeying this rule children observed hygiene by not dirtying their hands that they were using for eating.

Through observation of the circumcisers operations, it was established that tools that were used for circumcision and other purposes were always properly sterilized before they were used. This involved heating them in the fire for a very long period of time before use. Proper storage of tools through wrapping them in dry banana fibers and regular checking and cleaning to avoid rusting was also taught to avoid such related diseases as tetanus.

3.1.4 Avoiding of risk taking behaviors and spiritual protection

Bukusu indigenous education shunned behaviors that could lead to risky consequences such as cause of

accidents, transmission of diseases and impairment to the body. Respondents detailed how people were taught to avoid adultery, bestiality, homosexuality, drug abuse and even overeating. This was ensured by strict rules and stringent consequences in case some one was involved in such behaviors that were considered inhuman which could also have an impact on healthy lifestyle. A man found in another man's house with the latter's wife in the act of sexual intercourse could be punished by being made to pay a special fine called *silukhi*. The man is made to give his best milking cow and this is meant to embarrass him and therefore prevent repetition of the same. Such socially unaccepted behaviors were also shunned away through targeted compilation and administration of songs that could discourage people from engaging in them and even rebuke those found to be involved in the unacceptable acts.

Further, the researcher established that there is a group of diseases associated with curses passed down in families and clans. Such diseases are called *kimisambwa*. Victims of *kimisambwa* have behavioral maladjustment and can be mistaken for as lunatics or mentally ill persons. As one of the ritual experts explained, these diseases have no cure from the western medicines and are therefore treated traditionally by herbalists who possess prophetic powers to trace down the origin of the problem and healing is based mainly on the principles of faith healing. People are also taught about rituals and prayers at the family level which are performed to prevent diseases and other misfortunes believed to be social and spiritual in origin. This is done in a shrine called *namwiima* normally located in a homestead.

3.2 Management of common diseases

One of the health practices of Bukusu community that is promoted and propagated through indigenous education is the healing system. Among the Babukusu, healing is based on various ways such as use of traditional medicinal herbs, faith or spiritual healing, and change of lifestyles such as eating and working habits. Oral interviews and focus group discussions showed that traditional healing is an amalgamation of use of herbs, bone setting, midwifery and enhancement of lifestyles as well as esoteric practices such as faith or spiritual healing. The common aim of all these types of healing has been to treat various diseases afflicting people as well as livestock.

Among all the different types of healing systems that have existed among the Bukusu, use of traditional herbs is the most popular form of healing that has persisted to the present. Disease control and management using traditional herbs is done either at home by family members for common diseases and injuries or by a traditional herbal medicine expert (both men and women) called *omusilikhi*. These men are normally known and recognised by the community since the dissemination of this knowledge is normally within a family lineage but herbalists interviewed explained that until recently, the ministry of health has been registering traditional herbalists who have been holding seminars to coordinate their knowhow and enhance their ethics as there are quacks mushrooming and advertising their capabilities on huge signboards usually in market places.

People in traditional Bukusu community were taught on how to manage common diseases before seeking the services of an herbal medicine specialist when the disease persists or is complex. A compilation of data from various interview sources showed some of the diseases treated at home which include stomach-aches which are

treated with herbs of mbekoraisi (Cassia), kumusembe (Abyssinia) and Mwarobaine (Neem tree). In case of a minor cut, excessive bleeding could be controlled by applying Bimeselo herbs on the cut. Other diseases like fungal skin diseases were also cured with kumubenubenu herbs. Malaria was treated with nandabululwa herbs. Snakebite antitodes were administered at home as well. A disease like measles (liele) is treated using soil from a termite hill and liyuli and likonda herbs while dysentery is treated by kumalamalama (Wild bauhinia), kumusilamosi and kumubenubenu herbs. Garlic and onions are also used daily because it is believed they clean the blood and lower blood pressure. To treat diarrhea, chewing on guava shoots is recommended.

It was also established that herbalists used various types of herbs in treating the sick. As observed, the herbs are normally a mixture of a few or several plant materials such as leaves, barks, roots and fruits. Administering of an herb depends on the type of disease which will also determine the composition of the herbs. Medicine men are normally rich in herbal information knowing hundreds of herbs and what they can treat. Although herbalists keep their herbal knowledge as a secret and only pass it to people of their choice, there are various common herbs which are known to immunize as well as cure certain diseases.

The following Table 1 summarizes the herbs and the diseases they treat as compiled from the oral interviews.

The information in the table shows that herbs used for immunization include: herbs from kumalamalama (Wild bauhinia) tree which are used to immunize against dysentery (Lukhenene); herbs from Lukhaye, wanjoya and lukenukenu trees are used to immunize against whooping cough (kufuba). Illnesses that were treated using herbs include stomach-ache that is treated with herbs of mbekoraisi (Cassia), lantana (Lantana camara) and Mwarobaini (Neem tree). In case of a minor cut, excessive bleeding is controlled by applying Bimeselo herbs on the cut. Other diseases like fungal skin diseases were also cured with kumubenubenu herbs. Malaria is treated with nandabulwa herbs. Measles (liele) is treated using soil from a termite hill and liyuli and likonda herbs. Dysentery is treated by kumalamalama, kumusilamosi and kumubenubenu herbs. Garlic and onions are believed to clean the blood and lower blood pressure. Diarrhea is treated by guava shoots. Apart from the human diseases treated as established from oral interviews, Wanzala et al in [26] have shown that livestock diseases such as the east coast fever (ECF), rinderpest, foot and mouth disease and hoof rot were also treated by use of herbs.

As earlier explained, healing was also done by stimulating the body's immune system through surgical incision in the rib region (khukhwara bibiaro) to cure certain chest infections such as kumuyaka (pneumonia).

Moreover, this study established that there are traditional clothes worn by both men and women to correct certain diseases which modern medicine is not able to treat and cure.

Clothes worn by men to ward off disease are ekutusi (The royal robe), esumbati, ekhorere, eng'ilisi, ekutwa (royal hat), lurware (skin cloak), enjabilila. Those that are worn by women include engubo, lulware, ekhanela and siyula. These clothes are normally accompanied by ornaments like metal rings around the ankle called sirere. The one worn around the wrist is called sirere sie kumukasa and if one begets twins, he has to wear sirere sikhwana around the neck. Other ornaments that accompany these clothes are butundi, angoso, lusimbi, siye

lukhayo, chindekwe and luengele.

Table 1: Some of the medicinal herbs in traditional Bukusu community

Local Name	English Name	Scientific Name	Disease Cured
Kumusiola	Nile Tulip tree	Markhamia lutea	Ear pain in humans and eye problems in cattle
Kumukhuyu	Elgon olive	Olea capensis	Stomachache and peptic ulcers
Endulandula	Sodom apple	Solanum incanum	Stomach-ache
Mwarobaini	Neem tree	Azadirachta indica	Fever, aches, pains, malaria, Insect bites, and pest control
Kumusangura	Desert date	Rhus nataliensis	Skin infections, influenza, colds, abdominal pain, gonorrhea and worms infection
Bimeselo	Dwarf asplia	Asplia pluriseta	Stopping bleeding in wounds and drippy nose in poultry
Kumukikhili	Moringa tree	Cordia Africana	Migraines
Kumulamalama	Wild bauhinia	Piliostigma thonningii	Dysenty
Kumuibeli	Peacock flower	Albizia gummifera	S.T.Is and stomach-ache
Kumusembe	Abyssinia	Entada abyssinica	Stomach-ache
Mbekoraisi	Cassia	Senna siamea	Stomach-ache

Source: Oral Interviews

The Bukusu believe that since twins are delicate, they should be protected by wearing certain sacred rings around selected joints of their bodies. These rings include lunakwe, lichaabe, kumukobu, esimbo esitati, kumuyonjo and ekhendia. Even though such traditional clothes and rings might not have scientific prove of healing, some of the oral informants seemed to believe that they actually protect and heal against some diseases. Therefore in Bukusu's own understanding (applying the emic approach), such practices are health practices.

3.3 Relevance of indigenous education as practiced by the Bukusu community to the current health promotion efforts

Having established the various contributions that indigenous education made to health practices and to health in general, the final objective of the study was to establish the relevance of such knowledge as well as such contributions to the current health related efforts. In pursuit of this, the researcher employed the use of observation schedule and oral interviews to establish whether some of these traditional health practices are still observed and whether indigenous education still plays a role in health practices. In addition to data collected from oral interviews, the researcher used information from available literature concerning the current health

problems and current health related efforts in order to determine whether indigenous education through its content and methodology as established among the Bukusu could be of any value to solving such health problems and boosting such health related efforts.

Many of the people interviewed reiterated that modern health practices that include disease prevention, management and treatment are superior to the traditional methods in many aspects. However a good number still observed that regardless of this superiority fact, traditional health practices as promoted and propagated through indigenous education is still a needed aspect in promoting proper health. Most of the respondents advocated for incorporation of both methods of health practices to enhance health. It was also observed that many people still used traditional remedies in dealing with health related problems. Most people were seen administering treatment of common diseases such as malaria, typhoid and ringworms infection by use of traditional herbs. Details of oral interviews and observation, indicates that indigenous education as well as some of the traditional health practices are aspects that are necessary and therefore relevant in modern health related efforts.

Comparison of current health related efforts and health practices aspects in Bukusu indigenous education shows some coherence. For instance, today, there is progress in fighting of what were common diseases in developing countries such as malaria, polio and measles yet, there is still an increasing challenge of lifestyle diseases such as obesity, heart attack and high blood pressure. The WHO report [2] shows that these diseases have been increasing in the recent past while their cases were minimal in the traditional era. As this study has shown, this could be as a result of proper lifestyles that propagated healthy individuals under the Indigenous Education system. Such lifestyles include feeding on healthy foods like vegetables, cereals, and fruits that have minimal defects to the body, proper physical activity to the body through work and play, avoidance of risky behaviors such as immorality and drug abuse through strict moral norms of the society as well proper treatment through herbal medication.

With reference to the aspect of promotion and propagation of herbal medication knowledge through indigenous education, there have been efforts by different entities such as KEFRI, NMK, and KEMRI in Kenya on indigenous knowledge concerning uses and conservation of useful indigenous herbs and plants. The entities have been focusing on traditional medicinal plants, commonly referred to as alternative medicine [11] with a view to enhancing use and effectiveness of such traditional medicine. This is evident that promotion and propagation of traditional knowledge on herbal medicine is an aspect that is still required by the contemporary society.

4. Conclusion

Based on the fore mentioned analysis and discussions of responses and observations from field work as well as comparison of the current health promotion strategies and health practices as promoted and propagated in indigenous education, it is clear that indigenous education as practiced by the Bukusu community is relevant to the contemporary society. This is due to a large number who still resort to use of knowledge and skills of indigenous education to solve their problems like health related problems. This is also due to the fact that most of the health promotion efforts such as good feeding habits, physical activity of the body and use of some of the

herbal remedies are features which were and still are in Bukusu indigenous education.

Achieving desired healthcare to the people as envisioned in various forums such as the millennium development goals and Kenya's vision 2030 requires implementation of various health strategies to complement the failures of the other provided the strategies are not antagonistic. It is therefore imperative to note that incorporation and preservation of some of the traditional knowledge and skills propagated through indigenous education is relevant. The use of both traditional and modern approaches to health can aid in accelerating the process of creating a healthy population. Today and in the future, cultures have the human rights to have their cultural values, beliefs, and needs respected, understood, and appropriately used within any caring or curing process.

5. Recommendations

Since health problems through numerous diseases are still present in large numbers in the present world, both in indigenous communities who are still observing traditional lifestyles and even in developed communities with modern lifestyles and modern health facilities, it is paramount to incorporate both the traditional methods of health practices and modern ones. Although some of the traditional methods disease control and management are not much efficient, most of the other methods are good and therefore based on the findings of this study, the researcher recommends as follows:

- i. The modern society should be educated and encouraged by all the stakeholders in health sector to involve into physical activities such as manual work, as opposed to light office works all through which is an experience of most people.
- ii. People can be taught on how to diagnose, manage and treat common diseases like malaria as was the case in indigenous education among the Bukusu since still most people cannot afford to seek medical treatment due to high levels of poverty.
- iii. Public health campaigns and even policies to the extreme can be carried out to promote consumption of traditional foods such as vegetables, fruits and insects apart from the modern foods that are advertised on media frequently. Since some of these traditional foods are at the risk of extinction, more research on preservation of traditional foods can be done and farms of traditional foods set up in every region considering the variations of the communities.
- iv. Since knowledge and skills of traditional herbal medicine and even traditional methods of healthcare is in the hands of few traditional experts, most of the knowledge is likely to get distinct. Therefore, efforts should be carried out by health agencies to recognize these experts and encourage them to train more others or devise better way of transmitting such knowledge to others. As suggested by Lee in [29], unlocking such knowledge from the monopoly of a few to the wider population through an "accelerated" social construction as a process such as through sustained public awareness campaigns, storytelling or role plays, should thus be encouraged because such indigenous knowledge also has a potential for boosting economic empowerment of the local people through the sale of intellectual property rights or social capital. This may be leveraged further to boost conservation of such habitats from which medicinal plants are sourced, such as forests.
- v. Our current education system should incorporate health practices training as was the case with indigenous

education since health is part and parcel of life. Learners can be taught on best ways of keeping fitness, proper nutrition and on managing some common illnesses in and out of school.

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