



## The Perception of Healthy Human Longevity amongst Indigenous Communities of the North West Region of Cameroon

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**Abstract:** The purpose of this study was to examine the perception of healthy human longevity amongst indigenous communities in the North West Region of Cameroon. A mixed research method was used for the study based on qualitative and quantitative data collection and analysis procedures. In this regard, an embedded design was chosen for the study. The study was carried out amongst the Mbororo's Mbororos of the North West Region of Cameroon. A sample of 96 old people was chosen for the study based on the availability and informed consent of the respondents. The findings of the study revealed that the majority of the old people had a positive perception of their longevity. Old people perceived healthy longevity from the point of view of the ability to transferring transfer cultural values, participating in cultural activities, and hierarchy of respect for them. It was therefore recommended that there should be an increase access to natural food resources and diets favouring the development of elders' physical and psychological strengths; old people should have at least 30 minutes of physical activity every day. This can be a combination of shorter activities, such as two periods of 15 minute activities, for example, one in the morning and one in the afternoon. The survival of humans depends on their effective social functioning through community support. Caregiving and attachment are key elements of community support systems that are essential not only for survival during infancy and childhood but also for physical and psychological well-being throughout life.

**Keywords:** Perception, Healthy Human Longevity, Indigenous Communities, North West Region of Cameroon.

### Introduction

In the past few years, the study of human longevity has blossomed. A more comprehensive study of long-lived individuals who are free of major clinical diseases and disability, and who might be called "exceptional survivors," is beginning to gain more ground (Christensen, Doblhammer and Vaupel, 2009). Some researchers believe that by studying "healthy aging" rather than focusing on specific diseases, we might find protective genetic or environmental secrets that will benefit both length and quality of life (Meyer, 2012). Discovering factors that enhance the odds of healthy aging and translating these findings into evidence-based interventions is becoming a research priority. Overall, the aggregate literature supports that the basis for exceptional longevity is multifactorial and involves disparate combinations of genes, environment, resiliency, and chance, all of which are influenced by culture and geography.

Although the definition of longevity must at some level be arbitrary, major criteria should likely include the concepts of chronological vs biological age, as well as preservation of function. For successful aging, two assumptions exist: that biological age, however, determined, is less than chronological age and that functional status is maintained or the decline in functional status is relatively slowed or delayed (Pignolo, 2018). These assumptions are not unreasonable given that individuals who are exceptionally long-lived would necessarily tend to meet both criteria or at least would have had to meet these criteria during some period leading up to their longevity.

The bases of long life are multifactorial and are contributed to by genetic disposition and especially environmental influences that vary with culture and geography. Characteristics of aging are heterogeneous, even among long-lived individuals. Associations between specific clinical or genetic biomarkers exist, but thus far there is no single biomarker predictive of long life. Careful observations in the oldest old offer empirical strategies that favour increased health span and life span, with implications for compression of disability, identification, and implementation of lifestyle behaviours that promote independence, and better clinical decision-making by assessment of biological age.

## Background

### Longevity amongst indigenous communities

Culture encompasses the values, traditions, art, language, and beliefs that mediate a given social group's behaviour (Parsons, 2003). Berry and Dasen (1994) described six uses of culture: descriptively to characterize a culture, historically to describe the traditions of a group, normatively to express the rules and norms of a group, psychologically to emphasize how a group learns and solves problems, structurally to emphasize the organizational elements of a culture, and genetically to describe cultural origins.

The origin of the Latin word *cultura* is clear. It is a derivative of the verb *colo* (infinitive *colere*), meaning “to tend,” “to cultivate,” and “to till,” among other things (Tucker, 1931). It can take objects such as *ager*, hence *agricultura*, whose literal meaning is “field tilling.” Another possible object of the verb *colo* is *animus* (“character”). In that case, the expression would refer to the cultivation of the human character. Consequently, the Latin noun *cultura* can be associated with education and refinement.

The etymological analysis of “culture” is quite uncontroversial. However, in the field of anthropology, the situation is much more complex. Definitions of culture abound and range from very complex to very simple. For example, a complex definition was proposed by Kroeber and Parsons (1958): “transmitted and created content and patterns of values, ideas, and other symbolic-meaningful systems as factors in the shaping of human behavior” (p. 583). An even less easily comprehensible conceptualisation was provided by White (1959/2007): “By culture we mean an extrasomatic, temporal continuum of things and events dependent upon symboling” (p. 3). Often cited is also a definition by Kluckhohn (1951): Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values (Kluckhohn, 1951).

But that is not all. Geertz (1973) noted sarcastically that “in some twenty-seven pages of his chapter on the concept, Kluckhohn managed to define culture in turn as . . . [what follows is 11 different definitions]; and turning, perhaps in desperation, to similes, as a map, as a sieve, and as a matrix” (p. 5). This lack of clarity and consensus about anthropologists' main object of study may be one of the reasons that, in the words of Cochran and Harpending (2009), the social sciences—and especially anthropology—“haven't exactly covered themselves in glory” (p. ix).<sup>2</sup> It also explains why to many researchers and practitioners, culture is “the c-word, mysterious, frightening and to be avoided” (Berry, 1997, p. 144). Some have even denied the utility of the concept (Barber, 2008b).

Segall's call for pragmatism in crosscultural analysis is laudable. Theoretical debates about the meaning that "should" be attributed to the concept of culture are pointless. There is no absolute reason why one abstract theoretical concept of it should be better than another. However, disagreements have been voiced not only with respect to abstract definitions of culture but also concerning specific matters, such as whether artifacts should or should not be considered part of culture (see the debate between Jahoda, 1984, and Rohner, 1984). The answer to a question of this kind can have practical consequences: It may determine what should or should not be studied for the purpose of a dissertation on culture or be published in a journal devoted to culture.

Culture can be pragmatically defined by the contents and boundaries of the interests of the scholars who study it. Even better, we should look at what is in the focus of their interests. A culturologist may study climatic differences (for instance, van de Vliert, 2009), although climate is unlikely to be viewed by anybody as part of culture. Yet, that researcher would not be interested in climate per se, but in how it affects variation in values, beliefs, and behaviors, which could be considered elements or expressions of culture. Defining the contents and boundaries of culture may also be necessary for the purposes of clarity and avoidance of confusing statements. According to Jahoda (1984), if culture is seen as including behaviors, it is incorrect to say that culture causes behavior because that would be a circular explanation. Likewise, Fischer and Schwartz (2011) discuss the question of whether culture determines values. This makes sense only if values are not viewed as part of culture; otherwise the debate would be like the question of whether light produces photons.

Therefore, it might be useful that those who present cultural analyses explain how they conceptualize culture, specifying its contents and boundaries. This could help avoid a situation described by Child (1981), who pointed out that there is a danger of inferring culture as a national phenomenon from virtually any contrasts that emerge from a comparison of organizations in different countries: "Even if such contrasts are unambiguously national in scope, they could possibly be due to other non-cultural phenomena such as national wealth, level of industrialization, or even climate" (p. 328). A comment by Fischer (2009) illustrates another practical reason to define culture. In his view, if researchers do not focus on the shared aspect of culture (see 2.1.), there is no need to investigate agreement among the members of a national culture who provide information to a researcher. But if one adopts a definition of culture in which sharedness is emphasized, such an investigation becomes necessary.

Leung and van de Vijver (2008) discuss two approaches to culture: holistic and causal. The first approach is taken by those who view culture as consisting of inseparable phenomena that cannot cause each other. Those who prefer the second approach may say that one cultural characteristic shapes another. If this is so, cultural researchers may need to explain how they conceive of culture: holistically or causally. There are also other reasons for defining culture. Some methodologists working in the domain of cross-cultural psychology have treated culture as a variable resembling some kind of noise that needs to be reduced or eliminated.

Poortinga and van de Vijver (1987) suggested a procedure for explaining measured differences between societies by introducing various relevant variables, each of which explains part of the observed variance, until the effect of culture disappears: "The consequence of our argument is that a cross-cultural psychologist is not interested in the variable culture per se, but only in specific context variables that can explain observed differences on some dependent variable" (p. 272), and "In the ideal study the set of context variables will be chosen in such a way that the remaining effect for culture will be zero" (p. 272). This begs the question of what variables can explain differences between groups of people but are not part of their cultures. Some of the clearly external variables with respect to culture—also known as "exogenous" or "extraneous"—are climate, geographic location, and pathogen prevalence. But what about national wealth, main type of economy, or degree of democracy? Are these cultural variables or not? According to van de Vijver and Leung (1997a), gross national product, educational systems, and even health care institutions are culture-related variables. Is this position acceptable?

## Indigenous communities

The term ‘indigenous communities’ is notoriously difficult to define (Anaya, 2002). The UN has paid attention to the position of the world’s indigenous peoples for more than 40 years (Barsh 1994), but has never adopted a formal definition of ‘indigenous peoples’, not even in the 2007 United Nations Declaration on the Rights of Indigenous Peoples. The United Nations Working Group on Indigenous Populations, has suggested that ‘the concept of “indigenous” is not capable of a precise, inclusive definition which can be applied in the same manner to all regions of the world (Daes, 2011).

There is no universally agreed definition of Indigenous Peoples. However the United Nations and the world community recognize that Indigenous Peoples live all over the world, including in Africa, and their plight is extensively discussed in the international fora. A preliminary working definition provided by the United Nations Working Group on Indigenous Populations<sup>11</sup> states as follows: Indigenous communities, peoples, and nations are those that, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop, and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems. In certain instances, this definition can be considered to be limited in context since it is heavily skewed towards pre-colonial societies and may not ably apply to a broader perspective that includes marginalized societies, which transcends the post-colonial era. Another perspective is provided by Coates, 2004<sup>12</sup> who defines indigenous populations as --- those groups especially protected in international or national legislation as having a set of specific rights based on their historical ties to a particular territory, and their cultural or historical distinctiveness from other populations. The above definition puts emphasis on national recognition and protection by both international and national laws. This implies that there is a problem in circumstances where national laws do not necessarily recognize certain segments of society as indigenous. From the foregoing definitions, two issues arise. One is the uniqueness of a given community and its tie to a peculiar identity, history and territory. The second deals with statutory recognition. It is these two aspects that we interrogate in the African context as a precursor to gaining a deeper appreciation of Indigenous People in Africa.

Much of the land occupied by Indigenous Peoples is under customary ownership, yet many governments recognize only a fraction of this land as formally or legally belonging to Indigenous Peoples. Even when Indigenous territories and lands are recognized, protection of boundaries or use and exploitation of natural resources are often inadequate. Insecure land tenure is a driver of conflict, environmental degradation, and weak economic and social development. This threatens cultural survival and vital knowledge systems – loss in these areas increasing risks of fragility, biodiversity loss, and degraded One Health (or ecological and animal health) systems which threaten the ecosystem services upon which we all depend (World Bank, 2023). Improving security of land tenure, strengthening governance, promoting public investments in quality and culturally appropriate service provision, and supporting Indigenous systems for resilience and livelihoods are critical to reducing the multidimensional aspects of poverty while contributing to sustainable development and the Sustainable Development Goals (SDGs). Over the last 30 years, Indigenous Peoples’ rights have been increasingly recognized through the adoption of international instruments such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (World Bank, 2023).

## Cultural practices for attainment of human longevity

In relation to the present study, the practice of natural dietary habits, family support systems and physical exercise are reviewed as cultural practices that indigenous people use to achieve human longevity



## Food categories with nutrients for long life (Based on FAO Human nutrition in tropical Africa, 1979)

### Staples

The main staples include roots and tubers, bananas and cereal grains and legume. The main legumes eaten include: bambara nuts, cowpeas, cluster beans, hyacinth beans, mung beans, lima beans, groundnuts, pigeon peas and soybeans. Grains form the bulk of food consumed in Africa. Grains are important in our diet because they provide complex carbohydrates (starches), vitamins, minerals, dietary fibre and phytochemical compounds. Grain servings can be divided into two types: whole grains, which make up most of the African diet and nonwhole grain servings, predominantly consumed in urban centres. Dietary fibre is vital because of its effect on possible diet-related diseases. The insoluble dietary fibre has long been known to relieve constipation and is believed to be beneficial in reducing the incidences of colon cancer. Soluble dietary fibre may dissolve in body fluids. It helps in the reduction of cardiovascular diseases and diabetes. Grains provide a substantial amount of vitamin E and selenium. These nutrients are important due to their antioxidant and anticancer properties. The antioxidant vitamin E helps to protect unsaturated fatty acids from damage by cancer-causing agents. Phytochemicals play a protective role against certain chronic diseases. For example, phytoestrogens found in grains are believed to have protective properties and to reduce the risk of cancer. Examples of cereals traditionally consumed and still eaten in Africa today are as follows:

*Sorghum (Sorghum bicolor (L.) Moench):* This is a traditional grain crop of most communities living in arid and semi-arid regions of Africa. The grain is pounded into flour for making ugali or porridge. In Kenya, it is used greatly by the Kamba, Luhya, Luo, Turkana, Tharaka, Taveta, Mijikenda, Kikuyu, Embu, Meru, Tharaka, Taveta, Turgen, Marakwet, Duruma, Dogi, Teso, Rabai, Ribe, Kambe, Jibana, and Kauma communities. The grain may be mixed with cassava and ground into flour. The flour may be mixed with maize or finger millet flour. The flour is also used for making traditional beer among the Kisii, Luo and Teso communities. The stems of some sorghum cultivars are sweet and chewed as sugarcane. These are often sold in markets in southern Africa, especially in South-Western Zimbabwe.

*Teff (Eragrotis tef (Zucc.):* Trotter Teff is an old and locally important crop of the Ethiopian communities. Injera (a product from Teff) is the staple food of some communities especially in North-Western, Central, and Southern Ethiopia. In Kenya, it is mainly eaten by the Oromo groups including the Borana. The flour is used in the preparation of Ethiopian bread known as injera (Ethiopia) or anjera (Borana), porridge and cakes. Injera is served with meat stew (often spiced) or vegetables on large shallow plates.

*Finger millet (Eleusine coracana Gaertn.):* Finger millet has been cultivated in Africa since ancient times and it is the traditional food of many communities. The flour is used in preparation of porridge or ugali (stiff RK Oniang'o, JM Mutuku and SJ Malaba 334 porridge). Flour and grain are also used in local beer brewing.

*Ensete (Ensete vantricosum):* Also known as false banana, it is limited to Ethiopia, where it is a staple crop in the southern highlands. The parts of ensete prepared for food may vary from one place to the other, but they generally include the starchy portions of pseudostem pulp, the young shoot, the trunk of the tuberous rootstock and in some cases the upper part of the root.

### Fruits and vegetables

Commonly eaten fruits in Africa include: avocado, baobab fruit, citrus fruits, guava, mango, papaya, passion fruit, banana and jackfruit. Eggplant, gourd, green pepper, okra, squash, pumpkin, tomato, chilli, amaranth, spinach, leaves from baobab, cassava leaves, cowpea leaves, sweet potato and pumpkin leaves are among the vegetables commonly eaten. Fruits are important in a diet because they provide good sources of vitamins, minerals fibre and phytochemical substances. Vitamin C is important because of its role in healing wounds, fractures, bruises, and preventing bleeding gums.

Potassium is important to keep the body parts running smoothly and is involved in maintaining water and electrolyte balance and regulating nerve and muscle functions.

Fruits are generally, good sources of potassium. Vitamin A, a fat-soluble vitamin plays an important role in vision, growth, bone development and normal reproduction. Folate is important for DNA metabolism and its deficiency can lead to many problems during pregnancy. Orange juice is a major source of folate. The prominent phytochemicals in fruits and vegetables are called flavonoids. These compounds act as antioxidants or anticancer agents by preventing the alteration of DNA. Flavonoids may also protect against heart diseases. Unlike consumption of other food groups, fruit consumption remains low in the continent from infancy throughout adulthood. Consumption of fruits is influenced by a number of factors. Africans with a higher income appear to consume more fruits than those with a lower income level. For those with higher incomes, fresh fruit may be easier to find and purchase.

As with income there is also a positive correlation between education level and daily fruit consumption. Accessibility also plays a role in consumption of fruits. Populations living in rural areas consume more fruits than their urban counterparts regardless of education level or level of income. This is because Africans living in rural areas may have better access to fruit in abundance and variety depending on seasonality.

Vegetables are important in the diet because they provide vitamins, including vitamins A, C and folate and minerals including, iron and magnesium; proteins and phytochemicals. They are also good sources of fibre. Healthy vegetable consumption includes eating dark green leafy vegetables, deep yellow vegetables, beans, tomatoes, and starchy vegetables. Dietary fibre aids the digestive system, helps reduce cardiovascular diseases and diabetes and promotes healthy weight maintenance. Vegetable sources of proteins come from dry beans and peas. However, these sources are deficient in the essential amino acids methionine and tryptophan. Vegetables such as tomatoes, pepper, dark leafy vegetables are also rich in vitamin C. Vitamin A can be found in dark leafy vegetables and red, orange and yellow vegetables. Alium are a group of phytochemicals found in vegetables, particularly onions and garlic. These compounds account for the distinct flavour and smell of these compounds as well as possible health benefits. Research indicates that garlic and onions give protection against cancer. Garlic may also protect against heart disease by decreasing the formation of clots and reducing cholesterol levels. Compounds found in the cruciferous family, such as broccoli, cabbage and beans, may protect against cancer. As with fruits, consumption of vegetables on the continent is influenced by certain factors. There is a noticeable relationship between income levels and vegetable intake.

Vegetables are basically considered a poor mans' diet and as such are more widely consumed among the poor sections of the population. Higher education does not seem to positively influence vegetable consumption. Populations living in the rural areas eat more vegetables than their urban counterparts due to accessibility and variety. Attitude also plays a major role in consumption of vegetables. In general, vegetable consumption is not highly regarded and is more often than not an issue of availability against other options. Some specific examples of vegetables commonly consumed are as follows.

*Pigeon peas (Cajanus cajan)*: Peas may be cooked into a stew and eaten along with ugali. They may also be mashed with other foods such as potatoes. Among the Luo community of Kenya, peas are mashed and rolled into balls or boiled with sorghum.

*Cat whiskers (Cleome gynandra)*: Widely used as a vegetable in Kenya. In Western Kenya, milk is added and preferably left overnight in a pot to reduce the bitterness. The water obtained from boiling the leaves is used to cure diarrhoea.

*Black nightshade (Solanum nigrum)*: The leaves are used as vegetables in Kenya. It is normally eaten with Ugali. Amongst the Miji Kenda, it is mixed with less bitter vegetables such as amaranth and cowpeas. The unripe fruits are applied to aching teeth. The leaves are also used to relieve stomach pain.

*Ethiopian cabbage (Brassica carinata)*: The leaves are used as vegetables among Kisii, **Animal products**

Consumption of animal products especially milk and meat increases with income and urbanization. On average, meat and meat products take up to 3.2 percent of the dietary energy requirements (DES) in sub Saharan Africa. However, the consumption of meat and meat products is higher in some countries. Milk is hardly consumed providing about 2.5 percent of DES except among pastoral populations where milk can contribute up to half of DES. The low consumption levels are due to low production, lack of preservation technology and also the high prevalence of lactose intolerance among African populations. Milk is most commonly consumed among the nomadic and pastoral communities. Among other communities, milk is hardly consumed because of low production of milk per animal and the lack of preservation technology. Most of the coastal Savannah and tropical forests rear livestock for meat and not for milk. In Eastern and Southern Africa, livestock including camels and some dairy products are an important part of culture and hence diet.

### **Fats and oils**

Dietary intake of fats is often low due to cost implications. Refined oils and animal foods, which are sources of fats, are expensive making the dietary intake of fats and oils in African meals low. The fat or oil content of many African diets tends to be low. Total dietary fat provides an average 18% of total food energy in subSaharan Africa with some countries obtaining as little as 7-15 % of food energy from fats.

Fats are an important source of energy, they increase satiety and help the body in its absorption of some vitamins, especially vitamin A. Oils also make the starchy staples more palatable and satisfies the appetite. In Africa, much of the fat content of traditional diets comes from plant oils such as red palm oil, groundnut oil, coconut oil and sesame. Foods rich in fats include groundnut, sesame, olive, palm and palm kernel oil, corn, sunflower, coconut and safflower oils among others. The fats and oils can be used for frying and other cooking methods.

### **Community support systems**

The survival of humans depends on their effective social functioning (Guerra et al., 2012). Caregiving and attachment are key elements of parental love that are essential not only for survival during infancy and childhood but also for physical and psychological well-being throughout life (Taylor, 2010). The relevance of social bonds for health and longevity was first documented over a century ago by the French sociologist Emile Durkheim in *Suicide* (Durkheim, 1897). He examined the different rates of suicide in Europe and found them to be more prevalent among people with fewer social ties, concluding that a lack of social connections (low social integration) was responsible for the higher suicide rates.

The literature on social support and its influence on physical and mental health can be traced back to the publication by Maslow (1943) of his theory of human needs and motivations and to the writings of Bowlby (1969) on his theory of attachment. Maslow postulated a hierarchy of five classes of needs that people are motivated to satisfy for their healthy functioning. These range from the most basic (e.g., food and drink) to the most complex requirements (self-actualization and full potential achievement). Maslow placed social needs (social relationships, love, and friendship) at the middle level of this hierarchy. Bowlby developed his attachment theory, influenced by the work of the ethologist Lorenz (1935), to explain early social development through the formation by children of close relationships with familial caregivers. Conceived as an innate biological system, attachment protects individuals from danger by establishing emotional security through contact and reassurance with an attachment figure, who functions as a safety signal.

However, the idea that social and psychological factors can protect from physical disease and mortality did not fit well with the predominant medical model of the time, based on Cartesian mind-body separation (Uchino, 2004). By the middle of the twentieth century, three new scientific societies helped to promote a shift in the dominant biological paradigm: the American Psychosomatic Society (1942), the Society for Psychophysiological Research (1960), and the Society

of Behavioral Medicine (1978). These associations endorsed the “biopsychosocial model” of disease and health, which assumes that social, psychological, and biological factors operate interactively across the life-span to preserve human health (Engel, 1977). Being interdisciplinary in nature, these societies welcomed the idea that social relationships can influence health and longevity and fostered research on the neurophysiological mechanisms that might underlie this influence.

In 1976, two seminal reviews were published on the concept of social support and its effects on health and mortality (Cassel, 1976; Cobb, 1976). The epidemiologist John Cassel centered his review on social support as an example of a social environmental factor, focusing on its capacity to change human susceptibility to disease agents. Social support is defined in terms of the presence of other members of the same species, with the strongest support being provided by the primary groups of greatest importance to the individual. According to Cassel, this type of social support acts as a protective factor that buffers the individual from the physiological or psychological consequences of exposure to stressful situations. For his part, the psychiatrist Sydney Cobb, centered his review on the concept of social support, which he defined as information that leads subjects to believe: (a) they are cared for and loved, (b) they are esteemed and valued, and/or (c) they belong to a network of communication and mutual obligation. Both Cobb and Cassel considered that social support protects people by buffering the health consequences of life stresses.

Before western civilization began to make its in-roads into the lives of the people, it did not require too much exertion to provide food, shelter and clothing. Food was obtained with minimum effort from the farms. Family life was corporate, integrated and well regulated. While the little ones were given every legitimate indulgence, the sturdy members of the family were also there to cater for their aged parents or grandparents as the case might be. Traditionally, it was expected that children would cater for their old parents by housing them, feeding them and providing for their other needs. Shelter was easily provided by erecting mud walls and covering them with thatch or certain kinds of leaves for a roof (Okojie, 1994). Friends and relatives, particularly, members of the extended families usually helped in building or providing shelter for their aged relatives. It was also one of the obligatory duties of son-in-law to help build the house of father-in-law and usually help repair the roof thereof. Preparation of favourite food, assistance with bathing, giving a back rub, or bringing a coal from the fire to light a pipe (ukoko or obodo) were typical of the traditional behaviour patterns toward the aged (Okojie, 1994).

An average African man or woman would comment that old age was a good time of life, when one received better food and better care. It was a time when one was less constrained to maintain a dignified image on ceremonial and social occasions. People could look forward to growing old. In general, old age is when one was treated with great respect, for seniority in age is an integral part of Esan culture. Those below treated those above with deference and respect. Children did not talk loudly in the presence of elders; neither did they speak rudely with their parents.

### **Healthy human longevity in indigenous communities**

Access to proper health and social services is a key issue for Indigenous peoples, who face significant challenges in education, housing, economic development, well-being, and health (Assembly of First Nations of Quebec and Labrador [AFNQL] and First Nations of Québec and Labrador Health and Social Services Commission [FNQLHSSC] 2007; National Association of Friendship Centres [NAFC] 2013; Saini and Quinn 2013; Wilson et al. 2011). Health and social services delivered using a Western approach have limited success in responding to the needs of Indigenous people, in part because of the complex interactions between the various dimensions of wellness (Saini and Quinn 2013). Moreover, the theories, models, and tools used in health services cause inequities, cultural insecurity, and even harm to Indigenous communities (Drolet and Goulet 2018). Holistic approaches that consider all dimensions of wellness and focus on the strengths of individuals and communities may produce better results than interventions focusing on specific problems that do not consider interactions between dimensions (Institut national d'excellence en santé et en services sociaux [INESSS] 2014). To better meet the needs of Indigenous peoples, promoting the teaching of traditional knowledge and practices in accordance with the United Nations Declaration on the Rights of Indigenous Peoples adopted in 2007 (United Nations 2008) could be



part of a holistic approach and contribute to equity in health (Truth and Reconciliation Commission of Canada [TRCC] 2015). Teaching of traditional knowledge and practices involves sharing values, culture, and collective identity, notably through Indigenous elders' participation in education, community development, and intergenerational relationships (Basile et al. 2017; Kant et al. 2014). In Indigenous contexts, someone is recognized as an elder by other community members based not necessarily on age, but on wisdom, skills, and knowledge (Wilson 2003). Therefore, not all older adults are considered elders, and not all elders are older adults. Because elders play an important role in their communities, their social participation and their role in intergenerational solidarity must be considered to develop a holistic approach to individual and community wellness (Miller and Foster 2010). Individual wellness can be defined as a "way of life oriented towards optimal health and well-being in which mind, body, and spirit are integrated by the individual to live life more fully within the human and natural community" (Myers et al. 2000; p. 252). Community wellness is "the simultaneous satisfaction of personal, relational, and collective needs of individuals and communities" (Totikidis 2003; p. 10). The roles implied in favouring individual and community wellness encompass the domains of social participation in the International Classification of Functioning, Disability and Health (ICF) model (World Health Organization [WHO] 2001

### **Statement of the problem**

In traditional African societies, there was a normal path of life whereby children were born, and they grew up to their ripe old age before death. It was expected that younger people would normally bury the old and life expectancy was high due to reduced proliferation of life-threatening illnesses.

This normal process of life was enhanced by the fact that people lived on natural dietary habits by eating natural fruits, vegetables, grains, proteins, and dairy products. These natural food habits contained nutrients that enhanced health and physical development. Furthermore, the psychosocial wellbeing of elderly people was ensured through constant interaction with the immediate and extended family that acted as caregivers for the elderly people. Because of the respect and care given to old people, people grew up with much expectation to arrive old age. Both the old and young were engaged in various forms of physical exercise by participating in work, sporting activities, and dance. These factors contributed to enhancing human longevity.

Nonetheless, these cultural practices are fast dying down due to increased modernisation. Many people have shifted their dietary habits from the consumption of natural foods to the consumption of artificial food substances that put their health in jeopardy. Furthermore, with rapid urbanisation and shifts in work ethics, most families do not have time to cater for the old as was the case in indigenous communities. Old people are left alone with no one to take care of them. The perception of old age as a period of life where respect and care are due is fast dying down and this tends to reduce the desire for long life due to poor psychosocial support and wellbeing. Due to advances in technology, people are less inclined to engage in physical exercises through the performance of manual work, physical walks, sports, and dance which are important to healthy living. The reduction in the practice of these cultural assets has led to increased health risks, thus posing a threat to human longevity. Thus, the need to carry out this study on cultural practices and human longevity amongst indigenous communities of the Northwest region of Cameroon.

### **Research objective**

- To examine the perception of healthy human longevity amongst indigenous communities

### **Research question**

- How is healthy human longevity perceived amongst indigenous communities?

### **Hypothesis**

H<sub>01</sub>: There is no significant relationship between natural dietary habits and human longevity amongst indigenous communities.

H<sub>a1</sub>: There is a significant relationship between natural dietary habits and human

## METHODOLOGY

A mixed research method was used for the study based on qualitative and quantitative data collection and analysis procedures. In this regard, an embedded design was chosen for the study, whereby qualitative data was embedded within the quantitative data for better results and findings. Hence, qualitative, and quantitative methods were mixed both at the level of instrument development and data analysis.

The study was carried out in the Northwest Region of Cameroon

The target population of this study included old people aged 60 and above in areas where the Mbororos are settled in the Northwest region of Cameroon. According to demographic information obtained from municipal councils, there are about 80,000 estimated population of Mbororos in the North West Region of Cameroon.

The sample of the study is calculated at a 95% confidence level and 10 confidence interval (Krejcie & Morgan, 1970, The Research Advisors, 2006). Hence from a total population of 80,000, a sample of 96 respondents was chosen for the study.

**Table 1. Sample of the study**

| S/N          | Divisions     | Sample    |
|--------------|---------------|-----------|
| 1            | Boyo          | 10        |
| 2            | Bui           | 10        |
| 3            | Donga Mantung | 10        |
| 4            | Menchum       | 10        |
| 5            | Mezam         | 36        |
| 6            | Momo          | 10        |
| 7            | Ngoketunjia   | 10        |
| <b>Total</b> | <b>7</b>      | <b>96</b> |

A purposive or judgemental sampling technique was adopted to choose the various settlements of the study. Why?? In this regard, specific elements which satisfy particular criteria of the study were selected. Hence, the researcher took extra care to select those villages that satisfy the requirements of the research purpose, namely village settlements where indigenous peoples were found, and indigenous practices are still found. The sample size for each settlement was based on the total number of people above 70 years of age that were accessible for the study.

The instruments for data collection were an interview guide and a questionnaire.

The analysis of data (interviews and observations) was done following the systematic process of thematic and content analysis and narrative analysis.

As for the quantitative data, a pre-designed EpiData Version 3.1 (EpiData Association, Odense Denmark, 2008) database which had in-built consistency and validation checks was used to enter the data. Further consistency, data range, and validation checks were also performed in SPSS version 21.0 (IBM Inc., 2012) to identify invalid codes. Data were analysed using frequency and proportions and Multiple Responses Analysis to aggregate scores for a given conceptual component. Hypotheses were tested using the Pearson Correlation Coefficient.

## FINDINGS

**Research question: How is healthy human longevity perceived amongst indigenous communities?**

**Table y2. Appreciation of healthy longevity**

| Items   | Stretched           |                    |                   |                        | Collapsed          |                   |
|---|---------------------|--------------------|-------------------|------------------------|--------------------|-------------------|
|   | Strongly Agree (SA) | Agree (A)          | Disagree (D)      | Strongly disagree (SD) | SA/A               | D/SD              |
| I find myself physically strong to go about my daily activities | 4 (10.0%)           | 20 (50.0%)         | 12 (30.0%)        | 4 (10.0%)              | 24 (60.0%)         | 16 (40.0%)        |
| I am not sick of any major illness because of my age            | 10 (25.0%)          | 20 (50.0%)         | 10 (25.0%)        | 0 (0.0%)               | 30 (75.0%)         | 10 (25.0%)        |
| I am mentally strong and can still function intellectually well | 8 (20.0%)           | 16 (40.0%)         | 10 (25.0%)        | 6 (15.0%)              | 24 (60.0%)         | 16 (40.0%)        |
| I speak fluently without major problems                         | 12 (30.0%)          | 20 (50.0%)         | 4 (10.0%)         | 4 (10.0%)              | 32 (80.0%)         | 8 (20.0%)         |
| I can hear well without problems                                | 6 (15.0%)           | 20 (50.0%)         | 14 (35.0%)        | 6 (15.0%)              | 26 (65.0%)         | 20 (50.0%)        |
| I can walk without much support from another person             | 4 (10.0%)           | 22 (55.0%)         | 14 (35.0%)        | 6 (15.0%)              | 26 (65.0%)         | 20 (50.0%)        |
| <b>Multiple Response Set (MRS)</b>                              | <b>44 (18.3%)</b>   | <b>118 (49.2%)</b> | <b>64 (26.7%)</b> | <b>26 (10.8%)</b>      | <b>162 (67.5%)</b> | <b>90 (37.5%)</b> |

According to the multiple response set it was seen that 18.3% and 49.2% of the old people strongly agreed and agreed to indicators of healthy human longevity respectively. While 26.7% and 10.8% disagreed and strongly disagreed with the indicators of human longevity respectively. Hence in total 67.5% of the old people had a positive healthy perception of their longevity while 37.5 had a negative perception of their longevity.

**Qualitative findings: What are some of the factors you consider to be a measure of healthy longevity in your community?**

transferring cultural knowledge or participating in cultural activities

**Table 3. Old people’s perception of healthy human longevity**

| Food types                                  | Examples   | Sample quotations   |
|---|--|---|
| <b>Transferring cultural values</b>         | Use of stories, proverbs, riddles, songs and indigenous games to transmit cultural values to the younger generations | <i>“I feel I am healthy as an old man when I am able to gather my grandchildren and tell them some stories about our community values”</i>  |
| <b>Participating in cultural activities</b> | Participating in cultural festivals, traditional ceremonies, religion, spirituality, music and dance                 | <i>“healthy living at old age entails that I am able to participate in some ceremonies in our culture” “when I attend some cultural festivals, music and dance, I feel good as an old person”</i> |
| <b>Hierarchy of respect</b>                 | Respect from young people  | <i>“One of the best ways by which I have a positive self-image as an old person is when I get the maximum respect from young people”</i>  |

Qualitatively, apart from physical, mental, and sensory functioning, old people perceived healthy longevity from the point of view of the ability to transfer cultural values, participate in cultural activities, and hierarchy of respect for them.

The findings of the study revealed that the majority of old people in indigenous communities have a positive perception of human longevity. The findings of this study are consistent with those of Ring and Griffiths (2022) who found that life expectancy at birth increased more rapidly for Indigenous than non-Indigenous people (from 56.6 to 65.6 years for Indigenous men, and from 64.8 to 69.7 years for Indigenous women), and that the difference in life expectancy between the two groups declined (by 26% for men, 21% for women). The population worldwide is aging dramatically, with estimates that by 2050 the number of people aged 80 years and over will be more than 426 million, triple that of population numbers in 2020 (WHO, 2018). Moreover, for the first time in history, most indigenous people can expect to live into their sixties and beyond (Beard, Officer and Aravjo, 2016). Increased longevity can potentially enable older adults to remain engaged for longer, resulting in positive outcomes for the individual, their families, and society.

The number of Indigenous peoples is growing and for many Indigenous populations, life expectancy is increasing (Bradley et al. 2022). Greater proportions of Indigenous peoples over 65 years are surviving into older age. Many of the problems of aging and chronic conditions are associated with lifestyle factors and are amenable to interventions that have the potential to improve the health and wellbeing of Indigenous peoples as they age. Health is a holistic concept within Indigenous communities. The connection to the land is central to wellbeing and spiritual, environmental, ideological, political, social, economic, mental, and physical factors all play interrelated roles in well-being. When any of these factors are disrupted, ill health is likely to occur. Indigenous peoples therefore hold a different worldview where the concept of self is collectivist and inseparable from land, family, and community, and this view is likely to be significant in their concept of aging well (Dudgeon, et al. 2017).

Within the scope of this study, old people in indigenous communities of the North West Regions of Cameroon perceived themselves as aging well in terms of physical strength, mental abilities, and sensory functioning. This perception is consistent with the model of successful aging earlier posited by Rowe and Khan (1997), which is based on three criteria: (i) freedom from disease and disability; (ii) high cognitive and physical functioning; and (iii) active engagement with life. These criteria place an emphasis on maintaining physical health and avoiding disease. This model is consistent with the findings of the present study where old people indigenous communities were seen to have little diseases and disabilities. Their mental and physical functioning is seen to be enhanced by dietary habits, support systems and physical exercise. This permits them to be active in life and community activities.

Dimensions of aging well for different cultural groups have been explored across the literature. Prior research overwhelmingly supports the findings of the current study by reporting that older people's norms, perceptions, and self-awareness of the reality of aging differ within indigenous communities, making aging well culture-dependent (Manasatchakun, Chotiga and Roxberg, 2016). Hung and colleagues (2010) compared the concept of healthy aging from Western and non-Western indigenous cultural perspectives. They found older people from non-Western cultures held a more holistic view of healthy aging, which extended beyond functional independence and included domains such as family, adaptation to age-related changes, financial security, personal growth, positive spirituality, and positive outlook. The authors suggested attitudes and behaviors relevant to healthy aging are greatly influenced by traditions, religious beliefs, and values derived from different individual cultural backgrounds, yet current academic definitions of healthy aging seem to be independent of cultural identity. Amin (2017) explored successful aging from older adults' perspectives in Bangladesh and found, similarly to Hung and colleagues (2010), that successful aging encompassed dimensions such as adaptations to one's changing body, financial security, religiosity, age identity, and social engagement. Amin (2017) found that older adults' emphasis on these dimensions, however, was qualitatively different from those identified as relevant in Western societies and that



family relationships played a strong role in aging success, something often neglected in Western models.

## Conclusion

This study aimed to provide a comprehensive understanding of the characteristics and contributions of cultural practices to the promotion of longevity amongst indigenous communities of the North West Region of Cameroon. Overall, cultural practices occur through natural dietary habits, community support systems and physical exercise. Benefits mainly occur through the maintenance of interpersonal, family, and conjugal relationships and the social support received from youth, families, and communities. Other benefits include having access to cultural products made by elders; individual and collective attitudes; physical and mental health; and in the development of services, systems, and cultural policies.

Most Indigenous old people found their healthy longevity in relationships and interactions with family and other community members (Wexler 2011). Frequent elders' participation through relationships and communication is not surprising in Indigenous communities because oral tradition is the primary mode of Indigenous knowledge transmission (First Nations and Indigenous Studies 2009). Elders expressed the importance of being able to pass on knowledge to the youth, both at the individual level and within the community (Government of Canada 2015). Elders also appreciate when youth teach them about technology and other modern tools. In addition, strong relationships between elders and youth appear to have a positive impact on longevity (Basile 2017).

## Recommendations

To support healthy longevity amongst elders in indigenous communities, it is recommended that there should be an increase in access to natural food resources and diets favouring the development of elders' physical and psychological strengths. This means that individuals and governments should participate in the sustainable use of resources and promote healthy dietary habits. This entails a follow up of the United Nations Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly on 3 September 2007. Cameroon, like the vast majority of African countries, voted in favour of the adoption of this text. As a Declaration, the instrument does not have the binding force of a treaty. However, it was adopted by the UN General Assembly and should be considered by all UN member States in good faith. The Declaration establishes minimum standards for the respect of indigenous people's rights including regarding self-determination, right to land, territories, and resources that they have traditionally owned and occupied, and the guarantee of recognition and legal protection by the States of the rights to these lands and territories.

It is recommended that adults have at least 30 minutes of physical activity every day. This can be a combination of shorter activities, such as two periods of 15-minute activities, for example, one in the morning and one in the afternoon.

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