

Original Research Article

Emergence of Cardiovascular Diseases and Inclusive Organization of Care in the Health District of Biyem-Assi, Yaounde Cameroon

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Abstract: Healthcare financing is one of the major challenges that faces the emergence of non-communicable diseases. This study describes and analyzes the inclusive organization of cardiovascular disease care in Biyem-Assi Health District. From December 2022 to February 2023, we conducted a qualitative study in the Biyem-Assi Health District. Medical anthropology research techniques were used to collect data through interview guides. The sample consisted of patients admitted and followed during the study period. The epidemiological variables studied included age, sex, diagnosis, length of hospital stay, lifestyle, socioeconomic status, knowledge, and modalities of cardiovascular disease (CVD) management, as well as practices aimed at eradicating this scourge. Cardiovascular disease mortality is currently the highest. It affects a young population, so diagnosis is often made late. Very few international technical and financial partners have a real strategy to support prevention and management programs for non-communicable diseases, especially cardiovascular diseases. Faced with the growing incidence of cardiovascular diseases in sub-Saharan Africa, mainly in Cameroon, it is urgent to develop a response or rethink a new organization of cardiovascular disease care, involving and mobilizing numerous technical and financial partners, public authorities, and directly concerned healthcare professionals.

Keywords: Emergence, cardiovascular diseases, inclusive organization of care.

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INTRODUCTION

With one million deaths per year on the continent, cardiovascular diseases now kill more than AIDS or malaria. Due to a lack of appropriate care, these new pathologies are wreaking havoc in Africa (WHO 2021). Thus, the discussing on the emergence or explosion of cardiovascular diseases commonly referred to as "heart attacks". According to the World Health Organization, every minute 60 cases of stroke are recorded worldwide, three-quarters of which occur in developing countries, mainly in Africa (WHO 2021). Cardiovascular diseases constitute a range of disorders affecting the heart and blood vessels (veins and arteries). They are generally caused by fatty deposits that accumulate inside the arteries and lead to an increased risk of blood clots, but they can also be related to damaged arteries of organs such as the brain, heart, kidneys, and eyes. Strokes can be caused by bleeding from a blood vessel in the brain or by blood clots. Cardiovascular diseases (CVD) can be considered chronic diseases. They encompass a number of disorders affecting the heart and blood vessels, including ischemic heart disease or coronary artery disease (acute coronary

syndrome or myocardial infarction, for example), cerebrovascular diseases (stroke in particular), peripheral vascular diseases, hypertensive diseases, and heart failure. However, there are many affordable policies that countries can implement to reduce the burden of CVD and improve the health of the population. Thus, anthropologists seem to be able to provide suitable solutions for the inclusive organization of cardiovascular disease care. This anthropologically-based study aims to make a modest contribution to a general interest debate on health issues.

Main Objective of the Study

The objective is to set an anthropological debate on health issues and to create a momentum around citizens' appropriation of health-related issues concerning the inclusive organization of healthcare related to cardiovascular diseases.

MATERIALS (PATIENTS) AND METHODS

From December 2022 to February 2023, we conducted a qualitative study in the Biyem-Assi Health District. Research techniques in medical anthropology

were used to collect data through interview guides. The sample consisted of patients admitted to the district hospital and followed during the study period. The epidemiological variables studied were age, sex, diagnosis, length of hospital stay, lifestyle, socio-economic status, knowledge of cardiovascular diseases, and practices aimed at eradicating this scourge. Unlike other disciplinary fields, anthropology has the capacity to assert a viewpoint, a particular knowledge of health issues, and potentially a methodology of inquiry or intervention that can be more effectively integrated into conventional investigative frameworks. This includes those involved in prevention, such as epidemiological studies, health observatories, medical informatics, medical demography, legal and economic studies, etc. The anthropologist, always aware of the need to promote his discipline in professional areas, takes part in these activities. This may involve organizing committees, leading discussion groups, workshops, or even actively participating in planned work following these consultations and the strategic programming of health actions. Activities will include conducting or commissioning ethnographic surveys among patients. At this level, assistance structures for patients, at-risk individuals, or specific forms of the disease are called upon. The main question concerns the lack of understanding of the cultural representation of cardiovascular disease.

RESULTS

Health promotion supports individual and social development through information, health education, and the development of life skills. It emphasizes the importance of enabling populations to learn to cope with all stages of life and to prepare to face traumas and chronic illnesses. It is noted that this work must be facilitated within the school, family, professional, and community settings.

Elements of Ethnological Knowledge

This article has not only provided elements of ethnological knowledge based on our basic training in Anthropology. Data were collected from experts (modern and traditional healthcare professionals) at their request and through constructive exchanges. These data have allowed us to assess the progress made in the emergence of a new health configuration more capable of addressing prevention imperatives.

As the European Society of Cardiology (ESC) reminds us, "The leading cause of mortality in Europe, cardiovascular diseases account for about 40% of deaths, equivalent to 2 million deaths each year. Although France appears to be less affected by cardiovascular diseases than Anglo-Saxon or Northern European countries, these diseases remain the second leading cause of male mortality in the country and the first cause for women." It is therefore a major public health issue.

The aim of health promotion is to give individuals more control over their own health and more means to improve it. To achieve a state of complete physical, mental, and social well-being, the individual, or the group, must be able to identify and achieve their ambitions, meet their needs, and evolve with or adapt to their environment.

Cameroonian Socio-cultural Context or Ethnic Pluralism

The Cameroonian socio-cultural context, characterized by its ethnic pluralism, social classification, and poverty in certain areas, poses obstacles to the management of patients with cardiovascular diseases. In the prevention aspect, public health actors aim to address the role of women in dietary behaviours, the influence of lifestyles, social representations of the disease, prevalence within a particular ethnic group, the lack of involvement of Cameroonian citizens in individual disease management, etc.

Relationship between the Patient and their Doctor

This article allows for the analysis of the relationship between the patient and their doctor, the experimentation of a new form of "health democracy," and the relationships established between community and institutional levels of participation in cardiovascular disease prevention policies. Indeed, in the field of inclusive healthcare organization, it is important to encourage community ownership of the Millennium Development Goals (MDGs) objectives regarding chronic diseases. This leads to questioning the stakeholders, the population, representatives of partners responsible for prevention and improvement of cardiovascular disease care. This will facilitate the implementation of actions within the framework of local prevention policies.

Particular emphasis is also placed on analyzing the relationships between healthcare teams, institutions responsible for prevention, and the populations of the Biyem-Assi district to gain an overview of their level of disease knowledge. Surveys focused on cardiovascular patients, at-risk individuals, and healthcare system characteristics. The main focus was on medical pluralism or the different therapeutic itineraries of patients in this locality. It is worth noting that the Biyem-Assi Health District comprises populations from various cultural backgrounds such as the Bamiléké, Ewondo, Bassas, Anglophones, etc. This also applies to various religious groups: Christians, Muslims, revival churches. This diversity makes it difficult to implement health policies in the Cameroonian context. For effective care, it is necessary to focus more on professional tasks, the caregiver-patient relationship, soliciting the participation of local subjects, etc.; to see how the context of interculturality affects both daily preventive practice and the conception of intervention programs.

Inclusive Approach

Any inclusive approach has focused the disease or risky behaviours, prevention policy related to the healthcare system as a whole (global and local levels), and on the institutional culture that guides preventive reasoning. In other words, this article takes into account the viewpoints and demands formulated by epidemiologists, public health physicians involved in health education and promotion, based on some reference texts that guide inclusive care. To engage funders in medical care matters and public health partners, some methodological guidelines will enable them to participate more actively in healthcare programs in the Biyem-Assi Health District.

The main directions could be mobilizing local health authorities: strengthening the establishment of an epidemiological unit to conduct several prevalence surveys. Therefore, partners should fund these surveys by highlighting the rate of cardiovascular patients by age group, screening at-risk individuals, patients unaware of their status, identifying the excess mortality index.

Research should be conducted within the framework of Strategic Health Action Programs focused on an anthropology of cardiovascular diseases. To achieve this, the analysis model stems from the study of acculturation situations. It involves drawing inspiration from the cultures of populations, examining their healthcare systems. The patient develops their own fighting methods and conflicts in their immediate social environment (kinship, neighborhood, social media) and in their traditional etiological system. They define their own illness space. They articulate daily interaction situations in which their identity is staged. This identity is negotiated not only during these interactions but also during exchanges they may have with the doctor and various actors in the therapeutic space.

Healthcare Financing

In terms of healthcare financing, consideration is given to the highly medicalized reasoning of cardiovascular disease prevention with the aim of improving knowledge of risk factors identified by clinical and epidemiological means. From the outset, the theme of prevention is linked in public health to that of clinical epidemiology through the notions of risk and context. Biomedically, risk factors defined by clinics include: overweight, obesity, high blood pressure, etc., according to gender and age. Risk factors as perceived within the population generally include the notion of cultural or social context directly impacting the characterization of certain lifestyle-related risk factors and the environment.

According to a healthcare professional, "*The system put in place for the prevention of cardiovascular diseases is not functional at several levels. Studies on the application context of health policies are funded by international organizations, NGOs. But practically, in*

hospital settings, it is a fairly deprived population that takes charge of its health. Security measures are not subsidized." (Interview conducted in the Biyem-Assi Health District on June 23, 2022). To guide healthcare decision-makers and partners on the need for financing inclusive organization of cardiovascular disease care in the Biyem-Assi Health District, survey results reveal the cultural context that must be taken into account.

In the Cameroonian context, three major categories of healthcare professionals are observed in relation to traditional, or even alternative, medicine (traditional and biomedicine). These are: traditional practitioners, naturopaths, herbalists. This suggests the organization of care in this unit of healthcare facilities.

Inclusive Organization of Care in the Biyem-Assi District

The field survey highlights the importance of developing all connections, social and cultural foundations, and values that underlie the daily actions and interventions of individuals, groups, and communities in order to ensure better organization of inclusive care in the Biyem-Assi District. Informants mentioned "action research" developed around primary or secondary prevention, intervention, informing populations affected by cardiovascular diseases or not, at-risk individuals, or hospitalized patients.

Aaron Cicourel's socio-cognitive approaches (2002: 145), applied for example to "medical reasoning," show that "*diagnoses are not only complex from a cognitive standpoint, they are also complex socially: they often involve identifying and evaluating the opinions of individuals who do not have the same level or field of expertise.*" There is criticism on the fact that huge sums of money are spent on funding research, for example, on AIDS and its opportunistic diseases to the detriment of cardiovascular diseases which are reaching alarming proportions among populations.

Difficulties in Transmission of Prevention Messages

There are also difficulties in transmitting prevention messages, posing a real communication problem between professionals in cardiovascular disease prevention and the local population. Therefore, communication techniques at large scales need to be funded. For example, funding prominent cartoonists who depict the risks of contracting the disease through cartoons. In this regard, cultural data collected by anthropologists from populations can serve as a basis for this exercise. Since populations sometimes complain of not understanding all the advice given to them by healthcare personnel, they can be better informed through drawings. It is important to take into account the mechanism of constructing this (social) prevention space: the role of local, institutional, and associative actors; power relations within this healthcare system; in short, everything that contributes to making this universe

a political space of health in the anthropological sense of the term.

As stated by one of our informants (Public Health Expert): "*cardiovascular diseases are only increasing because prevention and health promotion still do not take into account citizen participation in all public health decisions. Moreover, there is no community participation in programs aimed at creating favourable health conditions.*" (Interview conducted on June 28, 2022 in the Biyem Assi District).

This often requires coordination of care between different actors (specialists, pharmacists, nurses), with the general practitioner in biomedicine at the centre, both in the frontline in screening and monitoring these pathologies. In this article, persistence is defined as the action of continuing treatment over a defined period, and adherence is defined as the action of following prescription conditions (dose, number of doses, etc.). All of this is focused on an explicit indicator, age.

Age Indicator

The risk of stroke increases proportionally with age. After 55 years old, the risk of stroke doubles after each decade. The risk of myocardial infarction is increased after 55 years old. Thus, classical cardiovascular disease risk assessment scores (SCORE or Framingham) involve the age criterion. The recommendations of the European Society of Cardiology include in their strong point the fact that screening for risk factors, including lipid profile, can be considered in men aged at least 40 years and in women aged at least 50 years or postmenopausal. (Emergency Medicine 2003).

The incidence of cardiovascular diseases and more generally of chronic diseases increases with age. The multifactorial nature of cardiovascular diseases and the existence of factors related to the work environment justify taking cardiovascular diseases into account in the framework of occupational risk prevention approaches conducted in the Biyem-Assi Health District. Raising awareness among various actors in the neighbourhoods of this health District in the city of Yaoundé the political capital of Cameroon, about the importance of cardiovascular diseases, mainly chronic diseases, is an asset for identifying risky situations and better adapting people's orientation. If occupational risks have been highlighted, interactions with lifestyle justify that this approach fits into a framework of comprehensive prevention.

Population aging has so far been mainly thought of in terms of maintaining autonomy. It is also the challenge at this stage of an individual's life in activity that needs to be addressed now. The incidence of cardiovascular diseases, even chronic diseases, increases with age.

Personal Behaviours

In terms of preventing cardiovascular diseases, it would be wise to consider age as a criterion in the national health plan. Personal behaviours are influenced by specific cultures and identities associated with various categories or groups (social background, region, education, profession, religion, age, gender, etc.). These multiple affiliations and references constitute personal identity. However, based on these multiple affiliations, including the impact of family history on intercultural aspects, personal reflections arising from various life experiences - emotional, social, professional - allow each individual to determine their ideal quality of life or their desired quality of life, based on various factors that have shaped their personal history and accompany them daily. Even though there may be perceived common needs specific to certain categories of individuals regarding their quality of life (disability, loss of autonomy, etc.), individual variations must be taken into account. Basic needs can be presented as fundamental rights of the individual, child, woman, etc., without forgetting rights based on the freedom to act and be, the rights of any person aware of choosing their life willingly, even if it puts them in danger. It is within this framework that the non-respect of these fundamental rights inevitably leads or predisposes individuals to cardiovascular diseases. In this regard, the WHO (2005) defines lifestyle or quality of life as "*the perception that an individual has of their place in existence, in the context of the culture and value system in which they live, in relation to their goals, expectations, norms, and concerns. Quality of life is complexly associated with: physical health, psychological state, level of independence, social relationships, relationship with the environment, culture, and politics.*"

Overmedicalization

Mortality from cardiovascular disease is currently the highest. It affects a population that is often young and diagnosed late. Very few technical and financial partners of international aid have a real strategy to support prevention and management programs for non-communicable diseases, particularly cardiovascular diseases. The main problems often revolve around overmedicalization, manifested by an excess of diagnosis, too frequent use of medication, or a lack of understanding of behaviours related to chronicity, among others, due to a lack of reflection on patients' quality of life. Overmedicalization often challenges medical practice and diagnosis, the intervention of independent nurses and other actors, hospitalization, etc. Furthermore, healthcare professionals face enormous difficulties in conveying their preventive or therapeutic education messages. These aspects are quickly overshadowed in favour of a more culturally focused reflection stemming from genetic and environmental predispositions, hereditary aspects, dietary behaviours, and the sedentarisation of the population, generally presented as the cause of the high prevalence recorded in

the Cameroonian capital, mainly in the Biyem-Assi Health District.

Segmentation among different stakeholders

Segmentation among different stakeholders can be overcome, as some companies and public health actors have managed to create interfaces conducive to the development of life and care pathways for people living with a chronic disease. Prevention of cardiovascular diseases also contributes to reducing social inequalities. For example, unemployed individuals are at increased risk of developing cardiovascular diseases. Preventing this scourge also helps reduce social inequalities. In this perspective, health data not only deserve to be structured and optimized but also need to be part of a comprehensive policy to improve knowledge about health.

The interface between doctors dealing with population health issues and general practitioners, city specialists, and hospital specialists is complex. General practitioners feel poorly informed about occupational diseases and population health issues. Training on non-communicable chronic diseases should be offered to clinicians as part of continuous professional development. Furthermore, the fact that the doctor is bound by medical confidentiality and practices with ethics does not protect the population from the consequences on their activities, from the knowledge about their health that the treating physician will have acquired during these exchanges.

As regard to maintaining these activities, new organizations should be considered to allow better access to therapeutic patient education (TPE) which theoretically integrates the "activity" dimension. Authorization procedures should be more flexible, and funding should be adapted to promote the development of TPE on an outpatient basis and its accessibility throughout the Biyem Assi Health District. Advanced nursing practices from foreign healthcare systems also appear interesting for the management of patients with chronic pathologies, particularly cardiovascular conditions. Cardiovascular rehabilitation centres have made population activities a major objective. However, prevention efforts for cardiovascular diseases can provoke anxiety among all stakeholders, which must be taken into account. It is important to communicate clearly on these issues to all stakeholders to avoid misconceptions that could lead to the stigmatization of patients with cardiovascular pathologies.

Development of health prevention programs

To address the emergence of cardiovascular diseases in Cameroon, particularly in the Biyem-Assi Health District, several health prevention programs are being developed. These are voluntary initiatives that contribute to promoting population health. Many healthcare actors have developed programs in this regard, in a role that could be described as public health

actors. These health promotion initiatives are mainly implemented by large companies. However, we operate in a context where most populations operate in the informal sector, without any health insurance. Consequently, they are unable to finance healthcare or prevent cardiovascular diseases. In other words, given the precarious living conditions of the majority, they often lack the necessary financial means for adequate management of cardiovascular diseases.

Inclusive organization of cardiovascular disease care

As part of the inclusive organization of cardiovascular disease care, enhanced medical surveillance is necessary for individuals aged under 18, pregnant women, individuals exposed to ionizing radiation, noise, vibrations, biological agents, carcinogenic, mutagenic, or reproductive toxic agents, workers, or individuals with disabilities. Subject to the frequency of examinations (every two years) and examinations planned for employees exposed to ionizing radiation, the occupational physician assesses the modalities of enhanced medical surveillance, taking into account existing good practice recommendations.

Follow-up action and prevention of cardiovascular risk

In principle, periodic medical examinations take place at least every 24 months. Thus, adequate monitoring of the health of populations consulting in healthcare facilities in the Biyem Assi Health District should be ensured, and annual nursing interviews and multidisciplinary actions should be implemented, taking into account existing good practice recommendations.

A follow-up action and prevention of cardiovascular risk composed of a multidisciplinary team in charge of this action mobilizes physicians, dieticians, dietary interveners, healthcare nurses, assistants, and health program managers. This joint mission of healthcare professionals must be highly financed not only by healthcare partners but also benefit from scientific and technical support from research professionals in nutrition, communication, and statistics. Actions on public health information and studies on risks within the population are also developed within this framework.

Raising awareness among various stakeholders about the importance of cardiovascular diseases

Raising awareness among various stakeholders about the importance of cardiovascular diseases is an asset for identifying risky situations and adapting the orientation of individuals accordingly. While occupational risks have been emphasized, interactions with lifestyle justify that this approach is part of a comprehensive prevention framework. This prevention must articulate population health and public health, as evidenced by healthcare structures that make maintaining professional activity a strong dimension of patient care. Health services must organize to manage

this risk. The informal activity locations where populations operate appear as prime prevention environments. Segmentation among different actors can be overcome, as some companies or employers and public health actors must succeed in creating interfaces conducive to the development of life and care pathways for employees living with a chronic disease or at risk of cardiovascular diseases.

Practice of cardiovascular rehabilitation in adults

In its recommendations regarding the practice of cardiovascular rehabilitation in adults, the French Society of Cardiology (Groupe exercice réadaptation sport -GERS-) specifies that the return to work is one of the objectives of cardiovascular rehabilitation, with impacts both on a human and a medico-economic level. The criteria for directing patients to these structures need to be better defined.

Their initiation by healthcare services in a shared framework could be a pathway to facilitate their development in any activity the population engages in. However, finding compromises in this regard is challenging, as these initiatives cannot lead to the use of resources that should be devoted to preventing occupational risks. This explains why health promotion, unlike prevention of occupational risks, can only operate within a voluntary context.

Raising awareness on cardiovascular diseases

Raising awareness on cardiovascular diseases should not lead to the exclusion of certain employees or professions by focusing primarily on internal risk management rather than externalization. Various stakeholders have emphasized the importance of anticipation and a comprehensive approach to this issue. This includes not only individual adaptations but also collective approaches to adapting working conditions.

It is essential for all healthcare stakeholders to make the environment a guiding principle of public health policies. The implementation of the national health strategy is of undeniable importance in raising awareness among concerned stakeholders. It also allows, given the weight of classic risk factors for cardiovascular diseases (including high blood pressure, dyslipidemia, smoking, diabetes) most often attributed to individual behaviours, to treat the environment as a place for comprehensive cardiovascular risk prevention and, more broadly, health promotion.

Periodic medical visits, blood tests

Periodic medical visits are recommended for cardiovascular patients and at-risk individuals to ensure the maintenance of populations in activity, their ability to engage in income-generating activities, inform them about the medical consequences of exposures, and the necessary medical follow-up. This surveillance includes at least one or more medical examinations with a periodicity not exceeding 24 months. The interventions

are closely linked to their medical monitoring activities and extend to health promotion actions.

During the medical visit, a blood test is proposed: measurement of blood sugar, triglycerides, cholesterol. Body mass index (BMI) and waist circumference are measured along with blood pressure. The physician completes a questionnaire on lifestyle habits and issues a prescription for the blood test. In addition to medical examinations, the target population should benefit from personalized consultations with a dietician: once a month for six months, then every six months. For patients, they should receive this individual support in the long term. This would prevent the emergence of cardiovascular diseases. Which is not the case in the Biyem-Assi Health District.

Collective evaluation of needs and its limits

Social inequalities manifest themselves in disparities in mortality and life expectancy. One can start from the hypothesis that quality of life corresponds to the actualization of an individual's essential values in life. It meets the need for every individual to feel well and within their socio-affective environment. The notion of well-being is both individual and subjective. However, quality of life is also used not only for groups but also for community members. It is important to specify the differences and limits between individual/collective, subjective/objective. Based on a minimum corresponding to the vital needs of the original group, quality of life enriches to tend towards a desired ideal, responding to various international rights (human rights, children's rights, rights of people with conscious but autonomous disabilities, etc.); individual aspirations related to health and level of physical, mental, and social autonomy; personal history, family, social, professional, religious, cultural, political environment... and the values that make each ideal of quality of life a unique and personal project.

If one wanted to generalize the different levels of needs to which the notion of quality of life responds, reference could be made to Maslow's "hierarchy of needs," integrating more the weight of social and cultural influences that interfere with individual needs to modify them. It should be noted in passing that the hierarchy of these needs actually evokes both needs and aspirations.

Lifestyle

Lifestyle, which is a cornerstone relative to cardiovascular disease, depends not only on material and financial assets. It introduces the importance of the feeling of existence (communication) and being an actor in one's own life, through adaptation (management of concerns and uncertainties), orientation (goals, expectations), meaning (culture, values), transaction (with people, institutions), health, independence, etc., i.e., all processes, strategies, and behaviours through which the person constructs and develops, reacts and defends, gives meaning and value. The importance and

dynamics of identity are affirmed within the framework of "personalization" and "socialization" strategies. Three bipolar vectors intervene: individual and collective quality of life, quality of life in its subjective aspects (feelings and representations of reality and ideals by the person themselves) and objective (minimum needs upheld), but also the difference between the desired quality of life (based on aspirations) and the current quality of life, perceived/evaluated dynamically or only implicitly.

Not a day goes by without someone mentioning a person who had a stroke. At times, it seems like we are trivializing this disease. From field surveys, it emerges that any individual who takes an incorrect action sometimes elicits "humours," sometimes taken very seriously, like: "this person did this to me to the point where I almost had a stroke"; or, "my friend, the fact that you're getting angry there, it's like downloading a stroke," etc. While the level of minimal quality of life corresponding to vital needs appears to be fairly stable, evolving only with the history of the major affiliation group, the ideal quality of life is individual and flexible. It evolves with each person's history, varies among individuals, sometimes undergoing rapid and significant changes in terms of values, among other things due to the necessary adaptation to changes in living conditions (unemployment, illness...) or intellectual, ideological experiences. Furthermore, to fulfil itself, this desired quality of life, unique to each individual, must adjust to that of loved ones who share personal life and its evolution. Any realistic ideal of quality of life is therefore in motion, linked to the evolution of its "carrier" and its compatibility with that of loved ones, which also evolves.

Adaptation to an unstable social environment

The need to adapt to an unstable social environment, filled with uncertainties, constantly challenges the quality of life, which is never acquired in a sustainable manner. Similarly, for health, when it becomes fragile due, for example, to a sudden change in the standard of living, an announced limitation of life expectancy, an accidental disability, or a disease that becomes chronic like cardiovascular disease, all of this can imply the need to manage stress, take responsibility, and adapt urgently for survival, to an individual or collective catastrophe. But in all cases, the person will have to face traumas or various injuries. These events can provoke, or consciously require, from the individual, a total change in aspirations, a reevaluation of priority values. Thus, when one sees oneself with a very limited lifespan, the value of "money" can lose its meaning, while the value of "religion" can become important, etc.

Dietetics

Regarding actions taken around balanced nutrition or physical activity, which theoretically allow testing the hypothesis of "the influence of lifestyle and local dietary habits," it is necessary to examine the

responsiveness of populations to prevention messages, their understanding of the messages, and the risks involved in case of misunderstanding, as if the only acceptable level of inquiry was that of population behaviour. Food is a primary need, but it intervenes in very different ways depending on lifestyles. Lifestyle is associated with the internalization of certain norms, the introduction of decision-making, the abandonment of certain needs/desires in favour of others. The question then arises as to whether the person really has a choice between several lifestyles, between several adaptation or fulfillment strategies. In certain crisis conditions, major events, the person may be required to adapt strongly and quickly, to adopt behaviours contrary to their previous ideals, to survive or help others live. The reality of a situation can provoke different representations and feelings among the actors involved. The ideal of individual quality of life is more or less fluid. It follows events and significant facts that will impact the affective, social, professional life of the person and evolve with their overall life project. The expected quality of life of a young adult, developed to meet all their expectations for a successful adult life, will be confronted with social and affective realities. Of course, quality of life is not limited to aspirations (expected quality of life). It is also the evaluated quality of life.

To relay these individual actions with collective actions, about ten health forums are proposed each year: stands on sleep, nutrition, psychoactive substances. However, all these actions are limited to forums and not practically implemented. It is recommended that health monitoring of employees, for example, be ensured through cooperation between doctors and nurses. The doctor primarily performs pre-return and return-to-work medical visits, visits requested by populations. The nurse conducts "health interviews" as part of periodic monitoring. They provide a health monitoring certificate and refer the patient to the doctor.

DISCUSSION

Can the characteristics of quality of life related to basic or primary needs (food, housing, etc.) be integrated into a collective indicator, while other characteristics, such as aspirations, can only be individual (self-esteem, need for achievement, for example)? Interesting efforts have been made in this direction through the United Nations Development Programs (UNDP), whose results have been annually published since 1990. The notion of quality of life is now used to define the collective level of human development in a country, particularly based on the work of Amartya Sen and Martha Nussbaum. These authors have shown the need to go beyond measuring mere growth (gross domestic product, GDP). Since 1990, the UN has established the Human Development Index (HDI) calculated from three quantifiable indices: health/longevity (based on life expectancy at birth) indirectly measures essential material needs (healthy food, clean water, housing, hygiene, medical care). Since

2002, demographic effects of AIDS, a country's knowledge or education level measured from adult literacy rates and gross enrolment ratios have been taken into account. A high level of this index implies people's ability to participate in decision-making (work, society, etc.); finally, the standard of living (logarithm of real GDP per capita, adjusted for inflation) "encompasses elements of quality of life not described by the first two indices, such as mobility or access to culture." The HDI remains far below what it is supposed to measure, especially when introducing the notion of sustainable development involving the transmission of a better (or at least preserved) world and quality of life to future generations. This development involves addressing poverty and social exclusion, preserving the environment, defending minorities, fair trade, solidarity finance, conflict resolution, etc. In other words, at least three "sustainabilities" interfere: economic, ecological, and social. (Ballet *et al.* 2005; Dubois et Mahieu, 2002).

In the works of economists, the notion of quality of life is constantly confused with human development, well-being, and even happiness. Note that there is even the concept of "Gross National Happiness." As pointed out by Alexandra Voinchet, the Kingdom of Bhutan is indeed the only country in the world to possess a "GNH," based on four fundamental principles: economic growth and development, conservation and promotion of culture, safeguarding the environment and sustainable use of resources, and responsible good governance. These three notions necessarily pass through the individual or through relations between individuals. It is therefore necessary to analyze the individual and subjective aspects of quality of life, suffering, and identities.

A study conducted by Mansouri (2012) on the perception of cardiovascular risk factors among patients in general medicine demonstrates that those interviewed do not precisely understand the notion of risk factors and cardiovascular diseases. Furthermore, the identification of cardiovascular risk factors often appeared erroneous, and the perception of risk varied from person to person, highlighting the challenges in achieving effectiveness in cardiovascular primary prevention. For Maréchal (2014), in a context where Westernization and globalization contribute to the emergence of cardiovascular diseases, cardiovascular risk factors remain poorly understood in France. The conclusions of his study conducted among a Kanak population are in line with those of Mansouri (2012), namely a low understanding of cardiovascular diseases, a partial identification of cardiovascular risk factors that often appears as an abstract notion. This study also reveals that the link between these diseases and their risk factors is not evident, and their representations are numerous on the one hand, and that the interest in prevention is lower on the other.

According to survey participants, it is difficult to abandon lifestyle habits that fill daily life, regardless

of their interest in health. Therefore, it seems difficult to abandon these habits in the context of participating in cardiovascular disease prevention. Serour *et al.* (2007) had already highlighted the non-compliance with lifestyle changes in their study on cultural factors and patient adherence to lifestyle measures. Thus, they showed that the majority of respondents, overweight, did not practice the recommended levels of physical activity and did not follow dietary recommendations. Long before, Neuhouser *et al.* (2002), had already conducted a study seeking to determine whether people living with diabetes, dyslipidaemia, cardiovascular diseases, or hypertension living in the community complied with the standard dietary recommendation for the treatment of these modifiable disorders. This study concluded that most respondents were still overweight or obese, consumed a high-fat diet, fruits and vegetables, and engaged in very little physical activity.

Moreover, in some cultures, according to our study, certain diets would have therapeutic virtues, such a belief would justify the difficulty in abandoning nutritional habits related to them. The Health Belief Model theory or health belief model allows understanding such a belief as psychosocial variables that affect people's perceptions and indirectly influence behaviour regarding the implementation of recommendations in the context of awareness of cardiovascular diseases.

Sociocultural reasons limit participation in cardiovascular disease awareness campaigns. To this end, the information collected has revealed that informants will have an idea of cardiovascular disease awareness campaigns if they have already experienced a campaign concerning other health problems such as HIV, of which there are many campaigns. Otherwise, their knowledge remains limited on the issue of cardiovascular diseases. Most respondents give an approximate definition and confuse predisposing factors with certain cardiovascular diseases. This situation is likely to compromise participation in cardiovascular disease awareness campaigns. Environmental determinants such as the dietary habits of the target population such as: excessive consumption of alcohol and drugs, stress generated by performance demands and insufficient social support, sedentary lifestyle, lack of physical exercise constitute real obstacles to the non-participation of the community in cardiovascular disease awareness campaigns.

CONCLUSION

Primary prevention of cardiovascular diseases is currently primarily focused on classical risk factors, yet the role of the work environment is established, justifying collective prevention encompassing all these factors. The interaction between these different risk factors and the extreme complexity associated with demonstrating the respective causality of these different factors is one explanation for the limited attention given

to cardiovascular disease prevention in occupational health, even though some authors have already drawn attention to this phenomenon. Other reasons may be cited that relate to the very modalities of constructing the healthcare system. It relies on the responsibility of financial partners in healthcare, thus implying prevention biased by financial and regulatory issues. Hence, the emergence of cardiovascular diseases despite conferences, meetings, health programs, and health strategies implemented to eradicate this scourge, which is one of the leading causes of mortality not only globally but also in Cameroon. In the Biyem Assi Health District, there is a problem of ancestral beliefs.

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