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UNIVERSITÉ DE YAOUNDÉ 1

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**DIET AND THERAPY AMONG THE BAKWERI MIDDLE
AGE DIABETES PATIENTS IN BUEA, SOUTH WEST
REGION CAMEROON: A CONTRIBUTION TO MEDICAL
ANTHROPOLOGY**

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TO
the family of BONG

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ABSTRACT

This research work titled “**Diet and therapy among the Bakweri middle age diabetes patients in Buea, South West Region Cameroon: a contribution to medical anthropology**”. It was aimed at exploring how middle age diabetes patients of Buea use diet to improve their health. Although statistics have proven that when people have diabetic, they are advised from the hospitals to take drugs, injection of insulin and carried out physical exercises. This may similarly not be the case among the Bakweri middle age diabetes patients. This worry raises the following main question: How do middle-aged people use diet to manage diabetes? This was equally followed by a main hypothesis: By preparing and eating their local food like Kwacoco and mbanga soup, egussi, Kwacoco bible, ekwang, Ndole and unripe plantain. The main objective of this work is to find out how middle- aged people use diet to manage diabetes. In order to better explore and to have an understanding of these questions, the research work relied on the qualitative approach, method and techniques of collecting anthropological data: documentary research as a secondary source and data collection techniques such as focus group, informal discussion, interview, and direct observation as primary source. The data was analyse using content analyses and the data was interpreted using the cognitive behaviour therapy theory and the theory of Functionalism. Findings of this research shows that the Bakweri middle-age patients depend on local food like Kwacoco and mbanga soup, egusi pudding, ekwang, Kwacoco bible depending on it to treat and improve their health condition. In addition, they didn’t rely to their local food but tend to biomedicine, traditional practitioners and faith healers. The findings of this work reveals that; diabetes is perceived as paranormal phenomena when consider the action of an external force like the practices of witchcraft, evil recantation. Again, is seen natural as hereditary and family history, overweight and too much consumption of sugar.

Key Words: Diet, therapy, middle age, diabetes, Buea Municipality.

RÉSUMÉ

Ce travail de recherche intitulé « **Alimentation et thérapie chez les patients diabétiques d'âge moyen Bakweri à Buea, Région du Sud-Ouest du Cameroun: une contribution à l'anthropologie médicale** ». Il visait à explorer comment les patients diabétiques d'âge moyen de Buea utilisent l'alimentation pour améliorer leur santé. Bien que les statistiques aient prouvé que lorsque les personnes sont diabétiques, les hôpitaux leur conseillent de prendre des médicaments, de s'injecter de l'insuline et de faire des exercices physiques. Cela peut également ne pas être le cas chez les patients diabétiques d'âge moyen de Bakweri. Cette inquiétude soulève la question principale suivante : comment les personnes d'âge moyen utilisent-elles l'alimentation pour gérer le diabète ? Cela a également été suivi d'une hypothèse principale : en préparant et en mangeant leur nourriture locale comme la soupe Kwacoco et mbanga, l'egussi, la bible Kwacoco, l'ekwang, le Ndole et le plantain non mûr. L'objectif principal de ce travail est de découvrir comment les personnes d'âge moyen utilisent l'alimentation pour gérer le diabète. Afin de mieux explorer et comprendre ces questions, le travail de recherche s'est appuyé sur l'approche qualitative, la méthode et les techniques de collecte de données anthropologiques: la recherche documentaire comme source secondaire et les techniques de collecte de données telles que le focus group, la discussion informelle, l'entretien, et l'observation directe comme source principale. Les données ont été analysées à l'aide d'analyses de contenu et les données ont été interprétées à l'aide de la théorie de la thérapie cognitivo-comportementale et de la théorie du fonctionnalisme. Les résultats de cette recherche montrent que les patients d'âge moyen Bakweri dépendent de la nourriture locale comme la soupe Kwacoco et mbanga, le pudding egusi, l'ekwang, la bible Kwacoco qui en dépend pour traiter et améliorer leur état de santé. De plus, ils ne comptaient pas sur leur nourriture locale mais plutôt sur la biomédecine, les praticiens traditionnels et les guérisseurs religieux. Les conclusions de ce travail révèlent que; le diabète est perçu comme un phénomène paranormal quand on considère l'action d'une force extérieure comme les pratiques de sorcellerie, la rétractation maléfique. Encore une fois, il est considéré comme naturel comme des antécédents héréditaires et familiaux, un surpoids et une trop grande consommation de sucre.

Mots clés: Alimentation, thérapie, âge moyen, diabète, municipalité de Buea.

LIST OF ACRONYMS AND INITIALS

LIST OF ACRONYMS

ADA:	America Diabetes Association
BLCC:	Bakweri Land Claims Committee
CDC:	Cameroon Development Corporation
HIV/AIDS:	Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome
HOD:	Head of Department
O/L:	Ordinary Level
US:	United States
WHO:	World Health Organization

LIST OF INITIALS

APHA:	America Public Health Association
BMI:	Body Mass Index
CDC:	Centre for Disease Control
CGMS:	Continue Glucose Monitoring System
CNDHP:	Cameroon National Diabetes and Hypertension Programme
CT:	Cognitive Therapy
CUD:	Cardiovascular Disease
DCCT:	Diabetes Control and Complications Trial
DHA:	Docosahexaeroic Acid
DM:	Diabetes Mellitus
EASD:	European Association for the Study of Diabetes
EPA:	Eicosapentaenoic Acid
FDA:	Food and Drug Administration
GDM:	Gestational Diabetes Mellitus
GIS:	Geographic Information System
HB:	Haemoglobin
IDF:	International Diabetes Federation
IRR:	Incidence Rate Ratio
LBS:	Low Blood Sugar
LM:	Lean Mass

LMICS:	Low and Middle-Income Countries
MT:	Traditional Medicine
NCDS:	Non-Communicable Diseases
NHIS:	National Health Interview Survey
NIC:	National Institute of Cartography
NIDDKD:	National Institute of Diabetes and Digestive and Kidney Disease
NLMS:	National Longitudinal Mortality Study
REBT:	Rational Emotive Behaviour Therapy
SES:	Socioeconomic status
SMBG:	Self-Monitoring Blood Glucose
SSB:	Sugar Sweetened Beverage
T2DM:	Type Two Diabetes Mellitus
UN:	United Nation

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GENERAL INTRODUCTION

Introduction

In the first chapter of this study, we will analyse the context of study, justification of the study which is both a scientific justification and personal justification, research problem, statement of the problem, research hypotheses, research objectives, data analysis, ethical consideration, scope and limitation, challenges encounter and chapter outline.

0.2 Justification of the study

The justification of this study had several dimensions which points out why the researcher decided to work in such a health-related issue. In justifying the study, the scientific aspect is first handled and then, personal justification of the study.

0.2.2 Scientific justification

This piece of work or research will contribute to scientific knowledge development and literature availability which will be exploited by upcoming researchers as a steppingstone. It will go a long way to contribute to the field of science generally and anthropologically. Anthropology sets to explore and investigate reasons behind human behaviour, their perceptions, and interpretations. Because of the available literature on the subject area, then create awareness to the local population where the study on diet and therapy link to diabetes will be carried out.

0.2.1 Personal justification

The choice of this research topic was not by chance. The research topic has been in the pit of the researcher for quite some time when I was in secondary school. I chose diet and therapy precisely because it will protect a lot of people from any chronic diseases like obesity, stroke, and most importantly diabetes in my family. Growing up with my aunt and the husband I discover he had diabetes and do not control his dietary intake. Which continue to worsen his situation. I therefore decided that I will do research and try to find out the possible solution to help my family manage the diabetes disease using dietary intake.

So deep in me I was like can this man not reduce the level in which he eats, so with the child knowledge I had I didn't know how to help him at that time, that's why I said to myself that in the university I will study diet to ameliorate the situation, because this aged people behave like babies need someone to direct them on what to do. What causes this diabetes, how it can be manage and how one can use diet to manage it.

0.3 Research problem

Every society is faced with a problem which are linked to her socio-economic, physical environment and their supernatural world. Diabetes in Buea is a growing public health concern which affects the population either directly or indirectly. But with the beginning of civilization, the creation of health facilities and making the closeness and services easier to the people. There are different therapies for different diseases around the world. In many neighbourhoods in the South West Region, diabetes patients seek healings from the hospitals through the taking of drugs, injection of insulin and physical exercises. They also visited their traditional practitioners where incantations and divinations are performed. Not forgetting the visiting of faith healers who invoke the supernatural to intervene and ameliorate the health conditions of the people.

But this is similarly not with the case of among the Bakweri middle age diabetes patients in Buea who depend on their local food like kwacoco and mbanga soup, ekwang, kwacoco bible, unripe plantain, egusi soup, ndole and unripe plantain to ameliorate their health situation. This dependent on their local food as a therapy is even more pronounced or acute with the coming of the Anglophone crisis and the Covid 19 pandemic. Add to the above, diet is the cheaper and easily accessible means for the diabetes patients to monitor their diabetes alone without having to do sport or go to the hospital or to see a herbalist. Reasons why this research seek to find out why the increase of diabetes cases and probably how middle-aged people can use diet to manage their diabetes. Thus, this has made the government uneasy and feels disappointed in their project realization.

0.1 Context of study

Eating is a healthy diet that can help reduce the risk of obesity, coronary heart disease, stroke, some cancers, type 2 diabetes, high blood pressure, and tooth decay World Health Organisation and Food and Agricultural Organisation (WHO & FAO, 2003). Diet is something that a lot of people neglect most especially middle-aged people. At their age they do not know certain things like maintaining good health by eating what is good. Based on research, poverty is one of the measures causes to maintain a good diet. That is, if you do not have money how can you maintain a good diet because it requires a lot like eating different food from what you were eating before most especially in families where you must eat different from what your children or wife is eating.

Among the middle-aged people of Bakweri we are working with a lot of them that have diseases like hypertension, stroke, cancer, but our focus is on people with diabetes. Diabetes is the condition in which the body does not properly process food for use as energy. Most of the food we eat is turned into glucose, for our bodies to use for energy. The pancreas, an organ that lies near the stomach, makes a hormone called insulin to help glucose get into the cells of our bodies. Therefore, most people refer to diabetes as “sugar disease”. Being a diabetes patient is not easy because everything about you changes like your lifestyle, most especially what to eat in order to maintain good health. This people go through a lot, and some don’t even have money to help themselves.

Findings conducted by Krauss et al (2000), shows that, there are dietary and other lifestyle practices that all individuals can safely follow throughout the life span as a foundation for achieving and maintaining cardiovascular and overall health. Healthy dietary practices are based on one’s overall pattern of food intake over an extended period and not on the intake of a single meal. The guidelines form a framework within which specific dietary recommendations can be made for individuals based on their health status, dietary preferences, and cultural background. In line with this, middle-aged people living conditions and poor lifestyle affected their healthcare condition. These middle-aged people were regarded as the least informed and less privileged who due to one reason or another has the worst medical record. Due to their lack of finances and knowledge on how to manage their medical condition, they found themselves taking wrong nutritional decisions which affected their health conditions. Due to the lack of finance faced by those in Buea Street, they eat junk food and consumed nutrients that rather increased their glycaemic levels rather than reducing it or maintaining a balance between the food aliments which could provide them with a favourable health condition.

As stated by Chinaza (2020), a healthy diet is any diet that helps to improve or maintain overall health. Healthy diet provides the body with the essential nutrition: fluid, micronutrients, macronutrients, and adequate calories. A healthy diet is essential for nutrition and good health. It protects an individual against numerous chronic non communicable diseases, such as diabetes (especially type 2), Eating a variety of diets and consuming less salt, saturated and industrially-produced trans-fats, and sugars are essential for a healthy diet. A healthy diet may contain whole grains, fruits, and vegetables, and includes little or no processed foods and sweetened beverages. Requirements for a healthy diet may be met from a variety of animal-

based and plant-based foods, though a non-animal source of the vitamin B12 is required for those following a vegan diet. Various nutrition guides are published by the governmental, medical, and nutritional institutions to educate people especially the diabetes patients in Buea on what to be eating to become healthy. The nutrition facts labels are also compulsory in many countries

to allow the consumers to choose foods based on components relevant to health, rather than just merely satisfying their appetite. The World Health Organization makes the following 5 recommendations with respect to both individuals and populations. Eat 400 g of fruits and vegetable or above per day (cassava, potatoes, sweet potatoes, and other starchy root crops do not count). A healthy diet also contains legumes (for example, beans, lentils), whole grains and nuts. Limit intake of fats. Less than 30% of total calories should come from fat. Prefer unsaturated fats to saturated fats. Diabetes patients of Buea have to limit the intake of the simple sugars. Limit sodium and salt from all sources especially the middle-aged with diabetes. Maintain healthy weight by consuming approximately the same number of calories the body is using.

It is recommended that prescription of diet for people living with diabetes should not be fixed but should depend on nutritional assessment, requirement, goals, individual preferences and the cultural milieu. The goals of dietary prescription are to improve cardiometabolic parameters (blood glucose, weight, abdominal circumference and blood pressure) and prevent, delay the onset or prevent the progression of diabetes complications. These are not to be achieved at the expense of pleasurable enjoyment of meals and disregard of cultural values and beliefs. Attention should be placed on the unique needs of special people like the Bakweri middle-aged diabetes patients of Buea on meal-related medications such as insulins to avert both hyperglycaemia and more importantly, hypoglycaemia.

Studies have shown that with good adherence, prescribed diet can lower HbA1c by 1-2% within 3-6-months.²⁵ In obese or overweight patients, the prescription should be aimed at moderate weight loss (5-10% of present body weight).²⁴ This is achievable with a low carbohydrate and low-fat diet. Carbohydrates with low glycaemic index should be prioritized. Glycaemic index of food is defined as the extent of rise of blood glucose. (Taoreed et al., 2020).

0.4 Statement of the problem

The Governments are investing in public health through the provision of health infrastructures and specific health programs. In this topic we are trying to bring out the role of diet in the

management of diabetes as compare to other measures. Despite the fact that there are several measures which the hospitals have brought in to manage diabetes like CGM, providing patients with insulin shot. It is not very adequate because sometimes some of them cannot afford this medication or they are not able to get to the hospital for proper check-up or follow up. So there is a means to do it on their own to make them more aware and more implicated into their treatment plan. This health infrastructure has been existing for years, meeting the health needs of the population in the area even though it has been discovered that the attendance is very low which one of the reasons is the scarcity of dietitians. The government of Cameroon and her development partners have concentrated effort in the improvement of the health care system with the aim of reducing the prevalence of diseases. However, this effort has been compromised by certain factors which are problematic as far as health care sustainability is concerned in Cameroon and Buea in particular. According to the Cameroon National Diabetes and Hypertension Programme (2002), 6-8% of the population is diagnosed with diabetes. Governments are investing in public health through the provision of health infrastructures and specific health programs. A global estimate of diabetes prevalence was noted at 9.3% by the International Diabetes Federation (2019).

However, it was discovered that in the Buea Regional Hospital diabetic patients are not properly followed-up by health personnel. Patients' rendezvous to the hospital is every Tuesday and there is a serious problem when old and new patients are received and eventually not separated from the follow-up procedure. The condition of new patients is not ameliorated because of anthropological, sociology and cognitive management of health among the people of Bakweri using biomedical, traditional practitioners and faith healers.

Gelis Jacques, goes further to explain that various anthropological and sociological studies have proven that the choice of medication, treatment, the place of the activity or activities are in one way or the other linked to the geographical context and the socio-cultural context of the individual in which he participates within his period of sensitization of diabetes patients (Gelis 1981).

With my topic the objectives were to prove that diet is an easier and more simple way for diabetes patients to be able to manage their health condition because through diet they are more implicated in their diet plan, more conscious of what they eat making them to be more aware of their condition. At my area of survey which was the Bakweri people in the South West Region, I carry out my research in the Bakweri community, at the Buea Regional Hospital, I

follow some of them to their home and ask several question on the things they eat, at what time they eat and how they eat.

To better explain or elaborate on this study, “empowerment and confidence” derived from the theory of Cognitive Behaviour Therapy. The review case of diabetes by Janice (2010) was equally used to explains the confidence of the person with diabetes, while addressing anxiety and depression relating to the condition. CBT uses measurement tools to determine the individuals’ perception and understanding of their diabetes and self-management.

0.5 Research questions

0.4.1.1. The research questions are subdivided into main research question and specific questions which are here by stated as follows.

0.5.1 Main research question

How do middle-aged people use diet to manage diabetes?

0.5.2 Specific research questions

0.4.2.1. What are the perceptions of causes of diabetes among the Bakweri middle-aged patients?

0.4.2.2. What are the different types of diet available among the Bakweri middle-aged diabetes patients?

0.4.2.3. How does health system respond to the care need of middle- aged diabetic patients?

0.6 Research hypotheses

A Hypothesis is an idea or explanation for something that is based on known facts that have not yet been proven. It is a tentative answer awaiting confirmation or to be refuted. Our study has one main hypothesis and the specific hypotheses related to the main questions and specific questions earlier mentioned.

0.6.1 Main Hypothesis

0.5.1.1 Middle aged people use diet to manage diabetes by preparing and eating local food like Kwacoco and mbanga soup, Kwacoco bible, Ekwang and egussi pounding.

0.5.2. Specific hypotheses

- 5.2.1 There are natural and supper natural causes in middle-aged diabetes patients among the Bakweri people of Buea.
- 5.2.2 The different types of diet consumed by diabetic patients are locally produced food like: cocoyams, beans, kwacco bible, and garden egg.
- 5.2.3 Health care system respond to middle age diabetes patient through prescription of drugs, diet, incantation, and through prayers.

0.7 Research objectives

The objective of this study is divided into main objectives and specific objectives which set the pace for investigations to be effectuated.

0.7.1 Main objectives

0.6.1.1. To find out how middle- aged people use diet to manage diabetes

0.7.2 Specific objectives

0.6.1.1 To illustrate the causes of diabetes in the Bakweri middle- aged patients in Buea.

0.6.2.2 To identify the different types of foods the Bakweri middle-aged diabetes patients take to manage their health.

0.6.2.3 To show how far health system respond to diabetes patients of the Bakweri middle aged patients.

0.8 Methodology

It is a method that brings about a certain goal in the research area. The method used in this study is qualitative research approach, reason being that it gives us accession to information on what people know and what they don't say regards to diabetic patients. During this research a good number of libraries were consulted with the intension of collecting secondary information on diabetes related issues which included the libraries of the University of Yaounde¹, the libraries of the University of Buea and achieves from the Buea Regional Hospital. The BUCREP office, National Institute of Statistics, Ministry of Scientific research and other related offices and institutions were used to gather more secondary information on related diabetes prevalence in Cameroon. This gave way for the field work to carefully identify and observe health centres and the treatment of diabetes patients in the Buea Municipality. Here, diabetes patients, related health personnel, and authorities and resource persons in the Buea

Regional Hospital were contacted and the information collected was either through field observation, administration of questionnaire, focus group discussions or by granting of interviews.

0.9 Research Design

Research design is the overall strategy applied to carry out research. The qualitative approach was used in our study to collect, interpret and analyse data. In other words, it is an assembling of information or data explored by setting a hypothesis and consequently coming up with applicable findings in an organised way. The researchers usually start off with the research question and evaluate how it's possible to carry out research from beginning to end (Johannessen et al 2004). In qualitative research design the researcher focuses on why a specific theory exists and what would be the respondents' answer to it. This allows the researcher to draw conclusions with proper findings.

0.9.1 Sampling

The sampling of this work is intensive on diet and therapy, which concerns many Bakweri's with diabetes dispersed all over Buea. Sampling is the selection of a subset of the population of interest in a research study (Dana P. et al., 2020). Putting in place an effective sampling strategy is fundamental in any study determining the outcome of the findings. An effective sampling strategy is important for qualitative research. The research objectives, sample technique, sample procedure, all feed into the design of qualitative sampling strategy.

0.9.2 Sampling Technique

A sampling technique is the name or other identification of a specific process by which the elements of the sample have been selected. There are various kinds of sampling methods, which fall under two main classifications: probability and non-probability sampling. The probability sampling also called random sampling, this category initiates with a full sampling of all the individuals with diabetes in Buea who are qualified to get information. This main random sampling grants all eligible participants the chance to be used. In this way the sample will be able to allow us to generalize from our results.

Non-probability sampling is when some participants don't have the chance to be selected in the sample, instead it relies on the researcher's judgment. As such, researchers can't assess the effect of the sampling error. This tactic is used because of the huge nature of the work.

0.9.3 Research site

A research site is a place where research was conducted which was Buea. Buea is a town located in South west Cameroon. It is situated at an elevation of 3,000 feet (900 meters) above sea level and is located on the southeast slope of Mount Cameroon. Volcanic craters on Mount Cameroon. We designated to carry out this research in Buea because of the middle-aged diabetic patient's strategic location and its approachability.

0.9.4 Sampling population

A population is the entire group that you want to draw conclusion about. Buea is a very big town, but our focus will be the population of the Bakweri people in Buea from which we aimlessly drew our sample. The sample audience for the study was a total of 50 participants with 20 males and 30 females who took part in the study, while 40 of them were married 4

single and 6 widow/widowers. Most of the informants in our study were between 45-75 years upward because we were dealing with middle-aged patients. Some of them were workers, farmers, teachers, house wife, and drivers. 20 of them were Roman Catholics, 10 Presbyterians, 15 protestants and 5 Muslims.

0.9.5 Sampling Procedure

Sampling procedure choosing part of a population to use to test hypotheses about the entire population. It chooses the number of participants, to conduct a simple random sample, the researcher must first prepare an exhaustive list of all members of the population of interest. From this list, the sample is drawn so that each person or item has an equal chance of being drawn during each selection round based on their knowledge on diet.

0.9.6 Sample size

Sample size determined the act of choosing the number of observation or replicates to include in a statistical sample. The sample size is an important feature of any observed study in which the goal is to make suggestions about a population from a sample. The sample size used in a study is usually determined based on the cost, time or convenience collecting the data and the need for it to offer sufficient statistical power.

10 Data collection methods

In this research work, data collection came from two main sources which were secondary and primary sources.

0.10.1 Primary data collections

This involved data gotten through field work which was largely constituted of qualitative data. This data was gotten through visits to the study area during which hospital authorities, related offices and resource persons were contacted. From these visits, information was collected by direct field observation, and granting of interviews to resource persons. Focus group discussions were used to obtain information on the challenges faced by the diabetes patients and their coping strategies and in view of these challenges. In this light, two field trips were organised whereby the first one was for the familiarisation with the study area and the commencement of data collection. One of the reasons collecting this data was to see the

different types of diets consumed by diabetes patients, what causes diabetes among the Bakweri people of Buea, and what where the different types of health system, treatment use by the middle-aged of Bakweri people in other to ameliorate their condition. The second continued with data collection which took quiet long because of the socio-political crisis in the region. Some respondents from Buea were even contacted in the town of Yaounde for interviews such as some medics from Buea. This data in no small way played a great deal in the attainment of the objectives of the study.

0.10.1.1 Interview

Interviews targeted resource persons and related officials that could give an insight of the diabetes patients in the Municipality. This involved the Hospital authorities, like the medical doctors, dietician, diabetic patients, and their care givers. Herbalist were also interviewed on how they handle the disease and to capture insights concerning the disease.

This personality was interviewed to adequately understand how diabetic patients are being managed, sensitization to the general population concerning the prevalence of the disease among other. Information on the growth and evolution of the disease in Buea was obtained from the personality which was later analysed to draw meaningful conclusions. This interview also drew information on the number of registered diabetic patients in Buea etc.

These participants were interviewed to have an in-depth information on the feeding habits of diabetic patients in Buea, or how diet is responding to their health condition. This interview equally draws information concerning the measures that have been put in place at the level of sensitisation of diabetic patients. This was in line with hypothesis three on the challenges faced by the diabetic patients in Buea Municipality. This also aimed at getting information how the ministry of public health is responding to the challenges confronting diabetic patients.

Diabetic patients were interviewed to determine their feeding habits, type of food they are eating, how they are being catered for by their families and the health personnel in the Buea.

0.10.1.2 Observation

Observed phenomena were captured with the use of a digital camera. These data were input in a Photoshop software where the photos were enhanced through instructive and clearing off layers found in the photos to make them very clear and noticeable. It was observed that a lot of diabetes patients neglects the prescription given to them by health personnel's and focus their mind on traditional practitioners because they belief they are cheap and easy to access.

0.10.1.3 Focus Group

This is a qualitative research methodology used to explore the opinions, knowledge, observations, and anxieties of individuals regarding a particular topic. The focus group typically comprises three to four individuals who have some knowledge of or involvement with the topic, members of same class, social status, same age group and sometime the same gender depending on the subject under study. It was important to do this focus group because it won't take so much of your time moving from one informant to another.

0.10.1.4 Life history

Life history entails an elaborate explanation of events by individuals such as middle-aged patients with diabetes to trace the cause and how they can use diet to manage their health.

0.10.2 Secondary Data Collection

The data that was gotten here was largely qualitative data and was gotten mostly through literature review. This involved the consultation and systematic exploration of textbooks, theses, dissertations, research reports, periodical journals, conference papers, published and unpublished documents on diabetic related issues and health care systems and related websites. Internet materials were downloaded in a flash disk and later exploited. These documents were exploited by analysing ideas of existing authors and research works on the topic and making some adjustments and amendments. These consultations were realised from libraries, research institutions and internet exploration.

0.10.2.1 Documentary research

The data collection process for this study started with the secondary data. The secondary data collection continued even during the primary data collection phase and beyond. Instruments involved in the collection of these data were maps, pens, pencils, note pads, tracing papers, photocopiers, diskettes, and printers. The collection of this data was basically a desk exercise, and it was devoted to the collection of data from both published and unpublished sources. This involved the exploration of the extensive literature present on the research topic both at local, national, regional, and international levels which exist in textbooks, websites, dissertations,

theses, journals, periodicals, magazines, laws, Decrees, and various administrative texts. The study was very critical in identifying relevant and up-to-date literature on the topic of research. The choice of the literature was not only because it provided new ideas but also because it was necessary to explore and understand what others have done in the domain of diabetes and health care systems in the local, regional, national, continental and the international levels. This helped to broaden the perspective and to set the work in a rightful context. Exploration of this literature permitted and effective spotting out of areas which have not been researched or where there is need for effective research to be conducted. Literature was gleaned from various documentation centres in Cameroon and related websites.

Consultations were effectuated on a wide range of research works both published and unpublished on the diabetes and management of the disease in Cameroon and other countries of the world, and in Buea Municipality in particular. Most importantly, the faculty library of the Faculty of Arts Letters and Social Sciences (FALSS) of the university of Yaounde 1 which is very rich and gratified with works of the pioneer lecturers of the country stocked in there that cannot be found anywhere in the country. Also, the libraries of the Universities of Buea, were also visited despite long administrative procedure to gain access. These libraries were very pertinent in that they had newly defended theses and dissertations which can only be found there. These libraries gave the study a wider range to obtain information on diabetes in Cameroon and the world at large.

The internet constituted one of the most important sources of secondary data for this study. For the fact that not all the documents or information found on the internet is trustworthy cautioned the researcher to be careful on the type and sources of information gleaned from the source. The researcher was more careful to verify whether the information on the internet was published by recognised journals, organisations, and reliable research institutions. The data collection here was both at international, regional, national, and local levels diabetes patients and management of the disease. The internet was very important in immeasurable ways. The extensive exploration and the collection of secondary data was not still enough for the study and thus, the study proceeded to the collection of another set of data called the primary data to complement the secondary data to attain the research objectives.

0.11 Data collection techniques

The following techniques were used to collect data in the field

0.11.1 In-depth interview

In depth interviews are a useful type of qualitative research method, their goal is to discover in depth a respondent's point of view, involvement, feelings, and perceptions. The proportion of men to women who were diagnosed with diabetes was 4:1 ratio. The total number of people interviewed was 50 participants with 20 males and 30 females who took part in the study. These participants were all inhabitants of the Buea locality and its surroundings. This interview was done through the voice recorder and field notes were written to apprehension non-verbal signs that were not taken by the voice recorder. It was taken into consideration the meeting place, time, and a comfortable place for the interview to be conducted.

0.11.2 Direct observation

With regards to field observation, diabetic patients Wards were observed in the Regional Hospital of Buea and their type of dietary intake. Homes or residents with diabetic patients were all visited and their situations, diets were taken note for analysis. The observations were also Anthropogenic in nature where the participant got involved in catering for the patients for some time to understand and determine how things are get done in view of managing diabetic patients especially in the Buea Regional Hospital. About this, a digital device was used, data were collected using video and audio, pictures taken on how diabetes patients where sensitised on how to take care of themselves, tape record, notebook and pen were all used to collect data at this instance.

During field work, the attitude of diabetic patients was equally observed especially to their care takers and how they conform to their dietary advice.

0.11.3 Focus Group Discussion

The researcher, to obtain valuable information on different coping strategies used by the people of Buea to protect themselves against diseases like diabetes were organized. It brought about doctors and relatives of the patients. This is because they understand the patients better than anyone does. In total, three focus group discussions were conducted. Two of them were conducted in Buea Regional Hospital with three diabetic patients, four nurses and two dieticians all from the same hospital. The last one was held in a local health centre at Great

Soppo in Buea. A wide range of things were discussed, comments, asides and gestures were all taken note of for analysis.

0.12. Data collection tools

Data collection is the process of gathering and measuring information on variables of interest, the various instruments were used in the field to collect our data: camera, notebook, pen/pencil, USB key, voice recorder and laptop. The following research tools were elaborated and used to collect data for this study.

0.12.1 Interview Guide

It helps interviewers to know what to ask about and in what order and it guarantees a candidate knowledgeable. Our guide was made up of developing causes on diabetes in a tête-à-tête formula.

0.12.2 Direct observation guide

Marriam (1988) states that direct observation guide is a data gathering process which a participant observes gains into the perspectives of the people being observed. By observing one could see the behaviour, physical aspect of the middle-aged diabetes patients without having to depend on their willingness or ability to respond.

0.12.3 Focus Group Discussion Guide

The focus group discussion guide was draw from our topic which benefits us to have varied involvement from each participant.

0.13. Data analysis

In this research, several types of data were collected that were rendered different types of treatment before presentation, analysis, and interpretation. These types of data principally consisted of qualitative. The data collected embodied interview data, focus group discussion data, cartographic data, and observation data. As earlier stated, these data were treated differently and presented in the form of graphics, figures, and tables.

The treatment of qualitative data began with data coding where the Strauss method of open system data coding was used. In this case, categories of responses from respondents and the major themes were identified, assigned, and classified. These categories were manually recorded on a prepared block note as per objective of the study that enabled the formation of

constructive codes from *in vivo* codes obtained during interviews and focus group discussions. The *in vivo* codes laid emphasis on the participants' actual spoken words. This type of data coding method championed because of its usefulness in highlighting the voices of the participants themselves during interviews and focus group discussions. The *in vivo* coding method was also used because it was thought to be very reliant to pass across the message using the direct words of the participants.

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0.13.1. Data interpretation

Data interpretation refers to the process of using diverse logical methods to review data and arrive at relevant conclusion. The interpretation of data helps researchers to categorize, manipulation, and summarize the information to answer critical questions. The data was interpreted using the theoretical framework like functionalism and the theory of cognitive behaviour therapy with concepts.

0.13.2. Data management

At the end of each day, information gathered was organized and categorised into sub-themes and necessary details. Data management is based on resolutions, discoveries of answer and a solution to the combination of elements of a problem explains by Mbonji (2005). Hereafter, we vacant data analysis and explanation.

0.13.3. Language procedure

With regards to qualitative study, deep individual interview was carried out with the aid of an interview guide were conducted in English since the diabetes patients where from an English speaking town.

0.14 Interest of the study

The importance of boarding on this piece of work is divided into two parts; theoretical and practical to explain the pertinence.

0.14.1 Theoretical interest

Research on diet and therapy in the case of middle-aged diabetes are being registered in the frame of anthropology. This work has gone a long way to contribute, improve on scientific knowledge and on the anthropological discipline with regards to the findings on diet and therapy in the study due to request of scientific methods during research. Also, it helps to bring out the gaps which science has not touched in that area, which is about to be treated and create consciousness about the case study that has not really be exploited thus spreading the scope of study. Throughout our research we are going to understand all those that spoke about diet and bring out the ideas of each and every one of them to sensibiliser the population.

0.14.2 Practical interest

On practical interest, it has given suggestion, provide solutions to the government through the ministry of health to some of the problems that have been examined and researched upon. Also, another solution will be providing a closer rapport between traditional practitioners, their patients, and centres to remedy the situation because they consider conventional medicine as a remedy to the situation. The aid of finance could also help to sponsor the cost of health services and thus drag more people to accept these services. Thus, advising them on what to eat and what not to eat because some might have some consequences in the long run. The data aimed to be helpful to World Health Organisation, United Nation and many international organisation to use to ameliorate the condition of diabetes patients and middle-aged particularly among the Bakweri people of Buea.

0.15 Ethical consideration

This ethical consideration is to make sure that the research topic is accepted by the supervisor. The Department of Anthropology have made available which will be sign by the head of department (HOD). From start to finish, this study ensured that research ethics were well respected not to harm or discomfort participant while collecting data. This was well taken note of at the level of interviews and focus group discussions. At the level of interviews, the interviewer had it as a tradition to always reach out to the interviewee to arrange a program on when, where and what type of questions that will be expected. In some cases, the researcher had to forward the interview guide to the interviewee to be aware and prepared with the type of questions he/she was going to meet in the coursed of the interview. This was very effective especially with the two structured interviews conducted with the medical doctors, patients, and dieticians. During the discussions, I took down notes after which they were analysed and forwarded it back to the interviewee for confirmation before the information was considered for the study. This was not however very effective with the semi-structure interviews, but ethical considerations were always well taken care of.

In the same light, before any focus group discussions could take place, members of the group were identified, venue, time and major themes for discussions were made known well ahead of time. Members of the focus group discussions were made to understand that they were free to leave the dissuasions if the deem necessary for them though such an instance was not recorded in any of the focus group discussions that were conducted. Photographs were not taken without the respondents' consent this minimise the risk of harming anyone in the research process.

Concerning in the survey instrument, the enumerators were instructed to always introduce themselves and briefly explained to the respondent the purpose of the research and the confidentiality of the information they were going to provide in the survey instrument to serve the purpose it deserves. This was very effective especially to those with limited educational background and do not actually know what it means to conduct a research work. These comforted our field respondents and the research team at the end, and no one was hurt or felt unsecured throughout the research process.

0.16 Scope and limitation

According to Akanle et al. (2020), the scope of the study is a section in a research proposal or thesis where the researcher engages in the discussion of the research areas, research questions,

objectives, population, and study area covered in the study to show that you know where your research fits in its scholarly community and that you know what you can accomplish (Trinity Washington University, 2014).

A clear limitation of this study was the fact that it was limited to diet and therapy of diabetes patients of Buea. As highlighted by the title of the study which already denotes the confines of the present study. We limited ourselves to middle-aged patients and not all groups of people who were diagnosed to be diabetes patients. In this study we focused just on the diabetes patients who were found in the town of Buea and its surroundings. We focused on the role played by diet and the healthcare system in trying to manage diabetes in diabetes patients of the town of Buea and what they various procedures they used to archive this and what are the various challenges which they faced in trying to carry out such an initiative and how they overcame such challenges and how the patients collaborated for the initiative to function smoothly.

0.17 Challenges encountered

During carrying out this study, many challenges and stumbling blocks obstructed the smooth completion of this study. Some of the major challenges faced revolved around time, finances, and cooperation.

During this study, the time allocated for the writing and analyses of this topic was too short. Considering the bulk of work and the scope of work we were to submit but had a limited amount of time during which the work was to be done. The time factor was a main challenge I faced so far as the completion of my thesis was concerned. Given that am based in Yaounde, but my area of research was the Southwest region precisely the Buea area which one had to displace themselves for the sake of the present study and get the necessary information which we needed for the study. Due to the limited time we had to rush the research and the participants, so we could meet the time frame which was set by the school.

Also, we faced financial difficulties during my research. One was supposed to go to Buea for research and we did not have the necessary financial means to go back and forth in Buea or enough funds for upkeep while there during the time of research. All this was supposed to pay for the expenses incurred which were related to the thesis and manage to respect the deadline which was fixed.

Lastly, one of the difficulties faced was in collaboration with the patients. During the study most of the patients who took part in the study did not want to collaborate with willingly. They always considered it too much of a burden and did not want to partake in the initiative. They always thought it was going to take time and since they were always in a haste, they only took part in the question guide if the hospital staff said it as part of the hospital procedure and they were taking part in a study which was going to help in improving their medical condition.

0.18 Chapter outline

This dissertation is divided into five chapters, beginning with a general introduction the statement of the problem, research problem, the research questions, hypotheses, and objectives. The interest of the work, the research methodology, data collection techniques are also touched. The scope of the study and difficulties faced on the field are also presented in this section.

Chapter one deals with the ethnography of the study area, including the geography, migration history, settlement patterns and infrastructure, their economic system, Chapter two comprises of literature review and theoretical framework. Which is a work gotten through secondary data from various authors those who have done contribution with regards to middle-aged with diabetes.

Chapter three focuses on the differential causes of diabetes bringing out the biological, economic, and cultural cause of diabetes in Buea community. Here each cause is explained by trying to know a problem they go through like the insufficient of insulin, witchcraft, overweight and try to make the middle-aged with diabetes to realise it and ameliorate their condition for better improvement.

Chapter four present the different types of diet available for middle-aged diabetes patients Beau. It begins with the general presentation of food eaten by diabetes patients of Bakweri people of Buea. Here a table was presented to the see the various food that a diabetes patient needs to eat and what he doesn't need. The mentioning of some classes of food and the important classes of food that serve as a means of treatment or a solution to better their condition.

Chapter five gives various solution on how health system responds to the care need of middle-aged diabetes. This was managed through biomedicine, traditional practitioners and through faith healers. This chapter entails all the detail on how this patient did all possibilities to get a solution to their health, they didn't just fold their hands and sad quiet, but they went and extra

mile to look for a solution to an extent they got discourage and went to God almighty the one that has a solution to all our problems as he states in his word in Mathew 6:33 that we should seek his kingdom first. According to the Centre for Disease Control- CDC (2017), the global prevalence rate stood at 7.40% in (2015) up from 6.95% in (2010). Based on findings done by the World Bank (2019), diabetes prevalence rate in Cameroon is within the age group 20-79. This chapter seeks to analyse why people prefer diet to other kind of treatments. This is because of easy accessibility, acceptability, availability, affordability and influence from families and friends because it was an easy means of treated themselves by using diet to stay longer with disease.

The work ends with a general conclusion and the above proposal seeks to provide an in-depth study on the diet and therapy linked to middle-aged diabetes patients as such the work will at providing a deeper understanding of the phenomenon due to the usage of the various scientific methods. There had been a controversy with regards to the reason why middle-aged diabetes patients use diet to ameliorate their condition instead due to reasons such as adequate finance, and the phobia for conventional medicine which can see that the aspect really count for the improvement on their health. This aim at providing first-hand information making the work free from value judgement and personal bias. In fact, the end of this work will bridge and that will fill the necessary gaps by providing information on their health status, their diet plans and the stakes involved. This work will go a long way in solving a lot of problems which existed before and in creating a new sphere of the thing and widening of mentality in the area. We will fill the necessary gaps by providing information on their health status, their diet plans and the stakes involved.

CHAPTER ONE

ETHNOGRAPHY OF THE BAKWERI PEOPLE OF BUEA

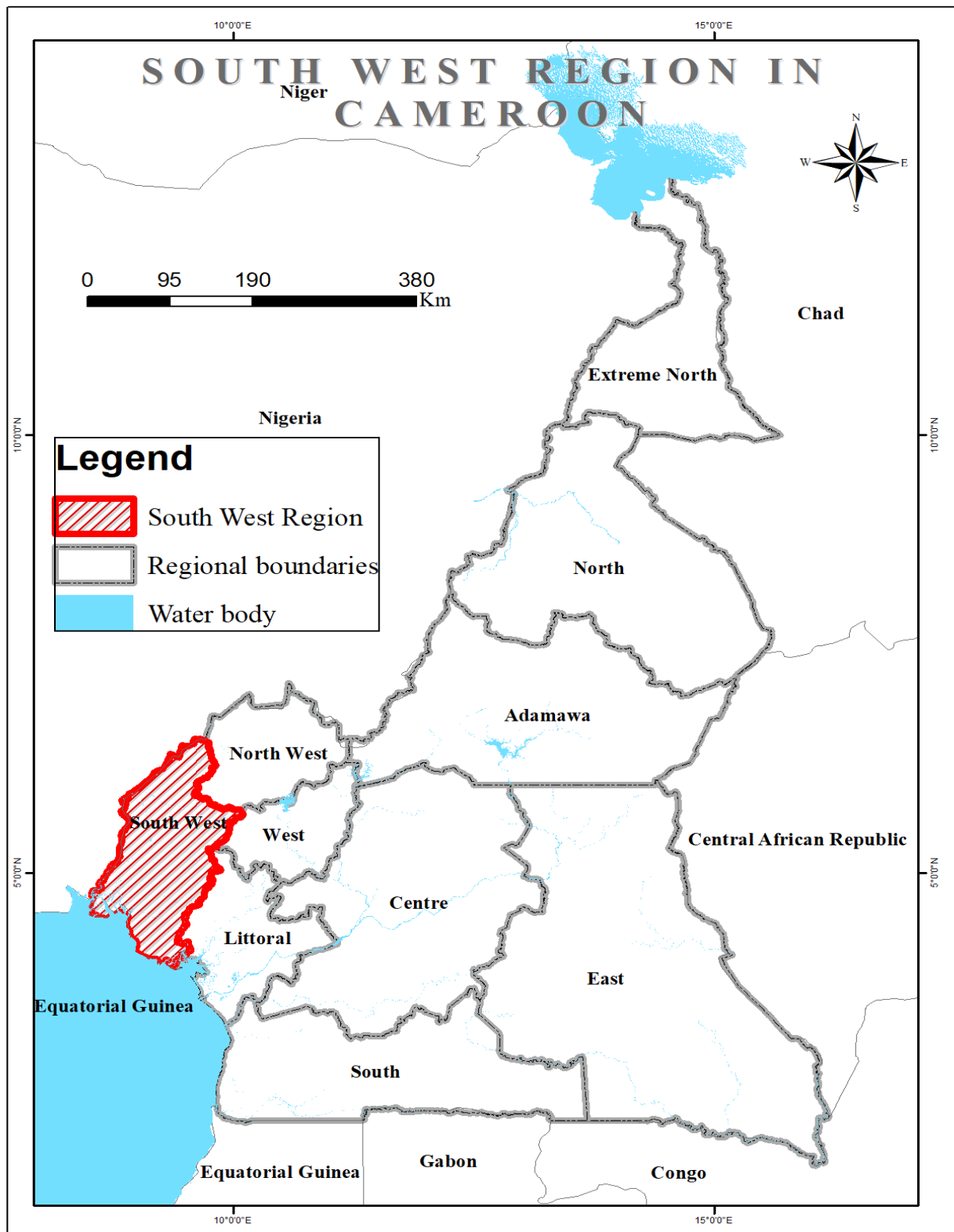
Introduction

This chapter has to do with the setting up of our research site which is the Bakweri people of Buea. Buea is the capital of the Southwest Region of Cameroon. The city is located on the eastern slopes of Mount Cameroon and has a population of 300,000. It has two Government Hotels, the Mountain hotel and the Parliamentary Flats Hotel located around the Government Residential Area. Through the chapter, we are going to talk of everything that concern the Bakweri people of Buea, the capital city of the southwest Region such as its economic, climate, location, transport, history.

1.1. Geographical location and population

The Bakweri are primarily concentrated in Cameroon's Southwest Province. They live in over 100 villages east and southeast of Mount Cameroon with Buea their main population centre. Bakweri settlements largely lie in the mountain's foothills and continue up its slopes as high as 4,040 metres. They have further villages along the Mungo River and the creeks that feed into it. The town of Limbe is a mixture of Bakweri, Duala, and other ethnic groups. There is an ongoing dispute between the Bakweri Land Claims Committee (BLCC) and the government of Cameroon regarding the disposition of Bakweri Lands formerly used by the Germans as plantations and now managed by the Cameroon Development Corporation (CDC). Location is an area, or a particular place seek somebody. Below are figure showing the Southwest Region.

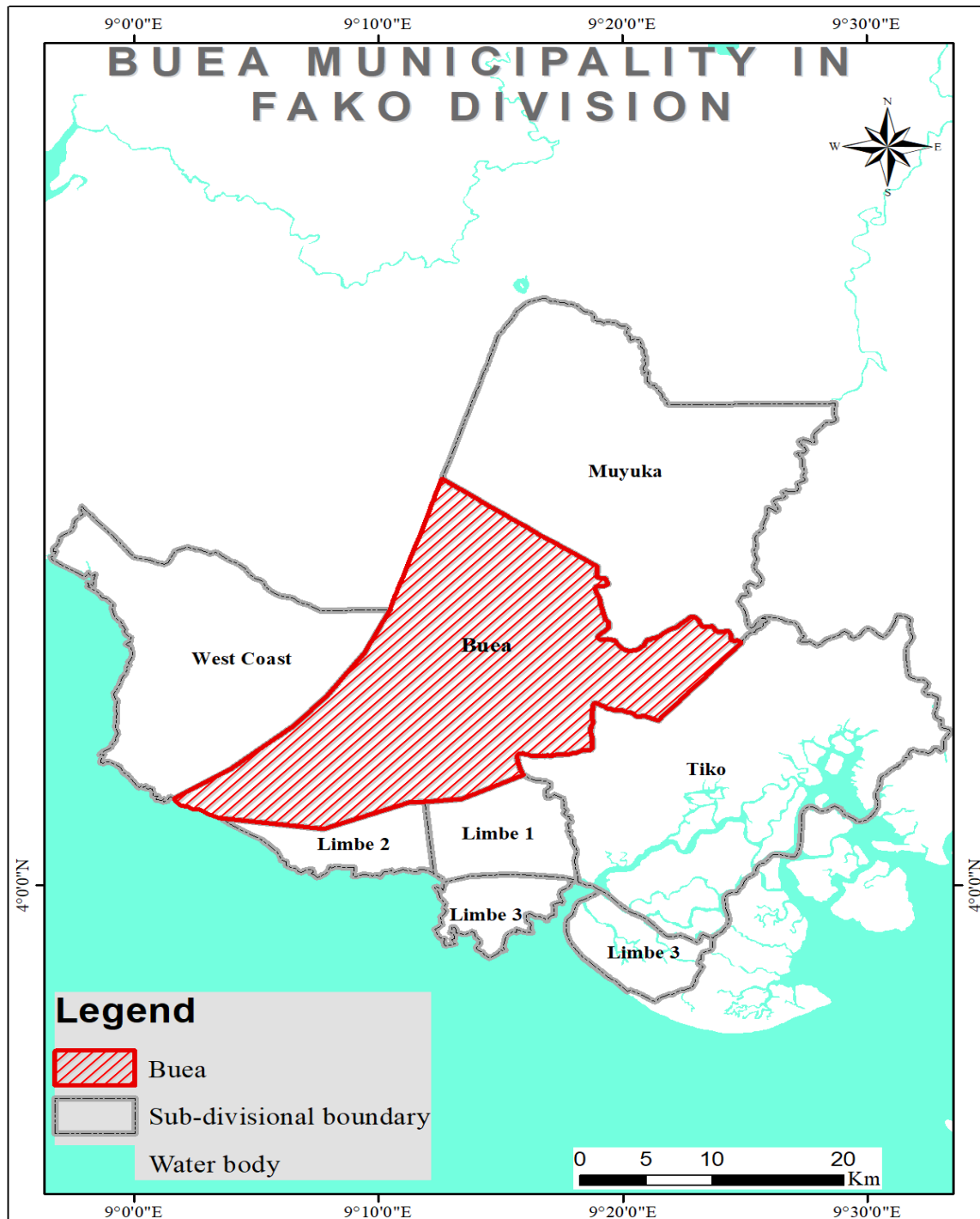
Map 1: The localization of the southwest Region in Cameroon



Source: National Institute of Cartography (NIC) (2022)

The map above shows the location where the Southwest Region is found.

Map 2: Shows the localization of Buea Municipality in Fako Division



Source: National Institute of Cartography (NIC) (2022)

Figure 2 above shows the Buea Municipality by bringing out the sub-divisional boundary.

Map 3: Shows the Layout of Buea Municipality



Source: National Institute of Cartography 2017.

The layout of Buea Municipality shows the different sub-quarters concern.

1.2. Climatic conditions of the study area

It has and fall within the equatorial climate zone describe during the colonial period as famous “white man’s grave or deadly climate” of West Africa (Mokake, 2011). It is generally characterized by torrential rains and scorching temperatures. The climate of the division varies markedly with other parts of Southwest region. Rainfall is comparatively high in the coastal forest region than in the plateau. The Bakweri are weather forecasters, and it is believed that they possess scientist who can alter the climate at will, for example, during special occasions, or the coming of high personality. Generally, the area is cover with mist and drizzle, and several copious rains throughout the year due to the presence of the Atlantic Ocean. This region is having the equatorial maritime climate with temperature above 25%c which is very heavy with very high atmospheric humidity throughout the year. It is made up of elements of the three different tropical climate regimes which are equatorial with rainfall throughout the year, seasonal comprising of two seasons in a year that is the dry and wet and finally monsoon with great contrast between the seasons. The climate of this region is strongly affected by its altitude. The temperature is moderated by breeze from the Atlantic Ocean. The climatic conditions are moderated by the in-shore breeze from Atlantic Ocean. It is dominated by equatorial climate of high rainfall and high temperature of 26.5 degree Celsius and annual rainfall of 250mm while relative humidity is above 82.5 degree Celsius. Bojongo is close to the wettest place in Africa Debunscha located on the west coast of Victoria with annual rainfall of 390 inches (Neba Aaron 1999).

GMT time is +1 hour and is mostly cloudy. Average sunrise is at 06:16 and sunset at 18:10. In effect it has an equatorial climate with 2 major seasons. Rainy season which runs from March to October and Dry season, from November to May). Temperature ranges between 20 o C to 28 o C while, annual rainfall ranges between 3000mm to 5000mm. The conditions here are generally the tropical rainforest climate with rainfall almost during the entire year. However, average monthly High/Low Temperature for these urban spaces ranges from 23o C low to 32o C high. This temperature increases as one moves downwards from Buea station to Muea. Several factors are behind this. Firstly, the principle of “higher one goes the colder it becomes” applies as the town is on the slopes of the mountain. Secondly, some areas have higher population intensity, activity, and urbanization than others. Molyko for example has more infrastructures which reduces circulation and exchange of air. (CDP Buea 2022).

1.2.1 Drainage

Several river systems drain the South Region. The northernmost of these is the Nyong, which forms part of the border with the littoral. The coastal ocean division is drained by two rivers, the lokounje to the north and the lobe to the south. The Ntem, or campo, rises in the east of the region and flows along or just north of the southern border to the town of campo. All these rivers empty into the Atlantic Ocean.

1.2.2. Relief

The South Region begins at sea level on the coast. The land slowly climbs throughout the Kribi-Douala basin, which averages 300-600 metres in altitude, until it reaches the south Cameroon Plateau with elevations of 500-1000 metres above sea level. Rocky promontories on the coast and rolling, tree covered hills inland characterize the land. The Ntem Massif near Ebolowa is the province's highest point at 1400 metres.

1.2.3 Topography

Topography and soil the area is composed of undulating high and lowlands with many rocks and gravels due to volcanic eruptions. The soil type consists of basalts and is because of the first volcanic activity in the Fako Mountain area, which occurred in the cretaceous system. These soils have been weathered and partly covered by more recent deposits; thus, the soils are black and in these areas are well drained due to the generally hilly nature of the terrain and the fact that they are free draining. The soil is very rich in nutrients and allows the cultivation of various crops such as tomatoes, cabbage, okra, pepper, corn, cocoyam, yams, cassava, plantains, beans, vegetables and even some cash crops such as palm trees, cocoa, and bananas. Citrus trees are less prosperous as one ascends, and climate gets cooler. The soil and climate are very supportive for vegetation and agriculture though in some areas digging is difficult due to the stony nature of the rocks. The vegetation is generally green almost throughout the year with fewer trees in areas of high concentration of houses. It is rare to move 200m without spotting green grass, shrubs, (Buea Communal Development Plan (CDP 2012).

1.3. Settlement pattern and infrastructure

The Bakwerians live in small villages composed of small huts with roofs done with *tchates ngonja* and the walls with backs of trees called *womba*. In some case the walls are also covered with tchates. They have now been replaced, tchates with zinc and wall with high quality wood, cement, and cemented floor in some villages (Njie Mbake 1975). Although linear settlement in

common, some of the houses are dotted. Each Bakweri village is surrounded by a village fence *koto a mboa*, with several entrance at various points leading to and from the village with a locally made staircase at each entrance called *livoto*. This very important during the period of inter-tribal wars, so this served as a form of security to the villagers. It helped protect village land prevented animals from destroying crops in farms. The settlement pattern of communities takes into consideration aspects such as security, accessibility, communication, available building materials etc. They live in small villages, the buildings mostly made up of wood with zinc roofs while cemented block buildings are also present. Due to the respect for the dead, it is common to see tombs of deceased family members besides homes. There is a government nursery school, the Baptist nursery school, the catholic nursery school, a catholic secondary school, and a government high school. The health centre has a small staff that lives in and around the health centre. Few religious structures are present such as the Roman Catholic Church, the protestant, and Pentecostal churches. About the road network, the main road into the village is tarred while there also exist footpath and small secondary roads.

For subsistence, crops are cultivated to feed the household and are mostly done women. Here crops for their traditional meals have mostly been cultivated, such as cocoyam's, plantain //mekor//, vegetables //wowah//, with comparatively smaller farm sizes. The farming system is extensive with the usage of slash and techniques. Annual harvest is for family consumption and excesses can be sold. Cassava too is transformed into other consumable forms. In light the village, market holds twice a week Mondays and Thursdays. Though in a small scale, hunting is an important part of the people's economic activity as it generates income to some individuals. Here principal hurting technique is the setting up of traps and actual chasing animal depending on size and type. They are done at times in small groups with the help of dogs. Some of the catch is consumed fresh while others dried by smoking and sold later to individuals and restaurants locally in the village or neighbouring village. Also in small scale, tapping is also a full-time business to some people. The influence of tapping is considered as more cultural than economic because palm wine forms part of the people's culture. It is highly done during the dry season than the rainy season and it is of two types "up wine" which constitutes tapping from a life palm tree and the "cutting down" when the tree is put down and the wine extracted. Tappers supply their wine to drinking spots around the village. These spots are cherished by villagers. It supplies are also done for ceremonies as some tappers are remarked and known for the quality of their tapping and wine extracted. Domestication as an activity involves animal rearing such as fowls, pigs, goat duck for purposes of consumption and others sold especially

for ceremonies such as marriages, death celebration, traditional rites, and rituals etc. poultry farming is scarce. Most of the animals are fed with homemade food. They are either confined while others prefer to let their own loose. All these with the aim of selling it at maturing is solve existing of pressing problems. The presence of the agricultural post also provides advice to farmers on the techniques of farming and rearing. The main activity here is the weaving of thatches used in the roofing of houses whose demand is timid. There are also weavers of the traditional baskets and those to carry products from the farm to the markets do exist.

1.4. Historical Background of the Bakweri and Settlement Pattern

The Bakwerians are from the lower Bomboko behind Mount Fako. They were mostly fishermen, who settled along the coast, farmers, and hunters who settled beside the mountain. Most of the Bakweri villages claimed to have been founded from a group of villages which lies in a belt between 650m and 1000m up mount Cameroon. Although there is some view that the true Bakweri are the people of Buea and its surrounding villages, other groups classified under Bakweri included Bomboko, the area which the Bakweri are said to have originated and Wovea. The Bakweri are found on the eastern and south-eastern slopes of the mountain, coastal Bomboko on the south-east coast, the inland Bomboko on the North-west of the Bakweri and Isuwu and Wovea are on the southern coast of the Fako Division. The Isuwu are also believed to have originated from Bomboko. Isuwu was also known as Bimbiam named after MbibiMbela who the chief of the area in the last quarter of the 19th century was. According to another source, their ancestors came from Bankingili and woman. The Wovea claimed to have originated from Fernando Po who settled in the islands of Amba Bay. All the above was due to the potential of the area like fertile soil and hunting facilities. This same fertile soil also attracted the Europeans into the area since their motive was centred on economic.

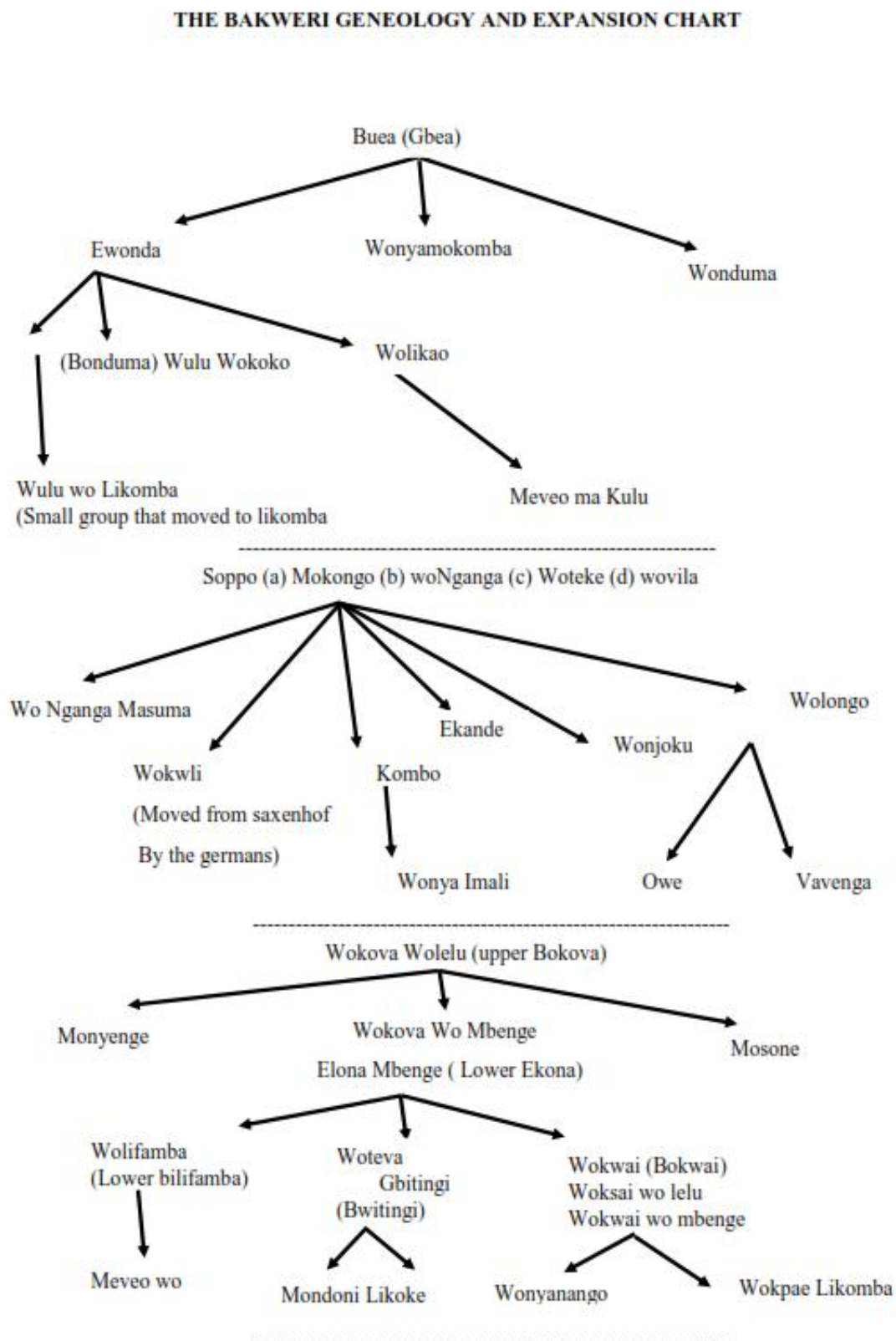
The origin of the Bakweri settlement could be attributed to two separate traditions. Firstly, the tradition of the Buea group stated that a certain Eye Njie used to come from Bomboko to hunt on the Eastward side of the mountain with a friend Nakande. Nakande used to hunt near the site of present day Wonakanda while Eye moved on to a river near the present day Buea. When they brought in their wives, other friends, and relatives from Womboko joined them and they opened gardens. Another tradition affirmed that ManyangMasonje left Isongo and Bakingili where he settled around Bimbiam where he had many catches in "ISU" meaning the end of my journey. Nakande from Bomboko settled in Bonakanda which was called Ligbea which meant a place for good farming. He was a farmer. However, although hunting was the primary motive behind the Bomboko migration, fertility of the soil on the slopes of mount Cameroon was

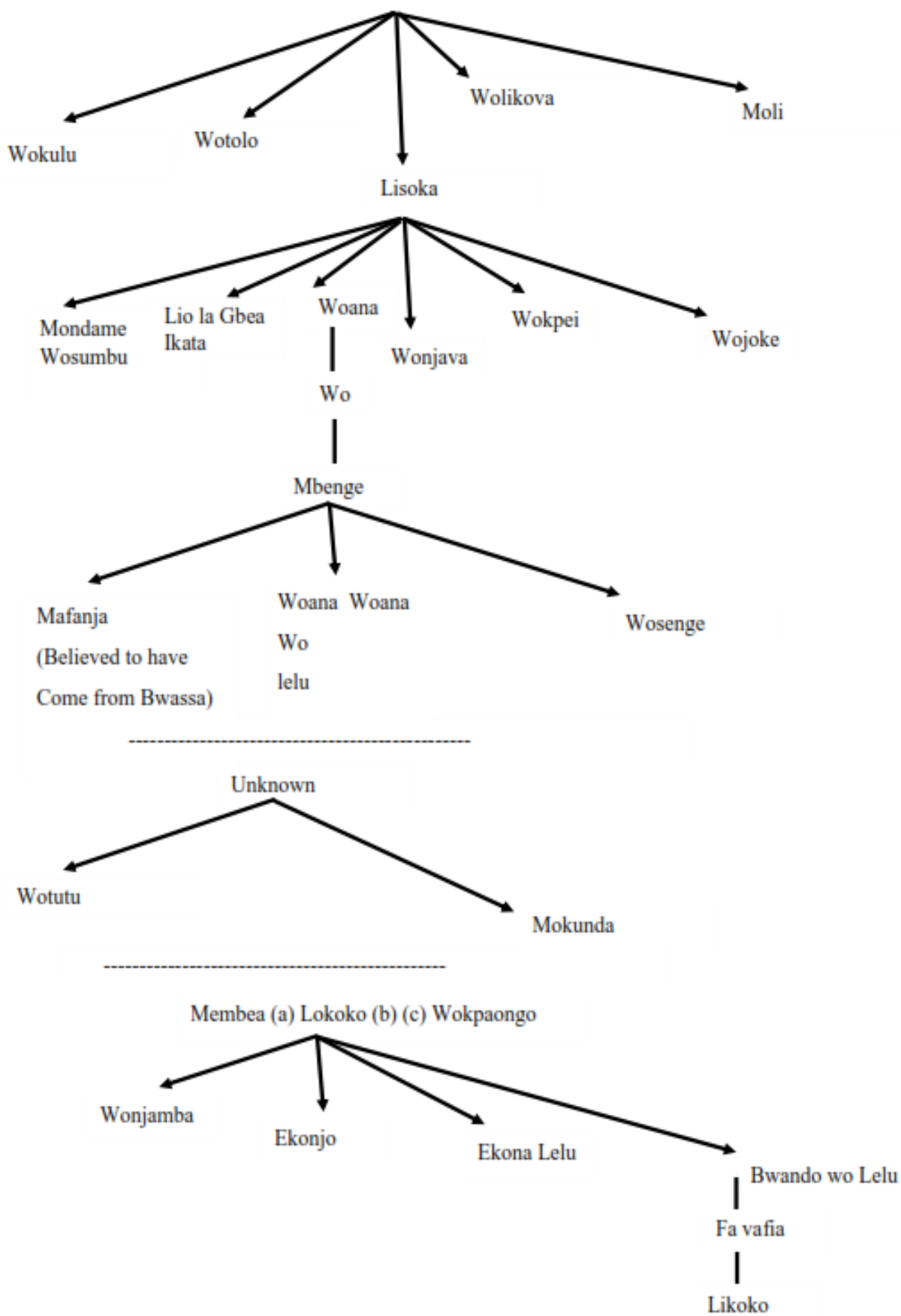
equally a firm factor. While the men were engaged in hunting, the women farmed the land and subsequently, other migrants from Bomboko established Bakweri villages which were named after their founders.

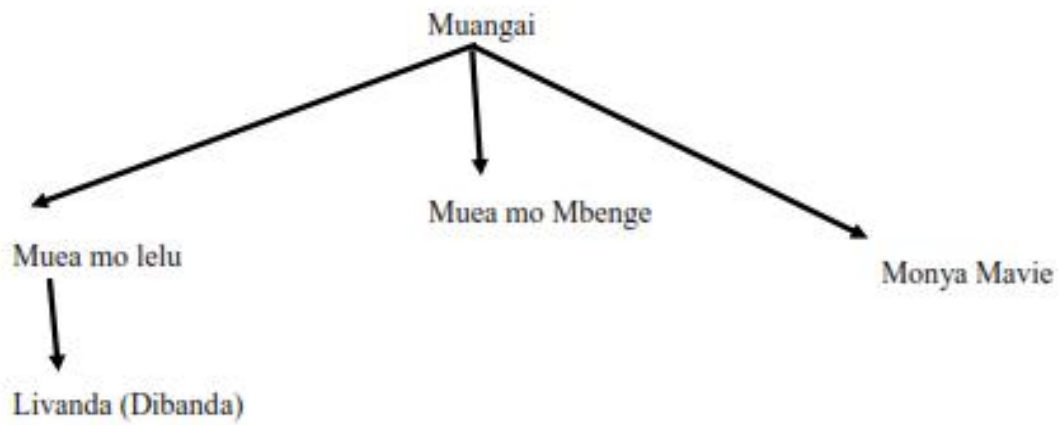
Although these groups lived closer to each other, and practiced the same culture, they were independent from each other. The German successful attacks on the Bakweri could be attributed to this division. If the Bakweri were united, then their final defeat by the Germans during the Bakweri resistance under the leadership of KuvaLikinya could have failed and even if not, the alienation policy might have adopted a different shape, thus the loose political and social ties amongst the Bakweri worked in favour of the Germans. The Bakweri belong to the most north-western branch of the Bantu speaking people inhabiting central and southern Africa. To be certain about the date the Bakweri reached their present site, it was around 1750 as confirmed by genealogical evidence that it was the time, they arrived one of their earliest settlements, Buea. Other sources asserted that the population pressure which affected Nigeria drove the Bakweri from their habitation near Lake Barombi in Kumba to the mount Fako area.

In its social organization, they do not have a hierarchical social structure like the people of the grassland area. They however have about three classes of people. They are: The wonja (indigenous people), the wajili (strangers' non-indigenous people), the Wakomi (slaves), the Bakwerians believe so much in the spirit of their ancestors. They believe the ancestors can intercede or act as intermediaries to their gods. They have secret like the "Nganya" which maintains law and order. Other secret societies like the mahle have much to do with cultural development. Societies like the Liengu and Mbuaya for men and women respectively help in the social cohesion of the village. Their economy includes agriculture, animal husbandry, hunting, fishing, and burn techniques, intensive farming due to the fertile nature of the lands around the slopes of the mountain. Generally, tools used include digging sticks, hoes, and machetes. And the usage of fire also to clear bushes. For hurting, the people use spear, clubs, and other implements for hurting around the mountain forest slopes. (Ardener E. 1956).

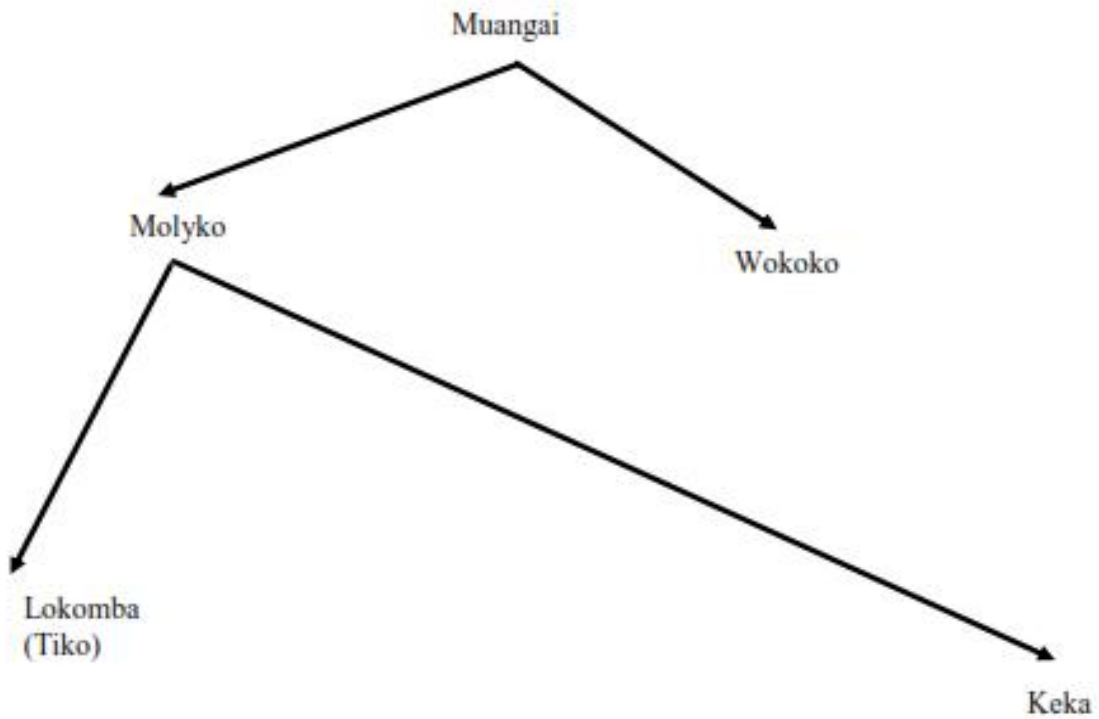
Figure 1: The Bakwéri genealogy and expansion chart







Wowa (Bova)
(a) Wowa wo lelu
(b) Wowa wo Mbenge



Source: Daniel Matute (1990, p.36.)

1.4.1. Brief presentation of the council

Location of the council of The Buea Municipal council is the Sub Divisional headquarter of Buea and the Southwest Regional head quarter of Cameroon. Created on the 29th of June 1977 by presidential decree No. 77/203, the Buea municipality has a surface area of 870 Sq.km, 67 villages, four distinct identified urban spaces as per outlined criteria (Buea station, Soppo, Molyko/Mile 17 and Muea). As explain in the Communal Development Plan of Buea (2012). It is a highly complex community caught between a blend of urban, semi urban, rural, and traditional settings. Buea Municipality is bounded to the north by tropical forest on the slope of mount Cameroon (4100m above sea level). The mountain range extends to the beautiful sandy beaches of Atlantic Ocean. The town also share boundary with other major towns like the City of Limbe to the Southwest, Tiko municipality to the Southeast, Muyuka municipality to the East and Idenau district to the West. With an equatorial climate, temperatures are moderate with a slight seasonal variation (rainy and dry season). Buea has moderate economy with agricultural, administrative, business, tourism and the financial sector taking the central stage of the town. Buea has an estimated population of above 200.000 inhabitants (2005 BUCREP figures and annual growth rate of 5% as per UN projections for urban population growth rate for Africa) constituting essentially of the Bakweris (the indigenes) in the villages and a highly cosmopolitan population within the urban space putting the indigenes at a minority. The Bakweri language spoken by the natives is equally written and documented. English and French are two official languages used for general interaction while pidgin is the lingua franca. The average life expectancy of this area is 50 years (1999 statistics) literacy rate is on the rise with some 60-75% of the youths having access to education. According to a 2004 survey carried out by the Ministry of public health in Cameroon, about 40% of the population do not have access to quality health care while close to 60% have financial difficulties to afford basic healthcare services. This citation is currently true for rural areas of the municipality and much less realistic for the urban zones. Buea is one of the fastest growing towns in Cameroon today with a mix cosmopolitan setting and a constellation of about 67 villages. These villages are inhabited by the Bakweris who, according to social scientists, have lived around Mount Cameroon for at least 4,000 years. Its urban rims now include: Molyko, Buea station, Muea, GRA, Mile 16, Clerks and Federal quarters, Great Soppo, Likoko-Membea, Bokwaongo, and Bunduma. Buea is presently the headquarter of the Southwest Region of Cameroon. It remains the only one having the Senior Divisional Office, most of its Divisional Sectorial offices and a few regional offices located in another town (Limbe).

1.5. Socio-political organisation

The Bakweri form one of the important groups of the Bantu, called the coastal Bantu. They live in scattered settlements dominated by the Mount Cameroon. It is locally referred to as “fako-a-Gbea” or “moli mo-fako. It is bounded to the south by Amba Bay, north by the mountain. Most of the settlements are small with an average population of 50-200 inhabitants. They are divided into upper and lower Bakweri. The lower bakweri constitutes batoke, Bomboko, sanje, Bakingili, as well as east of the Tiko at Mondoni. The upper bakweri constitutes a greater part of the number of tribes such as Mapanja, Bojongo, Ekona-lelu in the east. The scattered nature can be accounted for mainly due to difficult terrain found at the foot. The founding of these villages is thanks to individual and not groups. Each society has its own way in which it is structured as such all societies do have socio political organisations though structured differently and their strength not the same. Some are weak others strong. Some highly respected and others occasional. The political organizations are changed with maintain order, setting and implementing rules and are regarded as custodians of tradition. They are not appointed or imposed on the villagers, but through consultative talks with the kingmakers who recognize village leadership has been hereditary. Succession is within a lineage of original founding father. There exist individuals and groups at various levels within the community charged with specific functions. These functions at various extent from the enforcement, respect and application of traditional norms and values, settlement of disputes, ensure social cohesion etc (CDP 2012).

1.5.1 Cultural practices of the inhabitants

The Bakweri today are divided into the urban and rural. Those who live in the cities such as Limbe and Buea earn a living at several skilled and unskilled professions. The rural Bakweri, in contrast, work as farmers, making use of Mount Cameroon's fertile volcanic soils to cultivate cocoyam's, maize, manioc, oil palms, and plantains. Traditional Bakweri society was divided into three strata. At the top were the native Bakweri, with full rights of land ownership. The next tier consisted of either non-Bakweri or the descendants of slaves. Finally, the slaves made up the bottom rung. Chiefs and headmen sat at the pinnacle of this hierarchy in the past, though today such figures have very little power. Councils of elders and secret societies allow communities to decide important issues. Traditional cleansing is an important process practiced appeasing the gods of the land. At first, sacrifices ‘yawo. yawo’ were done using albinos to appease the gods of the land, however, there are other offerings used instead of the

moongo presently. The mooka mo maley is a sacred place used by the Maley people to do cleansing 'tanize' and the ekoloko la maley is used to control conflicts in the land. In the event of a conflict the ekoloko la maley will set up an injunction order on the disputed property until the dispute was resolved by native authorities. This traditional protocol enabled proper traditional management of the resources which enhanced sustainability. The elephant dance is a popular traditional dance which portrays the beliefs of the Bakweri culture. This dance which shows the elegance and force behind the elephant was formally done once a year by each village. (Monono et al., 2016).

1.5.2. Educational levels

Education is not taken very seriously, especially for the women because of early marriages. The men stopped school after 7 years. Their higher diploma they obtained is O/L 15 government nursery, 5 confessional, 21 lay private schools. 32 public primary schools & 5 GTTC, 19 confessional, 35 lay private (BUCREP 2020).

1.5.3. Health system

Self-medication is a human practice in which an individual self-administers treatment for a health condition. The WHO refers to self-medication as the selection and administration of a drug by an individual to treat a self-diagnosed illness or symptoms. It encompasses the purchase of medication without prescription, administering medication based on the advice of the pharmacist, colleagues, friends, relative and well as consuming left-over drugs stored at home or sharing medications with family members without a professional consultation. (Elvis T Amin et al., 2019). The Buea Regional hospital is an intermediate level, category 3 health facility that serves as one of the main referral hospitals in the Southwest Region of Cameroon. Its main missions are the implementation of the health sector strategy of the Ministry of Public Health at its level, and in this line, it carries out case management of both communicable and noncommunicable diseases, disease prevention activities, and health promotion activities. Some of these activities include; curative care according to standards of the main maternal, neonatal, child and adolescent health problems, the curative care of chronic noncommunicable diseases and noncommunicable diseases as HIV/AIDS at the health facility level, health promotion activities such as community actions for health promotion during outreach activities in the local communities, health education and information for disease prevention during various sensitization programs in the hospital, in public places and over the media.

The hospital has varied human and material resources that enables it to carry out these missions. The staff strength consists of about 300 persons who workday and night 24/7 to ensure adequate health provision to the populations of the region and beyond. Human resources for health include an almost complete set of medical specialists such as specialist in internal medicine. (Buea Reginal Hospital, 2021). The health post at Bova (one of the villages) which was almost out of use has been renovated so that the people do not have to travel long distances to seek for health services for minor cases. A laboratory has also been constructed at the Buea Town health centre. Not all the villages in this municipality have health centres so the people must travel long distances to seek medical care. In effect, the population is more than can be handled and this renders health services poor. Though some few promising and relatively efficient private health centres do operate in some of the villages like Bunduma, these are too expensive for the pockets of the rural folk. In this same study area there are a lot of sicknesses like HIV/AIDS which was mention above, obesity, hypertension, and diabetes which is my born of containment which they use diet to control and treatment besides hospitals, traditional practitioners and faith healers.

1.5.4. Languages in the study area

The Bakweri speak Mokpwe, a tongue that is closely related to Bakole and Wumboko. Mokpwe is part of the family of Duala languages in the Bantu group of the Niger-Congo language family. Neighbouring peoples often utilise Mokpwe as a trade language, due largely to the spread of the tongue by early missionaries. This is particularly true among the Isubu, many of whom are bilingual in Duala or Mokpwe. In addition, individuals who have attended school or lived in an urban centre usually speak Cameroonian Pidgin English or standard English. A growing number of the Bakweri today grow up with Pidgin as a more widely spoken language. The Bakweri also used a drum language to convey news from clan to clan, and they also utilized a horn language peculiar to them.

1.5.5. Marriage and kinship pattern

The Bakweri have traditionally practised polygamy, although with Christianisation, this custom has become extremely rare. In the traditional Bakweri society, women are chosen as future spouses when they are still children, and in some cases, even before they were born. The father or relative of the woman have been paid a dowry, thus the woman is considered as a property to the husband and his family. Upon the husband's death, the eldest surviving brother

inherits the wife. A husband's prosperity was also intricately linked to the influence of his wife or wives. The wives tended his pigs, goats, cattle, arable land, so no one could trespass or exceed them, etc. The Bakweri are very exogamous when it comes to marriage. They respect their blood lineage; therefore, they do not marry people from the same village. They do not practice incest. Incest is even considered as a taboo, and serious practice needs to be practice purifying the family name. They marry from very far area, or distances, but nowadays, some people marry in close area, and endogamy is now becoming common among the Bakweri. In the bakweri, marriage is a marriage between a clan, and family and not between individuals. The idea is that the bride price is never fully paid, because if it is completely paid, it will be like the girl has been sold, and no one in the family or clan will be able to get marry someone in that tribe again, it is more like an agreement, and the bride price is to intensify the marriage relationship.

It is the father who looks for the wife. The Bakweri people are not usually allow to date. It is the father of the boy or girl who look for a partner for their son/daughter. The Bakweri are not normally supposed to have sex before marriage. It is only when all the bride price has been paid, that the bride is taken to the groom's room, they have sex. On this night, a white bed sheet is spread on the bed, for the couple to have sex on it. Since the bride must be a virgin, she must bleed on the bed sheet, and that will prove to the groom's family that the bride was a good one. It is the father who pays the dowry, because the young man is not working and the father is supposed to own goods therefore, he is the one who pays. After fulfilling the requirement, it is the man who decides on when to take the wife. The day of that occasion you bring the big and the girl's family will access you on what to pay. The father of the girl will start the biting on the price of the dowry from 1million, until the two families reach at 500000FCFA, which is usually the lowest amount they can accept.

1.6. Economy of the area

The Bakweri people live on the southern slopes of Mount Cameroon, near the Atlantic coast in the southwest. During the German and British colonization, their most fertile land was taken for huge plantations, a loss they still lament. CDP (2012) state that few can read or write, which hampers personal and cultural improvement. The economy included agriculture, animal husbandry, hunting, fishing, and food gathering. The different methods applied to agriculture included the slash and burn. Most people practiced subsistence farming which included careful land management techniques like intensive farming because the land of the mountain slopes

was very fertile. Generally, tools use includes digging sticks, hoes, and matches. Fire was also used to clear the bush. Sometimes, fences were constructed to guard against animal incursion and destruction. Before formal agriculture, the early people practiced fishing, hunting and food gatherings. They used spears, clubs, and other implements to hunt game in the mountain, forest, and slopes. It was these botanical gardens that gave inspiration to the creation of the Cameroon Development Corporation the research centre at Ekona and many other government research stations in Cameroon. Despite the above mentioned advantaged that the plantations brought into the Bakweri land, it was certain that it equally brought some setbacks which could be examined in different perspective.

1.7. Believe systems of the Bakweri people

The Bakweri have been largely Christianised since the 1970s. Evangelical denominations dominate, particularly the Baptist church. Culture Language Marriage and kinship patterns Religion Nevertheless, remnants of a pre-Christian ancestor worship persist. might be expected for coastal peoples, the sea also plays an important role in this faith. Traditional festivals held each year serve as the most visible expression of these traditional beliefs in modern times. Traditional Bakweri belief states that the ancestors live in a parallel world and act as mediators between the living and God. Christianity plays an important role in Bakweri regions, where music played over the radio is as likely to be the latest from Nigerian gospel singer Agatha Moses as it is the latest hit by a Nigerian music star. As might be expected for coastal peoples, the sea also plays an important role in this faith. Spirits live in the forests and the sea, and many Bakweri believe that traditional practices hold a malign influence on everyday life. Traditional festivals held each year serve as the most visible expression of these traditional beliefs in modern times. Central core of traditional religion is centred on Epasa moto, half man, and half stone. In any tragedy like earthquake, volcanic eruption or any other natural disaster, sacrifices are offered to the deity. It is believed that the deity loves albinos, so albinos were offered to their deity as sacrifices. If no albino was found, a yellow Endeley was offered to him, there is a belief that for more than three hundred years now the Bakweri have been in possession of scientific knowledge that they use to suspend rainfall, to cause rainfall and to cause whirlwinds and hurricanes to occur. It is widely known among the Bakweri that when a public ceremony, such as an eyuu, wrestling contests, Male that involves the assembly of large crowds is scheduled to take place during the months of virtual incessant rainfall, that is, in the months of

July, August, September and October, sponsors of the ceremony hire a Rain Scientist to suspend rainfall on the day of the ceremony (Dugas 1949).

1.8. Christianity among the people of Bakweri

The Buea municipality has a plethora of religious groups. Most of them are Christians of different denominations like Catholics, Presbyterians, Baptist, Full Gospel Mission, the Apostolic, 7-day Adventist, and Jehovah witnesses, etc. There exists a growing trend of Christian spiritual or charismatic churches with influx from Nigeria. However, a few indigenous populations still maintain their traditional African religions, jujus, and beliefs. Some combine and exchange intermittently. The Muslim population is also growing especially in the urban spaces. The order of importance is as follows: 1. Catholics 2. Presbyterians 3. Baptist 4. Charismatic Christians 5. Other protestant Christians 6. Animist and traditional African religions 7. Muslim & Islamic faithful (CDP 2012).

Conclusion

This chapter was aimed at unveiling the context within which this study is based and proceed in the analysis of the physical, socio-cultural, and economic characteristics of Buea. It went further to equally show the link between the research context and the problem. Also, research questions, objectives, hypotheses, and scope of the study was necessary to highlight.

CHAPTER TWO

**LITERATURE REVIEW, THEORITICAL FRAMEWORK AND
DEFINITION OF CONCEPTS**

Introduction

This chapter provides an overview of current knowledge, enabling one to identify relevant theories, methods, and gaps in the existing research. It is a comparative study between previous works which were carried out in the same domain and highlights the similarities and differences between your works bringing out your own contribution to the domain. Bringing out the various theories and definition of concepts.

2.1. The importance of diet in diabetes management

Diabetes mellitus (DM) is a chronic disorder that is not only assuming pandemic proportions worldwide but also poised to affect the developing countries of the world much more than their developed counterparts. The world prevalence is estimated to increase from 425 million people in 2017 to 629 million by 2045, and in Africa, the number of people with diabetes will increase from 14.2 million in 2015 to 34.2 million in 2040; predominantly populated in some of the region's most populous countries: South Africa, the Democratic Republic of Congo, Nigeria, and Ethiopia. In 2015, diabetes was one of the leading causes of noncommunicable diseases (NCD) death, contributing 1.5 million deaths globally and 321,100 deaths in the African region. Along with urbanization and economic growth, many countries have experienced dietary changes favouring increased caloric consumption, and diet is one of the major risk factors of DM. Dietary management is a key cornerstone modality in the attainment of good glycaemic control in DM, and of course, dietary management of DM is targeted at improving the overall health by achieving and maintaining optimal nutritional status, attaining good glycaemic control and preventing acute and long term complications of DM.

It is a well-known fact that DM, being a metabolic, endocrine disorder, is directly connected to carbohydrate, lipid, and protein metabolism. As a result, nutrition therapy forms an integral part of diabetes management and diabetes self - management education. Medical nutrition therapy has been introduced to guide a systematic and evidence-based approach to the management of diabetes through diet, and its effectiveness has been demonstrated. Also, most diabetes guidelines recommend starting pharmacotherapy only after first making nutritional and physical activity lifestyle changes, but this is not always followed in practice globally. Additionally, it is commonly believed that diabetes cannot be completely cured, but it may be more easily regulated and controlled with the right diet; and with strict adherence to nutritionist's advice, diabetic patients may be able to significantly improve their quality of life.

Nutrition/diet remains a key player in diabetes prevention and management and rightly so, IDF World Diabetes Day campaign in 2015, focused on healthy eating as one of the key factors in managing type 1 diabetes and preventing type 2 diabetes, and highlighted those unhealthy dietary practices increases the occurrence of type 2 diabetes, related complications and other NCDs. In this light, IDF encouraged using research evidence strategically, adopting an ethical and effective whole-of-society approach in public-private partnership to promote the intake of healthy diet through education and local adaptations of comprehensive lifestyle programs. Nutrition therapy has long been recognized before the era of modern scientific medicine. Before insulin discovery, a starvation diet of very low caloric content (400-500 calories per day), known as the Allen diet, was commonly used to treat diabetes (Nwawuba et al., 2019).

2.1.2. Mineral water

Whether still or sparkling, mineral water should be a staple ingredient of the diabetic diet. The magnesium found in mineral water is so necessary in helping the body transport sugar to the cells, and studies show can help lower blood sugar levels in diabetics. Look out for water with at least 100 mg of magnesium per litre. This is especially true for water with a magnesium content of at least 100 mg per litre, or even more. Vegetables supply the body with vitamins, bioactive plant substances, minerals and much more but contain hardly any carbohydrates, and therefore do not burden the body's metabolism of insulin. Also, Nuts and Seeds, Nuts are rich in healthy fatty acids which are particularly good for diabetics. In addition, they provide plenty of magnesium, valuable proteins, B vitamins and fibre. According to studies, nuts can also reduce blood sugar levels in type 2 diabetes by up to 20 percent. In addition, Vegetable Oils Whether from olives, rape, nuts or seeds, most vegetable oils are full of mono- and poly-saturated fatty acids that play an important role for diabetics, as they have been proven to keep blood vessels from developing harmful deposits and maintaining blood pressure at a healthy level. Vegetable oils can therefore help prevent cardiovascular diseases, which are unfortunately not uncommon in diabetes. (Sergii 2020).

2.1.3 Consumption Fruits

Fruits are rich in fibre, antioxidants, and phytochemicals that may have beneficial health effects. Increasing fruit consumption has been recommended for the primary prevention of many chronic diseases, including type 2 diabetes, although epidemiologic studies have generated somewhat mixed result regarding the link with risk of type 2 diabetes. Muraki

(2013). Fruit was long seen as a taboo ingredient for diabetics, recent studies have shown that some fruits can have a positive effect on the blood sugar level in type 2 diabetes. In apples, for example, the soluble fibre pectin delays the absorption of sugar in the blood and protects the blood vessels. Bananas are also a good choice for diabetics - provided they are still slightly unripe. In that case they contain less sugar and more starch and can thus help keep the body's blood sugar levels in balance. The legumes Beans, lentils, and chickpeas contain complex carbohydrates that body processes slowly, thus keeping blood sugar levels healthy. Legumes are also rich in fiber, which keeps you full for a long time, promotes digestion and can help prevent frequent secondary diseases in diabetes (such as high blood pressure, high blood fat levels and heart problems). More still, Garlic and Onions If you're diabetic, you should try to prepare your meals with garlic and onions as often as possible. Not only do they taste great, but onions and garlic can also help lower blood sugar levels in type 2 diabetic, thanks to their rich supply of sulphur substances. This methyl sulfonyl methane's, also known as MSMs, can improve the permeability of the cell membrane, relieving stress on the pancreas and ultimately helping keep blood sugar levels low. A U.S. study even showed that MSMs can increase the body's insulin production.

2.2. The types of food not to be eaten by diabetes patients

Nutrition and physical activity are important parts of a healthy lifestyle when you have diabetes. Along with other benefits, following a healthy meal plan and being active can help you keep your blood glucose level, also called blood sugar, in your target range. To manage your blood glucose, you need to balance what you eat and drink with physical activity and diabetes medicine, if you take any. What you chose to eat, how much you eat, and when you eat are all important in keeping your blood glucose level in the range that your health care team recommends. (NIDDK Annual Report, Griffin 2022). From the observation from data collection. In line with the above explanation, the living condition and living habits of middle age diabetes patients in Buea is quite precarious since they lack the necessary information which is needed by them to help improve on their condition. The sample audience was made up of several persons who originated from different backgrounds and had different social and financial status. The audience was constituted of people who had lived with diabetes for at most 25 years and utmost 3 years. During this period, some learnt how to cope with the illness while others never got used to this new medical condition which had become an integral part of their lives. They managed to cope with the illness by either searching for new remedies

which could cure the disease, or they improved on the living conditions and eating habits to have a better chance of surviving the disease.

2.2.2. Non consumption of sugar

To process sugar, the body needs to produce large amounts of insulin. If you're diabetic, this can be difficult for your already-overwhelmed pancreas, and as a result only some of the sugar is successfully transported to the cells, while the remainder remains stuck in the blood. This can lead to your blood sugar levels rising enormously very quickly, which can have fatal consequences for the heart and blood vessels. As a result, it's best to stay away from candies, sodas, baked goods, and any other foods with high levels of refined sugar. People with diabetes should aim to limit or avoid refined sugar, likely present in both store-bought and homemade sweets, cakes, and biscuits. Per day, the American Heart Association advise consuming no more than 24 grams, or 6 teaspoons, of added sugar for women, and 36 grams, or 9 teaspoons, for men. This does not include naturally occurring sugars from foods such as fruit and plain milk. In addition, Sugary drinks are drinks that contain a lot of sugar, such as energy drinks, some coffees, and shakes, can imbalance a person's insulin level. Again, white Flour Whether produced from wheat or spelt, the lighter the flour, the less favourable its effect on diabetes. This is because white or very light flour has been ground so much it no longer contains any husk. As a result, the small intestine breaks the starch into sugar quickly, leading the blood sugar levels to rise too drastically in a short period of time. Shawn (2020). Moreover, Alcohol Experts advise drinking alcohol as rarely as possible and only in very small amounts if you suffer from diabetes. Wine, beer, and hard liquor increase the risk of hypoglycaemia because the liver cannot supply the blood with sugar when it must break down alcohol. There is also the risk that alcohol can exacerbate nerve damage and promote high blood lipid levels. Drinking alcohol in moderation should not have serious risks for people with diabetes and should not affect long-term glucose control. People using insulin or insulin secretagogin therapies may have a higher risk of hypoglycaemia linked to alcohol consumption. For people who have diabetes and those who do not, the Centres for Disease Control and Prevention (CDC) recommend up to one drink per day for women and up to two drinks per day for men.

People with gestational diabetes can work out a meal plan with their healthcare professional. A meal plan may involve counting the amount of carbohydrates a person eats to make sure they are getting enough energy and keeping their blood sugar under control. The National Institutes

of Child Health and Human Development (1962), advise that people with gestational diabetes eat three medium-sized meals per day, with two to four snacks in between meals. People with gestational diabetes will benefit from a balanced diet of fiber, vegetables, fruit, protein, healthful fats, and legumes, including the foods listed above. People with diabetes can work with their healthcare professional to devise a personal nutrition plan. Eating a healthful, balanced diet including the foods listed above can help people with diabetes manage their condition and prevent complications by: Controlling their blood sugar levels, lowering inflammation, lowering risk of heart disease, increasing antioxidant activity, Reducing the risk of kidney disease. Pregnant people with gestational diabetes can discuss a diet plan with their healthcare professional to create a meal plan that can help them, and their baby stay safe and healthy

2.2.3. Animal fats and diabetes

Butter and lard consist almost exclusively of unfavourable saturated fatty acids that put a strain on blood vessels and the heart, which is particularly harmful to diabetics. Also, Soft Drinks and Juices Everyone knows that soda and lemonade are not exactly healthy, but for diabetics, these sugary drinks are especially harmful. It's best to completely avoid sodas and even store-bought fruit juices, which tend to contain tons of sugar and hardly any fruit. Alina (2021) explains that Sweet, bubbly fizzy drinks, also known as soda, are one of the worst drinks that a diabetic can consume. Soda consumption is well-known as a major cause of obesity since a single 12-ounce can of the stuff contains over 39 grams of sugar. The recommended daily intake of sugar is 25 grams per day for women, 50 grams per day for men and less than 25 grams for children, as stated by the American Heart Association. If you're diabetic, your daily intake should be even lower, so drinking soda won't help. You may think of juice as a healthy beverage, so you'd probably be surprised to learn that it's not as healthy as many people think. Juice is loaded with sugar and carbohydrates, with 12 ounces of a glass of regular Tropicana orange juice containing 33 grams of sugar. This amount far exceeds the recommended daily allowance of sugar. Liquids metabolize faster in the body as well, allowing the sugar to reach your bloodstream quicker, putting diabetics at rest. In line with this, eating healthfully and maintaining an active lifestyle can help you greatly manage your diabetes, and in some cases of type 2 diabetes, make the disease disappear entirely. While specific diets should be OK'd by a doctor, as a rule of thumb make sure to eat plenty of vegetables, nuts, healthy oils, and drink lots of water, while avoiding sugary foods and drinks as well as

alcohol. Remember to also check labels: many foods you wouldn't expect are packed with sugar. A healthy lifestyle is also key to managing your diabetes. Make sure to get at least 30 minutes of exercise a day, and more if you struggle with your weight, as obesity can greatly exacerbate the side effects and potential complications from diabetes.

2.2.4. Get freed of the fries

Carbohydrate's stance a huge risk to people with diabetes. They can severely interfere with the pancreas' ability to create insulin and drive blood sugar levels down. French fries are basically carb sticks, with a medium-sized serving from McDonald's containing about 44 grams of carbs. If you're seriously craving potatoes, a great alternative would be a small, baked potato. You could also spice up and roast veggies like cauliflower, mushrooms, and kale for a tasty, spicy caramelized and healthy snack. Eat less packaged and fast foods, especially those high in sugar, baked goods, sweets, chips, desserts. White bread, sugary cereals, refined pastas, or rice. Processed meat and red meat. Low-fat products that have replaced fat with added sugar, such as fat-free yogurt. (Jones 2021).

2.3. Effectiveness of diet in managing diabetic

It is recommended that prescription of diet for people living with diabetes should not be fixed but should depend on nutritional assessment, requirement, goals, individual preferences, and the cultural milieu. The goals of dietary prescription are to improve cardiometabolic parameters (blood glucose, weight, abdominal circumference, and blood pressure) and prevent, delay the onset, or prevent the progression of diabetes complications. These are not to be achieved at the expense of pleasurable enjoyment of meals and disregard of cultural values and beliefs. Attention should be placed on the unique needs of special people such as the growing child or adolescent with type 1 diabetes, pregnant or lactating women and patients on meal-related medications such as insulins or insulin secretagogues to avert both hyperglycaemia and more importantly, hypoglycaemia. Eating healthy is important for everyone, but it's even more important for people living with type 2 diabetes. A healthy, balanced diet is together with exercise your most powerful tool for managing the disease. From childhood to old age, food is central to social life. Meals structure the day and define relationships with other people. Furthermore, what gets served and eaten depends on occasion, time of year, cultural norms and more. To help you navigate through all that, I have put together some tips and pointers which will make living and eating with diabetes both enjoyable and easy. Healthy eating can help you

prevent, control, and even reverse diabetes. And with these tips, you can still enjoy your food without feeling hungry or deprived. Whether you're trying to prevent or control diabetes, your nutritional needs are virtually the same as everyone else, so no special foods are necessary. But you do need to pay attention to some of your food choices most notably the carbohydrates you eat. While following a Mediterranean or other heart-healthy diet can help with this, the most important thing you can do is to lose a little weight. Losing just 5% to 10% of your total weight can help you lower your blood sugar, blood pressure, and cholesterol levels. Losing weight and eating healthier can also have a profound effect on your mood, energy, and sense of wellbeing. People with diabetes have nearly double the risk of heart disease and are at a greater risk of developing mental health disorders such as depression. But most cases of type 2 diabetes are preventable, and some can even be reversed. Even if you've already developed diabetes, it's not too late to make a positive change. By eating healthier, being more physically active, and losing weight, you can reduce your symptoms. Taking steps to prevent or control diabetes doesn't mean living in deprivation; it means eating a tasty, balanced diet that will also boost your energy and improve your mood. You don't have to give up sweets entirely or resign yourself to a lifetime of bland food. (Azeez et al 2020).

2.3.1. Theoretical framework of the study

Theories are necessary for the comprehension and the interpretation of social facts. Practical generally empirical are indispensable in this branch of social science. For any study to be considered objectives and credible, theoretical framework and literature review must be taken seriously. *Un ensemble de lois concernant un phénomène. La théorie se veut un corps Explicatif global et synthétique établissant de liens de relation causale entre les faits observés, analyses et généralement les dits lien a tout sortes de situation.* According to Mbonji, (2005, P 22),

From the above statement, the word theory often means an untested hunch or a guess without supporting evidence. But for scientists, a theory is a well-substantiated explanation of an aspect of the natural world that can incorporate laws, hypotheses, and facts. The theory is contemplative and rational types of abstract or generalizing thinking about a phenomenon, or the result of such thinking often is associated with such processes like observational study, research. Theories may either be scientific or other than scientific. Depending on the context, the result might, for example, include generalized explanations of how nature works. The word has its roots in ancient Greek, but in modern use it has taken on several related meanings.

2.3.2. The Theory of Functionalism

Functionalism, as a school of thought in anthropology, emerged in the early twentieth century. Functionalism is the reaction of Bronislaw Malinowski and Alfred Radcliffe Brown during the 19th century in which two schools of thoughts emerged. This was because of the limitations of the evolutionary and diffusionist theories in the years (1884-1942). They postulated a unilinear thinking towards the approach to civilization. Functionalism considers the satisfaction of social and human needs. The function of a cultural element as defined by the role played in satisfying individual needs or to preserve social cohesion. Functionalism as a social science theory, looks for the part “function” which each aspect of culture or social life plays in maintaining a cultural system. The school of thought brought about by Radcliffe Brown, came out with a definition which looked at function: as the role played, the contributions made by the parts to the finality of the group. Functionalism was a reaction to the perceived excesses and deficiencies of the evolutionary and diffusionist theories of the nineteenth century and the historicism of the early twentieth (Goldschmidt 1996:510). Two versions of functionalism developed between 1910 and 1930: Malinowski’s biocultural (or psychological) functionalism; and structural-functionalism approach advanced by Radcliffe-Brown. Malinowski suggested that individuals have physiological needs (reproduction, food, shelter) and that social institutions exist to meet these needs. There are also culturally derived needs and four basic “instrumental needs” (economics, social control, education, and political organization), that require institutional devices. Each institution has personnel, a charter, a set of norms or rules, activities, material apparatus (technology), and a function. Malinowski argued that uniform psychological responses are correlates of physiological needs. He argued that satisfaction of these needs transformed the cultural instrumental activity into an acquired drive through psychological reinforcement (Goldschmidt 1996:510; Voget 1996:573).

Radcliffe-Brown focused on social structure rather than biological needs. He suggested that a society is a system of relationships maintaining itself through cybernetic feedback, while institutions are orderly sets of relationships whose function is to maintain the society as a system. Radcliffe-Brown, inspired by Augustus Comte, stated that the social constituted a separate “level” of reality distinct from those of biological forms and inorganic matter. Radcliffe-Brown argued that explanations of social phenomena had to be constructed within the social level. Thus, individuals were replaceable, transient occupants of social roles. Unlike Malinowski’s emphasis on individuals, Radcliffe-Brown considered individuals irrelevant

(Goldschmidt 1996:510). The primary starting points of Malinowski's theorizing included: understanding behaviour in terms of the motivation of individuals, including both rational, 'scientifically' validated behaviour and 'irrational', ritual, magical, or religious behaviour; recognizing the interconnectedness of the different items which constituted a 'culture' to form some kind of system; and understanding a particular item by identifying its function in the current contemporary operation of that culture (Firth 1957:55). Radcliffe-Brown's emphasis on social function is derived from the influence of the French sociological school. This school developed in the 1890s around the work of Emile Durkheim who argued that "social phenomena constitute a domain, or order, of reality that is independent of psychological and biological facts. Social phenomena, therefore, must be explained in terms of other social phenomena, and not by reference to psychobiological needs, drives, impulses, and so forth" (Broce 1973:39-40).

Emile Durkheim argued that ethnographers should study the function of social institutions and how they function together to maintain the social whole (Broce 1973:39-40). Radcliffe-Brown shared this emphasis of studying the conditions under which social structures are maintained. He also believed that the functioning of societies, like that of other natural systems, is governed by laws that can be discovered through systematic comparison (Broce 1873:40). It is important to note here that Firth postulated the necessity of distinguishing between social structure and social organization. Social structure is the principle(s) on which the forms of social relations depend. Social organization refers to "the directional activity, to the working out of social relations in everyday life" (Watson-Gegeo 1991:198).

2.3.3. Interpretation of work with the theoretical framework

The theoretical framework chosen in this piece is, however chosen for their suitability in the analysis and interpretation of our data. Some concepts from this theory are, therefore, retained for the explanation of the different research variables here enclosed.

Firstly, the theory of functionalism is relevant to this study because it aligns with the aims and objectives of the study with its concepts of "function" to the present study. The function concept explains that the society have cultural elements that interact together for the society to work well. It is like the human body that in the absence of one part, the body would not function

well. The function of a cultural element as defined by the role played in satisfying individual needs or to preserve social cohesion. That is why among the Bakweri people to manage diabetes so many elements come to play. For instance, the presence of traditional practitioners, health personnel's or conventional medicine, faith healers all play a role. Being a part of a system means everyone must do a particular task for the system to function and in light with functionalism a human system infected with diabetes is because it is having deficiencies or a malfunction which is because of lack of insulin or excess insulin which cannot be digested. Functionalism is necessary to the study because it not only focus on the individual and his lifestyle or eating habits but also on the role or environment and healthcare institutions in the Buea locality to better manage and control diabetes mellitus among patients. Accessing diabetes through functionalism enables us to see the role played by patients and institutions within the system in a joint command chain to understand and better manage their health situation.

Secondly, there is a concept of "social structure" which Radcliffe-Brown suggested that a society is a system of relationships maintaining itself through cybernetic reaction, while institutions are orderly sets of relationships whose function is to maintain the society as a system. Radcliffe-Brown, inspired by Augustus Comte, stated that the social constituted a separate "level" of reality different from those of biological systems and lifeless matter. Radcliffe-Brown argued that explanations of social phenomena had to be constructed within the social level. Thus, individuals were replaceable, temporary inhabitants of social roles. Some of the diabetes avoid public spaces because of how their surrounding will look and treat them. They are regarded as fragile and bearers of a complicated health condition. Most of them avoid public gathering because they do not want to face aggressive eyes, meanwhile they were to feel free with others and function like one because the purpose of social structure was essential because it create order and predictability in a society, instead the society makes them feel uncomfortable especially when they are supposed to do their insulin shots or measure their sugar levels. Diabetes patients of Buea face difficulties participating in social events because of their health condition which does not permit them to do such. This is the reason why the theory of functionalism has made one to see how people are been treated in the society especially the unfortunate ones like the diabetes patients of Buea, making individual form a self-conception. Social structure may limit our options and place us in random classes not of our choosing.

The cognitive behaviour therapy theory

He observed that they tended to get better when they changed their ways of thinking about themselves, their problems, and the world. Ellis reasoned that therapy would progress faster if the focus was directly on the patient beliefs, and thus was born the method now known as Rational Emotive Behaviour Therapy. REBT was originally called 'Rational Therapy', this soon changed to 'Rational-Emotive Therapy' and again in the early 1990's to 'Rational Emotive Behaviour Therapy'. REBT is one of a number of 'cognitive-behavioural' therapies, which, although developed separately, have many similarities such as Cognitive Therapy (CT), developed by Psychiatrist Aaron Beck in the 1960's. REBT and CT together form the basis of the family of psychotherapies known as 'Cognitive-Behaviour Therapy'. Therefore, negative, and unrealistic thoughts can cause us distress and result in problems. When a person suffers with psychological distress, the way in which they interpret situations becomes twisted, which in turn has a negative impact on the actions they take. CBT aims to help people become aware of when they make negative interpretations, and of behavioural patterns which reinforce the partial thinking. Cognitive therapy helps people to develop alternative ways of thinking and behaving which aims to reduce their psychological distress. Cognitive behavioural therapy is, in fact, an umbrella term for many different therapies that share some common elements. Two of the earliest forms of Cognitive Behavioural Therapy Were Rational Emotive Behaviour Therapy (REBT), developed by Albert Ellis in the 1950s, and Cognitive Behaviour developed by Aaron T. Beck in the 1960s.

In relevant to the work, cognitive behaviour therapy brought out many elements of functions in relation to this work. Cognitive behaviour therapy is an effective treatment approach for a range of mental and emotional health issues, including anxiety and depressed which aims is to help diabetes patients of Buea identify the challenge of unhelpful thoughts and to learn practical self-help strategies. Firstly, cognitive behaviour therapy is a treatment that helps diabetes patient of Buea among the Bakweri people to recognize negative unhelpful thought that biomedicine could not cure or treat their diabetes. With that unhelpful thought, they began to seek for an alternative, which keeps on increasing their condition. However, thanks to cognitive behaviour therapy the diabetes patients of Buea, it helps them control their emotions, thoughts in other not to affects them and make them see the reason why this theory is much more important. This is because after controlling their thought maybe on that they will never be heal or they can die at any time, it gives this patient hope to their condition. The nature of mental

health conditions means suffers often feel pessimistic about their future. And it helps them bring out their self-esteem because many diabetes patients have health issue associated with self-esteem that feed into the cycle of negative thoughts influencing their behaviour. But CBT helps them disrupt this pattern and develop more confidence in their own abilities. This includes the way they view themselves.

Secondly, cognitive behaviour theory helps diabetes patients of Buea how to relax and learn to control how they respond to their symptoms. A lot of time, this involves developing calmer responses using a variety of relaxation techniques and encourage them that they will be used to it and things will be ok. To conclude, CBT is a highly effective form of talking therapy with a wide range of applications. It might not be suitable for everyone or may need to be used alongside other forms of therapy treatment for the best results, but it is often a very good place to start.

2.4. Conceptual and theoretical framework of the study

Several concepts and theories are examined and reviewed in this study to show their significance in this work in the domain of diabetes and diet in Buea municipality in which this study dwells. In a whole, two theories and four concepts are used in this study. The concepts of diet, therapy, diabetes, and middle age.

2.4.1. Concepts

This write-up is guided by the link that exists between the diet and diabetes in Buea. Some concepts were identified and defined to guide the understanding of this research. Concepts such as therapy and diabetes which are directly linked to the topic have been carefully defined and conceptualised while other concepts which are not directly linked to the topic of this research have been identified and used to facilitate the understanding of this work. The definitions adopted are conceptual and theoretical. The intention is to articulate these terms around the context and background of the research questions vis -à -vis the perception of the local population of Buea to give them their meanings and significance through a cumulative development in knowledge.

2.4.2. Diet

The foods you choose to eat can have a direct impact on your ability to enjoy life to its fullest. Diet is the sum of food consumed by a person or other organism. The word diet often implies the use of specific intake of nutrition for health or weight management reasons (with the two being often related). Individual dietary choices may be healthy. Diet can also refer to the food and drink a person consumes daily and the mental and physical circumstances related to eating. Lifestyle changes related to unhealthy eating habits, socio economic pressure, smoking and decreased physical activity are risk factors of chronic diseases (Lam & Khor, 1997). Nutritional status and Food Habits of Middle-aged adults in selected Areas of Selangor by Norimah a Karim & Haja Mohaideen M. written in 2003 states that being older, more specifically being 50 years and above, of Malaysia or Indian descent appeared to have a higher mortality and morbidity rate towards cardiovascular diseases (Corrao et al., 1990; Jayamalar, 1991; Khor, 1994; Heng et al., 2000). which was conducted among some 30,000 multi-ethnic adults aged 18 years and above.

The living condition and living habits of middle age diabetes patients in Buea is quite precarious since they lack the necessary information which is needed by them to help improve on their condition. The sample audience was made up of several persons who originated from different backgrounds and had different social and financial status. The audience was constituted of people who had lived with diabetes for at most 25 years and utmost 3 years. During this period, the people of Buea learnt how to cope with the illness while others never got used to this new medical condition which had become an integral part of their lives. They managed to cope with the illness by either searching for new remedies which could cure the disease, or they improved on the living conditions and eating habits to have a better chance of surviving the disease. According to Alibabića *et al.*, (2013), good eating habits are an integral part of a healthy way of life and an important factor in the prevention of many health problems. Important period of young people's life, the student's period, is characterized by autonomous decision which influences their own diet. During their studying, students usually settle into a new environment, students change their lifestyle and dietary habits. As a result of nonproper nutrient inputs, metabolic processes are changing and if this situation continues for a longer period, it can cause illness or condition which substantially depletes the body. This is initially manifested in functional, and later in organic disorders of the cells, tissues, and organs. Unbalanced diet with vitamin and mineral deficiencies can cause the appearance of the state of malnutrition or diabetes, which can also damage, especially the young student's bodies, and prevention of these conditions is one.

2.4.3. Therapy

Therapy suitably known as the “talking cure,” therapy typically involves a client reflecting on their personal challenges and a provider guiding the conversation with feedback, questions, and non-verbal signs. How did this rare medical treatment of the early twentieth century evolve into a pervasive cultural trope and marketplace icon and why? To answer these questions, this article offers three different histories of therapy: an academic history of the schools of therapy, from psychoanalysis to positive psychology, an economic history of the growth of therapy, from rare treatment to mainstream healthcare, and a cultural history of the diffusion of therapy, from health-care service to Hollywood movies, television serials, news programs, talk shows, reality TV, pop music, and everyday conversation. Therapy offers an integrative and positive existential perspective which capitalizes on the uniquely human capacity to discover and create meanings and values out of the raw and often painful life experiences. Meaning Therapy employs personal meaning as its central organizing construct and assimilates various models of psychotherapy, from cognitive behaviour therapy to positive psychotherapy. Meaning Therapy advocates a psycho-educational approach to equip patients with the necessary tools to navigate the inevitable negatives in human existence and create a life that is worth living. It affirms the hope of finding meaning and purpose, even when one suffers from overwhelming difficulties and intractable problems. In a global village and multicultural society, we need to look at life in the broadest terms and look at individuals in the most inclusive manner. Openness to integrate different ideas and a willingness to explore new alchemies of therapy may provide new clinical insights. Thus, a flexible integrative approach to psychotherapy may be a more effective and efficacious than a strict adherence to a single theory of therapy (Paul 2009).

2.4.4. Middle-Age

Middle-aged, a period of human adulthood that immediately leads the onset of old age. Though the age period that defines middle age is somewhat arbitrary, differing greatly from person to person, it is generally defined as being between the ages of 40 and 65. Middle age, also called ageing, in human beings, the final stage of the normal life span. According to the Bakweri they see middle-aged people as ruler of village and well respected. Reason being that they are the ones who appease the god, who work with the chief of the village. On the other hand, they see them as people that can't do anything because they are of age. Definitions of old age are not consistent from the standpoints of biology, demography (conditions of mortality and morbidity), employment and retirement, and sociology. Finding done by Lucie (2018) stated

that, the numbers of children born to older mothers (50plus) is rising, as of course is the number of older women in general. It is not a massive trend, but it is a trend. Reference to the existence of older mothers can be traced back to the sacred texts of the Old Testament, for example, and apparent happiness of attaining this new role despite the “impropriate age” seems to be constant. In the traditional paradigms of social policy and social gerontology, older people have been regarded mainly as receivers of help, as those in need. However, recent studies have looked more often at older people as a “resource”, as those who provide, contribute, and give. Because of this “paradigm shift”, their contribution is being recognised on different levels: at a societal level as workers.

2.4.5. Diabetes

Diabetes is when your blood glucose, also called blood sugar, is too high. Blood glucose is the main type of sugar found in your blood and your main source of energy. Glucose comes from the food you eat and is also made in your liver and muscles. Your blood carries glucose to all your body’s cells to use for energy. Your pancreas an organ, located between your stomach and spine, that helps with digestion releases a hormone it makes, called insulin, into your blood. Insulin helps your blood carry glucose to all your body’s cells. Sometimes your body doesn’t make enough insulin, or the insulin doesn’t work the way it should. Glucose then stays in your blood and doesn’t reach your cells. Your blood glucose levels get too high and can cause diabetes or prediabetes. Over time, having too much glucose in your blood can cause health problems.

In line to this, Prediabetes is when the amount of glucose in your blood is above normal yet not high enough to be called diabetes. With prediabetes, your chances of getting type 2 diabetes, heart disease, and stroke are higher. With some weight loss and moderate physical activity, you can delay or prevent type 2 diabetes. You can even return to normal glucose levels, possibly without taking any medicines.

Type 2 diabetes, which used to be called adult-onset diabetes, can affect people at any age, even children. However, type 2 diabetes develops most often in middle-aged and older people. People who are overweight and inactive are also more likely to develop type 2 diabetes. Type 2 diabetes usually begins with insulin resistance a condition that occurs when fat, muscle, and liver cells do not use insulin to carry glucose into the body’s cells to use for energy. As a result, the body needs more insulin to help glucose enter cells. At first, the pancreas keeps up with

the added demand by making more insulin. Over time, the pancreas doesn't make enough insulin when blood sugar levels increase, such as after meals. If your pancreas can no longer make enough insulin, you will need to treat your type 2 diabetes.

Gestational diabetes can develop when a woman is pregnant. Pregnant women make hormones that can lead to insulin resistance. All women have insulin resistance late in their pregnancy. If the pancreas doesn't make enough insulin during pregnancy, a woman develops gestational diabetes. Overweight or obese women have a higher chance of gestational diabetes. Also, gaining too much weight during pregnancy may increase your likelihood of developing gestational diabetes. Gestational diabetes most often goes away after the baby is born. However, a woman who has had gestational diabetes is more likely to develop type 2 diabetes later in life. Babies born to mothers who had gestational diabetes are also more likely to develop obesity and type 2 diabetes. (National Institute of Diabetes and Digestive and Kidney Diseases, 2013).

Conclusion

The existing literature found in this chapter involved an integrated and simultaneous approach in the presentation elaboration and explanation of facts drawing ideas and various points of view of different authors on the subject matter. With all the information gathered from secondary data, the cognitive behaviour therapy theory and the Trans -theoretical Model has been widely implemented, reversal theory may offer a more comprehensive framework for health behaviours change interventions and research. Clinicians and researchers are urged to learn more about this theory and how it may apply to their areas of practice and research.

CHAPTER THREE

**AETIOLOGY AND PERCEPTIONS OF DIABETES IN MIDDLE-
AGED PATIENTS AMONG THE BAKWERI PEOPLE OF BUEA**

Introduction

In this chapter, the different etiologies of diabetes are examined by bringing out the cultural, social, economic, and political causes that affect diabetic patients of the Bakweri people of Buea. We are also going to look at how diabetes is perceived, the aetiology at the cultural and biological level.

3.1. The cultural aetiology

At this level we see the causes to be of the supernatural and natural phenomenon as seen like the biological factors thus directly link to the functioning of human body. These factors include insufficient production of insulin, genetic heritage, transmission from mother to child through birth and overweight. It was discovered that most cases observed in Buea especially Great Soppo, Buea town, Street seven, Clarks quarter and Bova. And the supernatural was seen at the level of witchcraft, mystical forces and a lot more.

3.2 Cultural aetiology of diabetes within the Bakweri people of Buea

In a study done in Sudan by Ahmed (2003) prevalence of diabetes is perceived and attributed to unhealthy diet and a sedentary lifestyle especially in urban areas. In the same study the people belief in fatalism which is the attribution of life event to the will of God or supernatural. Throughout the Sudanese societies many people especially the Muslims are fatalistic. Fatalism justifies the believer in ability to shape their own destiny and reconcile them to the harsh reality of life. At the same time fatalism may rendered the population powerless and this highlighted by repressive political and economic system. In this light, the fatalistic diabetes patient's belief them they unable to influence their disease in any way. Some may attribute poor control and appearance of complications to fatalism, leading to lack of motivation to compile with medical recommendation. In such patient, there is no place for a self-management approached. This is confirmed by field finding which show that the beliefs of Bakweri people see and perceive diabetes as a spiritual illness and so resort to un effective traditional practices which are not the result of medical diagnosis from public private health facility. One of the interviewees stated that;

This "sugar disease" (diabetes) is because of witchcraft. So as a Bakwerians he treats it traditionally, that's why must of them don't go to the hospitals to be diagnosed, instead they call on their ancestors for consultation or to the traditional practitioners for help on how they can be healed of this disease they just discover, and they believed is witchcraft or punishment from the gods. (female, Married, 60, Bokwaungo 31st April 2021).

In compliance with this, most Bakweri people still trust in their ancestral belief. They just have the mentality that they can only be healed after visiting the traditional practitioners where herbs will be given to them to boil and drink in order to be healed. They don't believe in medical doctors nor God almighty. Diabetes educators (2015) need to be mindful of the cultural traditions and customs among all cultural and ethnic groups and to recognize socio-economic challenges that may exist. Americans Non-Hispanic Whites are a group to learned behaviours, customs, preferences, beliefs, and ways of knowing. When diabetes education programs are delivered using culturally appropriate methods in diverse populations, they can result in improved patient health behaviour, knowledge, health status, and self-efficacy. Understanding the motivational stimuli of people from diverse backgrounds will enable diabetes educators to develop effective programs, teaching strategies, and individualized care plans to mitigate the impact of diabetes. Integrating the individual cultures within diabetes education and training which is important for program effectiveness. Increasing beyond racial, cultural, and religious sensitivity to further individualization based on age-appropriate and socio-economic considerations.

3.2.1 The mystical forces

In most African cultures, spirit-beings obviously exist. The typical African cosmology sees the universe as a multi-dimensional entity inhabited by a hierarchy of spiritual beings and forces. The earth is seen as an arena where the spiritual beings and forces interact with many for good or evil depending on the circumstances. African world view has no room for accidental death and natural illnesses. It has no natural cause and effect category; every event has cause. On the other hand, claims that some diseases are classified as natural and can be treated with medicine alone. Others result from some imbalance and must be treated with special medicine and ritual. The delicacy of diabetes patients cannot be over emphasized, as this period is disposed to vulnerability which the patient might encounter. This if not prevented may either lead to the loss of life, as such the period is accompanied by a lot of taboo devolved on the "waongo" (diabetes) patient stemming from herbs prepared and given to the waongo patients to fortify them and prevent them from any diseases. Especially that of the "evil eye" as one does not know the minds of people around them within the Bakweri community. The coming together and interaction of various tribes and people in the early years especially from the colonial

period within the Bakweri community came up with a conflict of culture and traditional practices that lead to confusion. As many tribes were putting and performing their various types of rituals to protect their properties and farmland and to avoid theft. As such anyone who trespassed into these private properties faced a consequence because the effects of these ritual had to be implied a curse on his or her generation. Thus, affecting them through strange illnesses and spiritual discomfort. While some even lost their life because of that. As a matter of fact, as explains;

the Bakweri people believed they had authority and control over the farmlands and properties as they had the notions that others are strangers and so they had no right to intrude into the properties and harvest foodstuffs to consume in their households. It is on this bases that those who had to trespass into those farms where infected with the repercussions of the rituals made on these farms. These now in the course of time had adverse effects on the lives of their animals, as they lost their animals, their family members became sick and affected with diabetes. As a solution to this they came up with counter-rituals to neutralize this effect and prevent the generation from these ills. So as a remedy, these rituals were implemented, and it has been done on every patient with diabetes from that clan has to practice this ritual to prevent the etiology of any disease that may befall them. (male, Married, 70, Bakweri town 30th June 2021).

According to the above statement, one of the cultural causes of diabetes is mystical forces. To avoid being curse or inflicted with a disease one just need to respect the norms and culture of the Bakweri people.

3.2.2 Witchcraft as a cultural aetiology

The belief in animism and witchcraft is very common among the Bakweri known as *//liemba//* which regarded as an inborn or inherited from either parent or can be passed from one person to another through initiation. It can be practiced at all ages. The practice is a secret act dealing with the spirit. If a victim's illness is diagnosed to be caused by witchcraft, (special medical treatment) are perform called *//yowo//* with the consultation of a diviner or soothsayer. The belief in witchcraft cannot be underestimated in the Bakweri community. When any phenomenon or accident is beyond their understanding, it is attributed to witchcraft. They believe that anything that happens has a cause which is either natural or supernatural. As such some villagers testify that witches and wizards do fly in the night to commit atrocities such as mystically making love without the concern of the people while they are asleep. Also, they use their powers to extract food from their neighbour's farms into theirs to enrich harvest. These

practices are usually common as the witches are periodically caught or prevented by counter forces.

With regards to omen, the Bakweri clan is sophisticated with a lot of them which have emerged because of not falling prey to an evil spell or spirit, not to go against certain aspects of tradition, or simply to respect the laws of the Bakweri clan. So, in order not to encounter certain mischief, these omens serve as guiding principles. At times if gone against, simple ritual or cleansing is done and restoration given while serious ones will need the assistance of a native doctor (Nganga); millipedes and tortoise are known to predict some untold problems in the future, the chameleon is dreaded for bringing bad luck, a cat crying out at night is an indication that someone will die in the village. The opening of people's pot or wooden boxes (mokowe') if one is a stranger in the house is not advisable in those days many people do keep their secret items and witchcraft from one person to another. And if done without the permission of the person, you might be initiated or be affected through and illness or even death by those secret items or witchcraft. In addition to this, the Bakweri people sees this as a cause of diabetes

3.2.3 Food //molely// habit

Food habit refers to why and how people eat, which foods they eat, and with whom they eat, as well as the ways people obtain, store, use and discard food.

3.2.3.1 Consumption of starched //molely//

The Bakweri people they cultivate a lot of food especially starches food, and this starches food cause the blood sugar to rise but it doesn't stop them to eat it. The right carbohydrate for him will depend on their size, medication and physical activities level can help them control the amount of starches food to eat and avoid ill health. Too much consumption of starches food like rice, sweet potatoes etc is not good because it makes their blood glucose to rise. The glycemic index identifies foods that increase blood sugar rapidly. This handy tool allows for selecting suitable foods that have much less effect on blood sugar //wombo// levels. The glycemic index (GI) is a measure of the change in blood glucose following ingestion of carbohydrate-containing foods Glycemic load (GL) reflects more accurately, the glycemic effect, and has been defined as the product of the GI of a particular food item and the available carbohydrate content. Thereby, the potential glycemic effect of a meal may be altered by

changing either the GI or the carbohydrate content, consequently affecting the GL. (Nwawuba et al 2019). One of the interviewees explains that:

He cultivates a lot of starches food in his farm like cocoyam's, sweet potatoes, cassava, and so on. at times he goes and sell some then consume some as well. He continues by saying he lives in the village and work his farm and eat his food and doesn't know what is called diet or which food can cause him ill health, so he just eats all he sees cultivate and what he buys in the market as well. He only realises he need to limit some of the food consumption when he arrives the hospital for check-up because he wasn't feeling fine, that's where he was diagnose having diabetes.

(male, married, 68, Molyko 1st June 2021.)

In congruence with the above, it was notice that a lot of Bakweri people have diabetes because of wrong consumption of food, like they don't know what to eat in other to manage their health. This because they cultivate it and they belief is certain for them to eat anyhow and any quantity.

3.2.3.2 Consumption of //wombo// (sugar)

The global prevalence of type 2 diabetes mellitus (T2DM) is high and is increasing in countries undergoing rapid socio-economic development as explains by Papier *et al.* (2017), Sugar //wombo// sweetened beverage (SSB) intake may contribute to the risk of developing T2DM. They were many incident cases of T2D identified during the ten years follow up, from among a total of 338,884 persons during the years of follow up. Diabetes risk increased with increasing intake of sugar sweetened soft drinks and sweetened fruit drinks. For the highest category intake of soft drinks, the Incidence Rate Ratios (IRR) was 5.51 in a multivariate model that did not include dietary factors and was reduced to 1.24 after controlling for dietary. For fruit drinks, the comparable (IRR) was 1.37 consumption of orange and grapefruit drinks which was not associated with diabetes risk. In the same study data indicated that women who increase their intake of sugar //wombo// sweetened soft drinks had a considerable higher weight gain over six years than did women who reduce consumption. In contrast, adjustment for Body Mass Index (BMI) had little effect with fruit drinks with diabetes risk, and the relation between intake of this beverages and weight gain was not as strong as for strong drinks. To support this claim, field observation showed that sugar consumption in Buea is on the rise and one of the informants explains that:

Each time he takes the wrong diet his sugar level keeps on increasing and he see himself always going to the hospital because he eats so much sugary food and his body stop responding properly to insulin. He continues by saying that his educated and he has money that which makes his lifestyle very easy and exaggerated because he can afford anything even the ones that our not good to his health, making him neglect what the doctor said after his visit to the hospital. After the doctor told him the complication of neglecting his health condition which can lead to high blood pressure, he became scared and immediately react over it. (male, married, 50, Street seven 17th August 2021).

Above, the patients who had better lifestyle either because of a better financial income and first-hand information. Such patients were educated on the various content which they should consume and how their lifestyle and living routine could considerably improve on their health status. This could range from physical activities to diet or low intake of some nutriments to help manage their situations. These patients paid close attention to the details and instructions to what the doctor said and made sure they accepted any help they could. Based on studies carried out by Erica (2018) in her paper “Does sugar cause diabetes? Facts vs Fiction”, drinking just one sugar sweetened beverage per day increases your risk by 13% independent of any weight gain it may cause. Although diabetes is a condition where blood sugar levels are too high is easy to rather think that eating too much sugar //wombo// can cause diabetes. Sugar //wombo// does not cause type 1 diabetes, nor is it caused by anything else in your lifestyle. Type 1 diabetes is caused when the insulin producing cells in the pancreas is destroyed by the immune system. Damage to these cells undermines the body’s ability to manage blood glucose. Type 2 diabetes is more complex when related to sugar //wombo// because though it does not directly cause type 2 diabetes, a person is more likely to get it if you are overweight.

3.2.3.3 Smoking of cigarette //zika//

Snuff was used for the treatment of headaches and colds in the head. But now better use it for something else. With the coming of tobacco and cigarette a lot of people derive from snuff. Snuff has become harmful because it contains chemicals that can raise your risk of many health problems. However, the exposure level to these chemicals is lower than that of smoked tobacco products. Like other tobacco product like cigarettes //zika//, pipe tobacco, and chewing tobacco, snuff should be considered unhealthy and may lead to the development of a substance use disorder. To produce snuff, tobacco is dried and finely ground. There are two main types of snuff: dried and moist. In a 2014 report, the National Cancer Institute and the Centres for

Disease Control and Prevention (CDC) found that more than 40 types of smokeless tobacco products are used by nose or mouth by more than 300 million people around the world including snuff. To use this dried snuff, one inhale the ground tobacco into your nasal cavity. To use moist snuff, also known as dipping, one put the tobacco between your lower lip or cheek and gum. Tobacco use can increase blood sugar levels and lead to insulin resistance. The more you smoke, the greater your risk of diabetes. The nicotine from the tobacco is absorbed through the lining of the nose or mouth. The 2019 Norwegian public health report warns that the use of Swedish moist oral snuff (snus) maybe associated with an increased risk of cardiovascular diseases, high blood pressure harm to child during pregnancy and type 2 diabetes with high use (Karen 2021). One of the informant states that:

She has been taking snuff since a tender age and it was made up of a particular fresh leaf cut at the back yard and dried and grind, at times she those it and sell it in other to make money. she takes a small portion of snuff and inhale it. To her this was to reduce stress and tiredness, at times she inhales it when she has headache in other to calm it down. In those days, they didn't even know something exist like cigarette(rika). (female, widow, 67, Small soppo 2nd April 2021.)

In commensurate with, snuff in those was not consume too much or for negative possess. Seeing grandmothers in those days taking it we didn't see them going crazy or sick, but with the coming of cigarette as the Bakweri man called //zika// they let go of snuff and started smoking cigarette that contain nicotine and wasn't good for their health condition. Some people go to an extend of using cigarette //zika//as a solution to their problem. And statics shows that people that smoke cigarette can have type 2 diabetes. Being a widow and having diabetes was stressful as she explained because she had to handle everything by herself, the family, finances which was not good, and this led to stressed.

3.2.3.4 Consumption of alcohol

Alcohol does not cause diabetes. However, according to America Diabetes Association (ADA), heavy consumption and zero consumption increase the risk. The relationship between type 2 diabetes and alcohol is complex. When people with this condition drink alcohol, it comes with risks. However, it does not mean people with type 2 diabetes cannot drink alcohol. The risks depend on how much alcohol a person consumes, as well as the type.

In those days he didn't know something exists like beer drinks because they were used to going to their farmland to tap palm wine come back and drink as a family, even when they have traditional marriage, funerals in years to come the white people came with alcoholic drinks like beer which many people derive from palm wine and started consuming it which cause them to be sick. (male, married, 61, Bova 11th August 2021.)

In the above word verbatim, palm wine signifies a lot in many cultures especially the Bakweri where at times they pour it during liberations as an offering to the deity, traditionalists split it on the ground as a mark of respect to their dead ancestors. Our grandparents like palm wine because they believe it is good for their health especially the maintenance of good eye. This is because palm wine contained vitamin C, it also fights against cancer and cardiovascular diseases. At times they even use palm wine for treatment, but with the coming of beer, a lot of people tend to consume it more which causes them disease like high blood pressure, weight gain that led to the cause of diabetes.

3.2.4 Mother to childbirth

Gestational diabetes is the type that affects females during pregnancy. Some women have very high levels of glucose in their blood, and their bodies are unable to produce enough insulin to transport all the glucose into their cells, resulting in progressively rising levels of glucose. Diagnosis of gestational diabetes is made during pregnancy. Most gestational diabetes patients can control their diabetes with exercise and diet. Between 10 to 20 percent of them will need to take blood-glucose-controlling medications. Undiagnosed or uncontrolled gestational diabetes can raise the risk of complications during childbirth. (B. sureshlal., 2016). One of the doctors explains:

Infant of diabetic mothers are often larger than other babies, especially if diabetes is not well controlled. This may make vaginal birth harder and may increase the risk for nerve injuries and other trauma during birth. (male, married, 49, 7th days Adventist hospital, 10th June 2021).

From the above statement, untreated or poorly controlled gestational diabetes can hurt your baby. Your pancreas work overtime yet it doesn't still lower blood glucose level. And if they don't manage it well during this period it might lead to type 2 diabetes. Only the fact that a woman is pregnant is already a lot of work like going to the hospital when necessary and couple with the fact they have a disease to take care of too can just make one feel so depressed. In line with this, Khan (2017) stated that Management of diabetes requires a deep concentration means

without the coordination between nurse and another member of health care team. Awareness about diabetes of his or her family member plays a vital role in the management of diabetes mellitus. Because without awareness patient cannot take the medicine regularly. A person with diabetes mellitus should be encouraged and enable to participate actively in running and monitoring their state.

3.2.5 Overweight //Waongo//

The world overview of the people is that when one is fat it means he/she is healthy or rich according to the people's perception. According to the Bakweri people when one is fat is due to good feeding and when he or she looks small that means they are sick, or they are from a poor background. Due to that a lot of people eat anyhow and keep putting on weight which led to several diseases like obesity, diabetes etc. The World Health Organization and various national authorities have recently made recommendation urging the limitation of the daily consumption of carbohydrate most specifically those which are rapidly digestible starches and sugars. This plays a key role in reducing the risk of diabetes, obesity, and cardiovascular diseases. Although many studies refer detailly to diet with a low carbohydrate content, this in fact goes hand in hand with elevated fat. In a study conducted by Feinman et al., (2014), dietary carbohydrate restriction is the first approach in diabetes management. There are theoretical small benefits from sugar reduction, especially for those with very high intakes, to reduce blood pressure and cardiovascular diseases. According to Warfa et al. (2016), if cutting down sugar intake can reduce weight gain by 2-3 kg that would help delay the onset of weigh-related diseases like type 2 diabetes. In the study, the following observations were made by one of the doctors. *Insulin resistance is found to be more common in obese children with high weight, height and waist circumference which appears early in the disease and is primarily compensated by hyperinsulinemia. Obesity combined with insulin deficiency leads to the development of T2D. Ebe D'Adamo and co-authors found that children with high proportion of visceral fat and limited abdominal subcutaneous fat are more insulin resistant and they have higher plasma glucose in the second hour of the glucose tolerance test. Medical conditions related with obesity and diabetes include cardiovascular diseases, obstructive sleep and cardiometabolic complications which are the main reasons of morbidity in T2D. (Agata et al., 2018 page 33).*

Add to the above, it was reviewed that those considered to be overweight were patients who barely knew that their living conditions and poor lifestyle affected their healthcare condition. These patients were regarded as the least informed and less privileged who due to one reason or another had the worst medical record. Due to their lack of finances and knowledge on how to manage their medical condition, they found themselves taking wrong nutritional decisions which affected their health conditions. According to the Bakweri people when you feed well one grows fat giving the impression you are healthy, this perception causes a lot of people to eat anyhow and gain overweight that led to the cause of diabetes. According to him he thought he was doing himself good by over feeding and gaining unnecessary weight. This led to cause diabetes that is related to poor feeding conditions and sedentary lifestyle. It has been proven that improvement of diet and physical activity could improve diabetes control or metabolic syndrome among people. However, considering the high prevalence of Cardiovascular Risk Factor (CVRF) in this population, the inappropriate diet, and the prevalence of infectious conditions, this prevalence seems to be reliable.

3.3 Social causes of diabetes

Diabetes prevalence in Buea is not only related to the risk biological factors mentioned above but also intricately linked to the social factors like high consumption of sugar, poor living conditions, low educational attainment, demographic surge, and society's cunning behaviour towards an individual being with abnormality such as obesity and diabetes.

3.3.1 The poor living condition

Apart from poor awareness, there are correct nutrition and lifestyle choices to prevent diabetes, other barriers to prevention strategies include difficulty in accessing healthcare, inadequate physician time to educate and to screen for diabetes and limited access to blood testing. Relatively new line of research has begun to show that risk of diabetes is associated with neighbourhood attributes that are also associated with race. In the American Public Health Association (2014). Auchincloss *et al.* found that higher diabetic rates were related to the lack of availability of neighbourhood resources that support physical activity and healthy nutrition. Schootman *et al.* in the APHA (2014) found that poor housing conditions were associated with diabetes prevalence. Black neighbourhoods are more likely to be characterized by these risk factors, that is having food deserts, being less likely to have recreational activities, and tending to have lower quality housing than white neighbourhoods. As such, it stands to reason that

The living condition and living habits of diabetes patients in Buea is quite precarious since they lack the necessary information which is needed by them to help improve on their illness. The patients were constituted of people who had lived with diabetes for at most 25 years and utmost 3 years. During this period, some learnt how to cope with the illness while others never got used to this new medical condition which had become an integral part of their lives. They managed to cope with the disease by improving on the living conditions and eating habits to have a better chance of surviving the sickness. (female, married, 46, The Regional hospital of Buea 3rd April 2021).

Likewise, in the study it was observed that due to the poor or bad living conditions of most diabetic patients in Buea some patients (smokers) if they had prevented it in their early lives might be an important aspect of the prevention of non-insulin dependent diabetic mellitus, as well as of cardiovascular disease. Alcohol intake in diabetic individuals also showed a significant elevation in blood-glucose levels in their serum. In line with the above statement, it was observed that diabetics as well as diabetic individuals who were engaged in drinking, smoking and physical exercise showed a significant rise in their glucose levels compared to normal subjects. Similarly, cholesterol, triglyceride and high-density lipoprotein cholesterol levels and activity of catalase were found to be increased in all diabetic subject, but that of superoxide dismutase decreased as compared to normal subjects. (Rajiv et al., Study of lifestyle habits on risk of type 2 diabetes, 2012).

3.3.2 Genetic inheritance

Though it is not very common, genetic inheritance cannot be a neglected factor in the analysis of diabetes in Buea. Most of the cases observed as genetically inherited were non-insulin diabetic cases as one of the informants said: He inherited the disease from his grandfather because the grandfather has diabetes and that's the cause for him having the disease as well." The causes of type 2 diabetes are complex. This condition results from a combination of genetic and lifestyle factors, some of which have not been identified. Studies have identified at least 150 deoxyribonucleic acid (DNA) variations that are associated with the risk of developing type 2 diabetes. Most of these changes are common and are present both in people with diabetes and in those without. Each person has some variations that increase risk and others that reduce risk. It is combination of these changes that helps determine a person's livelihood of developing the disease. Most genetic variations associated with type 2 diabetes are thought to act by subtly changing the amount, timing, and location of gene activity (expression). These changes in expression affect genes involved in many aspects of type 2 diabetes, including the development

and function of beta cells in the pancreas, the release and processing of insulin and cells sensitivity to the effects of insulin. However, for many of the variations that have been associated with type 2 diabetes, the mechanism by which they contribute to disease risk is unknown. Genetic variations likely act together with health and lifestyle factors to influence an individual's overall risk of type 2 diabetes. All these factors are related, directly or indirectly, to the person ability to produce and respond to insulin. Health conditions that predispose to the disease include overweight or obesity, insulin resistance, prediabetes like higher-than-normal blood sugar levels that do not reach the cut-off for diabetes, and a form of diabetes called gestational diabetes that occurs during pregnancy. Types 2 diabetes does not have a clear pattern of inheritance, although many affected individuals have at least one close family member, such as a parent or sibling, with the disease. The risk of developing type 2 diabetes increases with the number of affected family members. The increased risk is likely due in part to shared genetic factors, but it is also related to lifestyle influences such as eating and exercise habits that are shared by members of a family. (Andersen MK. et al. 2016). From the observation of patient's interview one of them explain that:

They had their diabetes from their parents that was his father, and he didn't know till the day he started having symptoms and always feeling sick that's when he rushes to the hospital and did some test and discover he had diabetes. Due to the series of question ask to him by the doctor to what cause his diabetes that's when he discovers it was a family gen. (male, married, 72, Great Soppo: 30th June 2021)

With the above, a lot of patients neglect their health a lot even when they discover what the problem was, they still go ahead not respecting the doctor's order nor make their children to be precaution about the disease to avoid the inheritance of the disease. Type 2 diabetes Mellitus were more common in the biogenesis of patients who had mutations in or variation of Peroxisome Proliferator-activated receptor gamma (PPARG), PPARG genes. It was observed that each identified genes have its distinct mechanism by which it interacts with other genes and environmental factors to cause type 2 diabetes. A patient who was a bearer of these genes was reported to have disruption of insulin biosynthesis through the destruction of pancreatic beta cells, change of beta cell morphology, destruction of insulin receptors among others. Due to these cellular events the patient witnessed insulin resistance and hyperglycaemia along-side environmental triggers such as overweight and obesity which later culminated into type 2 diabetes.

3.3.3 Insufficient production of insulin as a biological cause

Insulin is a hormone created by the pancreas that controls the amount of glucose in the bloodstream at any given moment. This helps store glucose in the liver, fats, and muscles. Also, it regulates the body's metabolism of carbohydrates, fats, and proteins. Insulin helps generate the functioning of the body that cannot store glucose in the muscles or liver, but neither can it make any fat. According to the American Diabetes Association (ADA), insulin is characterized by how fast it works. Various bodies react differently when taking insulin. There exist various types of insulin such as rapid-acting insulin, short-acting insulin, intermediate-acting insulin, long-acting insulin and premixed or combination insulin. Oral insulin promotes intestinal maturation and may prevent diabetes in animal models as explain by Shehadeh *et al.* (2007), there should be an addition to human insulin to infant's formula to match its composition more closely to human milk. Based on an informant discussion with a type 1 diabetic. As one of the health personnel explain:

The patient whose diabetic condition results in his body making little or no insulin it was revealed that; insulin therapy is vital for replacing the insulin the body doesn't produce. His insulin therapy helps him in regulating his blood sugar levels and it improves long term health. He administers his insulin with shots or pens which are injected into the fat just below the skin with a syringe or a pen like device. It was understood that depending on a patient's sugar levels, the type of diabetes they have or how often they eat, they may be required to administer themselves insulin shots several times each day. (female, married, 65, The Regional Hospital of Buea 20th April 2021).

Conformity with the above, a lot of patients neglect themselves after discovering their health problem. Some of these patients don't respect what they are told especially those taking insulin. These patients have a given time to take insulin and a prescribe type of food to eat in other to ameliorate the health condition. These patients most often do not respect these prescriptions and end up coming back to the hospital with deteriorated health situations. This is because, they forget to know that without insulin glucose cannot leave the body and or be changed to energy. This goes in line with Daniel (2020), who suggest that, nutrition, and lifestyle play an important role in managing both type 1 and type 2 diabetes. While diet should vary among patients depending on their age, advancement of their diabetes and other mitigating factors, and specific diets should be prescribed by a doctor, there are certain dietary guidelines that

tend to apply to most diabetics. Photo 1 below shows an illustrating where a diabetes patients came for check-up

Picture 1: Diabetes patient check-up



Source: Bong L (the Buea Regional Hospital 20th November 2021)

Picture 1 above shows how a diabetes patient goes for regular check-up to see if their blood sugar *//wombo/* level is ok or blood pressure in other to better their health condition.

3.4. Socio-political crisis

Most research on diabetes in humanitarian crisis affected populations has taken place with refugees who qualify for care with international aid organizations. These refugees demonstrate high utilization of healthcare facilities for their diabetes (Amara and Aljunid, 2014; Doocy et al, 2015; Slama et al, 2017). But there is little systematic research to investigate the unique experiences and challenges of clinical and community-based management of diabetes among crisis affected persons outside camps, in informal or itinerant settlement or in rural, crisis affected areas like much of Eastern Ethiopia. Around the world, increasing numbers of clinical provider's care for crisis affected persons with NCDs as they immigrate. But the little research address how NCDs manifest and progress in the crisis, or more broadly. Furthermore, while most diabetes research provides evidence of the statistical association between overweight, obesity and smoking associated risk of T2DM. The study investigates T2DM in a population with very low rates of these common risk factors, where instead malnutrition, infectious diseases and the stress of crisis and displacement are commonplace. (Carruth et al., 2020). According to Kohrt et al (1982) political violence including internal conflicts, international wars,

terrorism, political intimidation and repression, unlawful detentions of dissidents, and population displacement. In commonplace around the world and has devastating consequences on human health (Herbert et al., 2015; Krug et al., 2002; Wenzel et al., 2015). The presence of the political violence distinguishes complex humanitarian emergencies from other humanitarian emergencies. A complex humanitarian emergency is defined as a crisis when there is a breakdown in a country's political system or sovereign authority resulting from internal or external conflict, necessitating an international response (Burkle, 2006). One of the informants explains that:

Since the crisis in Buea started he had faced a lot of difficulties in managing his health condition with no money. They could barely eat because some homes and business were destroyed making them to relocate which he faced another problem to go to the hospital because lack of transportation. Even when he succeeds to trek to the hospital the money, they had could not pay for the test prescript by the doctor. And when his aske to use diet in other to manage their health condition is still same impossible because due to lack of income, they can't provide a special meal for themselves and that of the household. (male, widow, 55, Bunduma 20th November 2021).

Following the word verbatim, a visible challenge faced by most diabetes patients is the financial ability to take care of oneself. Some of the patients were from poor homes and could barely afford their medication talk less of being able to buy the necessary foods which were constituents of a balance diet which they were supposed to take. The various households of patients are subjected to changes especially in the types and quantities of food they consume. Diabetes patients and their households are affected by their medical condition and must adopt different measures which will ensure the wellbeing of the diabetes patient living among them also, trying to live a better and healthier life which will make them avoid future diagnosis as diabetes patients. They were also assisted by the government in the hospital through a 5% discount of lab test payment. They were asked to pay a card of 1000 franc CFA, which they will show it in the lab and 5% will be deduct from their bills.

3.5. How diabetes is being perceived

Recently, findings of Abdoli et al.'s study in 2011 showed that the first response of people, when given a diagnosis of diabetes, included fear of being perceived as different and of losing control of their body and life. Getting a chronic disease threatens the individual's self-sufficiency and disturbs his family life and future perspectives. Having a chronic illness is like a sudden crisis, an unexpected loss, and an unpredictable event that can distort an individual's

image of his future, separating him from the identity he used to have; weakness and rupture are the results of chronic disease. Therefore, facing the diseases, most people have neither any control over their lives nor over their bodies. It seems the reaction, however, is influenced by being diagnosed with a chronic disease; it is also affected by the public views about diabetes. In fact, people with diabetes often spoke of an existing dread and society's negative views about diabetes, which is often accompanied by labelling the person with diabetes; they would also interpret community's response to diabetes and people with diabetes as a kind of rejection. The society's reaction could be affected by public communication with various people suffering from diabetes complications. A number of participants described diabetes as blackness that devastates a person's body and life. One of the participants explained:

“I see diabetes as something like a mass, a mass of dust and horror; it seems like when this blackness and dust is spread through your body, you become more miserable with each part of your body that it gets to. I see diabetes very frightening.” (Female, 45 years old).

In line with the above statement, one can see how stressful and depressed these diabetes patients among the middle age Bakweri people of Buea are going through. They perceive diabetes as a frightful disease that they can never get through their mind, making their condition to be worsen.

A number of people in Buea perceive or interpret diabetes as the end of relationship and romances. For those people, diabetes is a destructive factor that affects the person with diabetes familial and social relations. One of the participants talked about the movie in which diabetes caused a family founded on love to perish:

“I watched a movie about diabetes where the child in the family started to suffer from diabetes and caused the family to perish away. It made the man and woman, who were once in love, get divorced. That's when you feel like diabetes means the death of a relationship, the end of love. When seeing all that you feel like diabetes has the power to demolish a family.” (Female, 52 years old).

In line with the verbatim, a lot of diabetes patients among the Bakweri middle age in Buea are been deceive by their thought like what they think and belief about diabetes. A lot of them with

the disease just have the notion that they can't have sex because they are sick which equally slow down their noting of getting treated or control the diseases.

The Bakweri people of Buea with diabetes perceive it as a destructive image which was excessively vivid, making it appear as a silent and gradual killer, as some of the people had believed that diabetes was the messenger of pain, hard suffering, and gradual death. One of the informant stated that:

To him he perceives diabetes as a backpack on a shoulders that weighs more each passing day especially when he thinks he can die any time any day makes him to see live as nothing. He continues by saying is a chronic disease a silent death were we are going to live with throughout our life. (male, married, 50, Bokwango, June 3rd 2021).

Adding to the above word verbatim, the Bakweri middle age diabetes patients of Buea has lost hope after discovering they have the disease. At this point they needed a therapy section where can help them have confidence in them that they can do it, by having the mental thing is a sickness but you can still live your life with it.

Conclusion

This chapter was purportedly intended to examine the multidimensional factors responsible for the cause of diabetes in Buea among the Bakweri people. The information gathered portray the factors in the dimensions of socio-cultural, economic, and political. The cultural cause, the mystical forces, witchcraft, consumption of sugar, smoking, genetic inheritance, overweight. include low household income and insecurity of employment while the social factors looked at the educational level, poor living standards. In the domain of political the chapter also examined government health policy and political crisis. These factors were confirmed by the data gathered in Buea and in the available literature in Africa, Europe, America, and Asia.

CHAPTER FOUR
THE DIFFERENT TYPES OF DIET AVAILABLE FOR
DIABETES PATIENTS IN BUEA

Introduction

In this chapter we are going to show the different types of foods eaten by diabetes patients among the Bakweri people of Buea by bringing out the various traditional dishes of the Bakweri people and how it benefits their health. Also, we will show how diet remains a key measure in diabetes prevention and management.

4.1. The importance of local food therapy in the management of Bakweri middle-aged diabetes patients in Buea.

Diabetes self-management education is considered an integral component of care and is recommended at diagnosis and thereafter. According to Jaya (2021) on diabetes self-management and education, it helps people with diabetes initiate effective self-care when first diagnosed and help people maintain effective self-management as diabetes. The aim of educational intervention is to manage hypoglycaemia and hyperglycaemia, maintain normal blood glucose level reduce the complications, gain skill in self-management, or improve quality of life. Diabetes mellitus is a silent disease and now recognized as one of the fastest growing threats to public health in almost all countries of the world. A diabetes meal plan (diabetes diet) is a nutrition guide for people with diabetes to help them decide when to consume meals and snacks as well as what types of foods to eat. There is no one present diabetes diet that works for all people with diabetes. The goal of any diabetes meal plan is to achieve and maintain good control over the disease, including control of blood sugar and blood lipid levels, as well as maintaining a healthy weight and good nutrition. Health care professionals and nutritionists can provide advice to help them create the best meal plan to manage their diabetes. Nutritionists can help find recipes and cooking tips to help with meal planning and preparation.

4.1.1. Egusi soup

Egusi is a nutritious food that provides many health benefits. Egusi is rich in protein, fat, vitamins, and minerals. Egusi is a good source of protein, and it is also a good source of essential fatty acids. Egusi is also high in fibre, and it is a good source of vitamins and minerals, including zinc, iron, and calcium. Egusi also contains phytochemicals, which are compounds that have been shown to have health-promoting properties. All these enlisted vitamins are essential in the management of diabetes in a diabetic patient. One of the informants explained that:

Pumpkin/melon seed is the highest thing she cultivates in her farm because it is nutritive and it serves as a source of livelihood because they don't only eat it, but they sell it as well to make a living. The pumpkin produces seeds called egusi which they use to make different types of soup with it like ogbono soup and egusi with a little bitter leaf inside the soup. (female, married, 60, Lower Soppo 7th April 2021.)

Picture 2: Egusi soap



Source: Bong L (April 6th 2021)

Picture 2 above explains that, egusi is a pumpkin seed consumed by most African countries. Some people consider it as meat in their soup. and is part of the food use by the Bakweri to appease their gods. They mostly cook it in obgono soup. Most diabetes patients are advice to eat it because it is made up of protein which they need most because of their health condition. Egusi is a very nutritive food for diabetes patients because it eases digestion. Most African countries use egusi to prepare many types of soup and even use it to make egusi pudding and egusi cake for occasions because is more economical. It helps diabetes patients to improve on their health condition because it is rich in protein, fat, and vitamins A, B1, b2, and C.

4.1.2 Ekwang

In the Southwest region precisely Buea, ekwang is one of the meals they consume a lot, and they eat it using their hands. Below is a photo showing Ekwang //ekpang//

Picture 3: Showing one of the Bakweri Dish call Ekwang and snails



Source: Bong L (Bokwai 8th August 2021).

Picture 3 above shows a dish which is consumed by the Bakweri people which is call Ekwang //ekpang// made from Cocoyam (Mekoh) as it is call in the Bakweri mother tongue. It is grated cocoyam's //ndah// tied in cocoyam //ndah// leaves and cooked with palm oil and other aromatic ingredients. In Cameroon, it is called, "Ekwang". Some people call it, "Ekpang" while others call it, "Ekwang Coco". It is a staple of the Bakweri and Bafaw people of the Southwest region of Cameroon but widely eaten in the rest of the country. This is because it is so good and nutritious. In cases where one cannot find cocoyam leaves for wrapping, you can use spinach or any other green leaves should be fine. As we all know spinach is good for health most especially for diabetes patients. It is rich in traditional flavours: crayfish, palm oil. Since diabetes patients of Buea can't consumed enough maggi nor salt they use crayfish to spice the food. In line with this, Diabetes cannot be cured but can be controlled. A diabetic patient must combine a complex routine of self-management into their life, such as taking medication, following a diet, exercising, and identifying symptoms associated with glycosuria and hypoglycaemia. As stated by one of the informant:

During my consultation at the hospital, I was informed by the dietician that cocoyam is one of the staple foods which I could consume which will be helping the management of my health condition. Given that I am a farmer who cultivates cocoyam's I find it easy to cook ekwang which is not only delicious but nutritive and helps me in managing my health. (female, 45, Buea town 12 June 2021).

In accord with, it is observed that ekwang is a good source of nutrients to a diabetic patient through the abundance of classes of food which are used in cooking the dish. Spinach an ingredient of the food helps in weight loss, relaxes, reduces hypertension and boosts immunity. Also country onion which is one of the spice put in ekwang helps the patient to manage their diabetes symptoms.

4.1.3. Kwacoco and Mbanga soup

It is traditionally known to the Bakwerians as “*Ngonya Mosaka*” which is made from grated cocoyam’s and palm nut juice. To the Bakwerians, grated cocoyam when its cooked (Kwacoco) is like fufu that needs to be eaten with soup. Mbanga soup is made from freshly extracted palm nut juice from “country Mbanga” organic grown palm nuts characterized by a large seed with small flesh. It is seasoned with spices, accompanied with smoked fish from the Atlantic Ocean, and garnished with fresh leafy vegetables. The taste of the Kwacoco together with the aromatic flavours from the indigenous species in the Mbanga soup plus the sizzling taste of Cameroon pepper is a match made in heaven that fills up the stomach and leaves room for more. (Sylvia, 2021). Photo 2 below shows the local traditional meal of the Bakweri people.

Picture 4: A photo of Kwacoco and Mbanga soup



Source: Bong L. (5th April 2021)

Picture 4 above shows one of the most eatable and recognised traditional meal of the Bakweri people in Cameroon. The Bakweri traditional meal is good for their health and less costly to some of them cultivating the farm where it can be easily obtained and is affordable too as compare to white man food that people buy and eat, it might not be affordable to some people. We cultivate coco yams and eat it. It is a meal eaten during traditional weddings, parties, and even royal dinning. As we all know cocoyam is a starchy food which is important to diabetes patients because it contains calcium and the palm nut soup call Mbanga soup is rich in vitamin K that plays a domineering role in blood clot. It is essential for building strong bones and prevents heart diseases, prevent cancer, and progresses insulin sensitivity. It is nutritive because of the ingredients contained in the soup which eases digestion in diabetes patients such as the “Manjueali” and bush pepper which prevents constipation and weight loss in patients.

4.1.4. Kwacoco Bible

Kwacoco Bible is a meal enjoyed by the Bakweri people of the Southwest Region of Cameroon which is made of grated coco yam mixed with spinach, smoked fish, red oil, and other spices. It is wrapped in plantain leaves, steamed until cooked through. Very filling, flavourful and sweet-smelling side dish. Cocoyam is cooked as a side dish or one pot meal. It is a starchy root vegetable that is enjoyed in most tropical countries and goes under various names like

//malanga, mkucs// as some people call it. This starchy root with a hairy, kind of rough skin sometimes has a white or slightly red interior. The red ones are starchier and are dry when cooked. The flavour is quite strong, earthy, deep, and sometimes leaves a slight itch in the back of your throat. Photo 3 below is an illustration of the Bakweri dish called Kwacoco Bible.

Picture 5: Kwacoco Bible



Source: Bong Lum G. (10th December 2021).

Picture 5 above shows one of the foods consumed by the Bakweri people which they call Kwacoco Bible and is a starchy food whose main source is carbohydrate and an important role in a healthy diet. They are a good source of energy and main source of a range of nutrients in our diet. As well as starch, they contain fibre, calcium iron good for diabetes patients. The Bakweri people call it Kwacoco Bible because they put a lot of ingredients inside and looking at the fact that the bible contains a lot of information same as all the things put inside the Kwacoco while preparing it. They differentiated it by using the name bible because the other one is plane that's the Kwacoco eaten with Mbang soup. All the ingredient put in this kwacoco bible is nutritive and beneficial to diabetes patients in that one of the ingredients which is country onion helps reduce cholesterol, reduce high blood pressure, and fights inflammation. That's why most of the Bakweri make good use of food like kwacoco bible because is beneficial to their health status.

4.1.5. Ndole and unripe plantain

Ndole is a very popular dish in Cameroon, and it is sometimes referred to as the national dish of the country. It is a stew which got its name from the bitter leaf (locally called ndole) which is used in its preparation. It is a popular dish which originates from the sawa people who live around the coast of Cameroon in the littoral region. Ndole recipe traditionally involves cooking the bitter leaf with peanuts, onions, spices, smoked fish and meat to make a rich dish which is finally served with fried onions and prawns toppings. The unripe or green plantain is particularly good for diabetics because of its low sugar but high resistant starch content. Unripe or green plantains are loaded with dietary fiber, vitamins, minerals, and antioxidants. Although they are more starchy than bananas, their high carbohydrate content consists mostly of resistant starch a type of dietary fiber. According to the United States Department of Agriculture (USDA), 1 large-sized raw, green unripe plantain (267 grams) will give you energy, water, carbohydrates, potassium, magnesium and many others. Unripe plantains are high in resistant starch, which gives them a low glycaemic index (GI) of 45 when boiled and rich in potassium which is an important mineral that helps to control hypertension. The high resistant starch content of plantains is excellent for weight loss. It promotes a feeling of fullness and helps you to eat less which is essential in diabetes patients (Jennifer Obidike, 2021).

Picture 6: Ndole and Unripe plantains



Source: Bong L (April 2nd 2021)

I love ndole a lot. As a diabetes patient who is married to a lady from the Sawa tribe I always ask her to cook it for me. Given that I do not consume Maggi that's why she does it with prawns which taste even better. I enjoy the fact that it can be accompanied by unripe banana, plantain or even coco yam which are very helpful in the management of diabetes. (male, married, 60, Bakweri Town

In agreement, it is observed that ndole with unripe plantain has provides several benefits to a diabetes patient. It is a great dish which helps the patient to manage their glucose levels and diabetic condition which is essential for their survival.

4.2. Some diet and amelioration of diabetic health condition in Buea

There is a relationship between diabetes and the food that people eat. People do not live to eat but eat to live. This equally applies to the food eaten by Middle Age diabetes patient in Buea. They don't eat everything that they come across but they make their choices depending on the context and what they considered can ameliorate their diabetic condition.

Egusi which is made of pumpkin seed is one of the main diet that is consumed by many diabetes patients in Buea because of its power to heal many sicknesses. Some people consider it as meat in their soup. and is part of the food use by the Bakweri to appease their gods. They mostly cook it in obgono soup. Diabetes patients are advice to eat it because it is made up of protein which they need most because of their health condition. It is equally nutritive food for diabetes patients because it eases digestion. Like one of the informants narrated

Egusi is use most in African to prepare many types of soup and even use it to make egusi pudding and egusi cake for occasions because it cures many diseases like diabetes, impotent, hypertension. Many people especially the adult prefer it to other kinds of food because of its curative power. (Male informant, 55years, married, Buea Town.22/6/2021).

It helps diabetes patients to improve on their health condition because it is rich in protein, fat, and vitamins A, B1, b2, and C. Egussi helps in weight loss, relaxes, reduces hypertension and boosts immunity. Also country onion which is one of the spice put in ekwang helps the patient to manage their diabetes symptoms.

Another diet that is perceived by the Bakweri people of the south west region as a therapy for diabetes is Ekwang //ekpang// made from Cocoyam (Mekoh) . It is grated cocoyam's //ndah// tied in cocoyam //ndah// leaves and cooked with palm oil and other aromatic ingredients. In Cameroon, it is called, "Ekwang". Some people call it, "Ekpang" while others call it, "Ekwang Coco". The cocoyam leaves are perceived and considered as curative for many diseases. The leaves are considered to be very powerful to counteract the power of sweet or sugar in the human system. As we all know spinach is good for health most especially for diabetes patients. Since diabetes patients don't eat much Maggi, crayfish is used to replace the taste of maggi and to improve on the quality of food that diabetic patient eat. Spinach an ingredient of the food helps in weight loss, relaxes, reduces hypertension and boosts immunity. Also country onion which is one of the spice put in ekwang helps the patient to manage their diabetes symptoms.

Also, Kwacoco and Mbanga soup is another important diet eaten by Middle Age diabetes patients in Buea. It is a meal eaten during traditional weddings, parties, and even royal dinning. cocoyam is a starchy food which is also important to diabetes patients because it contains calcium and the palm nut soup call Mbanga soup is rich in vitamin K that plays a domineering role in blood clot. It is essential for building strong bones and prevents heart diseases, prevent cancer, and progresses insulin sensitivity. It is nutritive because of the ingredients contained in the soup which eases digestion in diabetes patients such as the "Manjueali" and bush pepper which prevents constipation and weight loss in patients.

Furthermore, is the Kwacoco Bible, a starchy food whose main source is carbohydrate and an important role in a healthy diet. They are a good source of energy and main source of a range of nutrients in a diet. As well as starch, they contain fibre, calcium iron good for diabetes patients. The Bakweri people call it Kwacoco Bible because they put a lot of ingredients inside and looking at the fact that the bible contains a lot of information same as all the things put inside the Kwacoco while preparing it. All the ingredient put in this kwacoco bible is nutritive and beneficial to diabetes patients in that one of the ingredients which is country onion helps reduce cholesterol, reduce high blood pressure, and fights inflammation. As the name implies, the bible heals when it is appropriately used so too can the Kwacoco bible can be a therapy to diabetes. Bitter leave helps the patient to manage their glucose levels and diabetic condition which is essential for their survival. The bitter leaf which is used for the ndole is bitter and is

considered that it is capable of counteracting the sugar or bringing down the sugar level in a diabetes patient.

The unripe or green plantain is particularly good for diabetics because of its low sugar but high resistant starch content. Unripe or green plantains are loaded with dietary fiber, vitamins, minerals, and antioxidants. Although they are starchier than bananas, their high carbohydrate content consists mostly of resistant starch a type of dietary fiber. Unripe plantains are high in resistant starch, which gives them a low glycaemic index (GI) of 45 when boiled and rich in potassium which is an important mineral that helps to control hypertension. The high resistant starch content of plantains is excellent for weight loss. It promotes a feeling of fullness and helps to eat less which is essential in diabetes patients.

Some other food like ripe plantains, sweet potatoes, sweet yams, and other types of food that have high level of sugar content becomes a taboo for diabetes patients. Others like Kwaccoco bible have been perceived by many as a diet that has been handed over to them by their ancestors. The fear is that if they move away or abandoned this food the evil hand of the ancestors will fall on them. The people considered that it will be a sacrilege or sin if they abandon what the ancestors have handed over to them. So in their desperation and even in their objective to seek for therapy some patients are still confined to eat what is not recommended because of the fear of the unseen or evil hand.

4.3. Reasons why people choose to follow a diet plan as a means to manage their diabetes.

Mount Cameroon also known as Mount Fako is in the city of Buea, the ancestral land of the Bakweri ethnic group in the Southwest Region of Cameroon is situated just a few kilometres from the Atlantic Coast of the Gulf of Guinea. Mount Cameroon is the highest mountain in West and Central Africa and amongst the top ten prominent mountains in Africa. The mount Cameroon National Park is one of the biodiversity parks in Cameroon and a hotspot for ecotourism and sports events such as the Annual Mount Cameroon Race of Hope. For the Bakweri people, the national park has long been a resource for their livelihood. This is because the Bakwerians believe that Efasa-moto (the god of the mountain) had blessed the rich and fertile volcanic soil to produce an abundance of crops. Among these crops are cocoyam's

//ndah// and palm nuts that make up the two key ingredients in the traditional dish of the Bakweri people.

It is well known that diet control and exercise constitute the basis of the treatment of diabetes mellitus. Diet control is an essential approach to the treatment that should be observed by all diabetic patients. It is not rare for cases of non-insulin-dependent diabetes mellitus to improve solely because of diet control, without recourse to any medication. Even in cases of insulin dependent diabetes mellitus, insulin therapy cannot exert its effects fully unless appropriate diet control is also practiced concomitantly. To maximize the effects of diet control in the treatment of diabetes mellitus, the use of the “Food Exchange List for Diet Therapy of Diabetes Mellitus”. The reasons why they prefer diet than any other treatment is because of easy accessibility, acceptability, affordability, availability and influence from friends and families

4.3.1. Easy accessibility

Most Bakweri people tend to prefer diet than other treatment because of easy accessibility. These Bakwerians, cultivate a lot of food that is good for their system as diabetic patients, they cultivate crops like plantain, cocoyam, yam, vegetables etc which is part of their diet plan so this is the reason why they will prefer diet than any other treatment. Access to a food will allow a person the opportunity to taste, evaluate and then to accept or reject a food. This process of choosing foods precedes actual food consumption. In addition to this, the simplicity of the meal replacement preparation and the regimen of the diet is appreciated, as Bakwerians do not have to spend much time shopping for food, preparing food, or making decisions about either, or because they knew exactly what they are to eat every day. Well, a lot of people could follow it because there's a lot of food. One of the informant stated that:

As an elderly person with diabetes, I follow a diet plan because I find it easier for me since I cultivate my own food and makes me more conscious of what gets in to my system. Through farming, I can easily get access to the food I eat at any time and in any quantity which enables me to follow my diet plan properly. female, married, 50, Clarks August 2nd 2021).

As stated above, diabetes management is a difficult yet possible process which necessitates the participation of both the patient and medical personnel. Many diabetes patients among the

Bakweri people do not really understand the important role played through the cultivation of their own food which makes them more implicated in their diabetes management process through diet. It enables these patients to be responsible and more aware of their condition.

4.3.2. Acceptability

Dietary treatment for reversal of Type 2 diabetes is acceptable and feasible in motivated participants, and the process is perceived as highly gratifying. Research outside of controlled trial settings is needed to measure the generalisability of these findings. Most people with Type 2 diabetes are overweight or obese. Return to normal blood glucose control can be achieved by substantial weight loss using a very low energy diet (VLED). A systematic review of the efficacy and acceptability of VLEDs among people with Type 2 diabetes found that VLEDs induce greater weight loss than minimal interventions, standard care, or low-energy diets at 3 and 6 months. Although attrition rates, as indicators of acceptability in studies using VLEDs, have improved within the last three decades and are like attrition rates in other weight loss interventions, few studies have directly assessed the acceptability of VLEDs through improvements in patients' quality of life. (Steven, 2017). One of the informants stated that:

As a patient with type 2 diabetes, managing and monitoring my blood glucose levels is very difficult because some classes of food can easily spike up my blood sugar. Through diet, I am able to accept my condition and better manage what I consume. I am aware that not every food is good because of my medical condition and I am more conscious of the nutritional choices I make. (male, Married, 48, Bova, June 1st 2021).

As stated, it is noticed that most diabetes patients perceive diet as a more feasible option due the fact that they are more conscious of what they consume and how every micronutrient can easily affect their glucose levels. Given that most type 2 diabetes patients are obese, it is important that these patients be able to eat healthy food and in given quantity in an attempt to better manage their condition.

4.3.3. Availability

The Bakweri people preferred diet as a means of treatment since food since they cultivate some of it in their farms so as to make it available any time, they need it to eat or sell to others in

other to money and buy what they don't have. As Paul said (1991), some of the factors affecting food choices are difficult to modify (e.g., inherent taste preferences and household income), but other factors such as cultural and social norms (which largely determine what, when, where, how much, and how quickly food is to be eaten), knowledge of and beliefs about food, skills at food selection and preparation, and availability of health promoting foods are more subject to modification. Initiatives to promote dietary change tend to be most effective when they identify means to help people, make the information personally relevant, integrate the information into existing belief structures, acquire new skills and self-perceptions, and select situations that will help them translate newly acquired attitudes into behaviours that become habitual. One of the informants stated that:

Food is an important thing to her that she can't live without it in her home especially with the kids around. At times they have enough to eat and even sell some because they are the ones cultivating it in their farmlands. She said most at times there is a lot of food production when they appease their gods, they don't only eat it anyhow, but they try to maintain the diet required to stay healthy. (female, married, 67, Lower Bunduma 2nd August 2021).

In keeping with, it was so easier for the Bakweri people with diabetes to manage their diabetes through diet because it was very much affordable making it easier for them to easily manage their health and adapt. As she mentions earlier, it is less costly and available that's why most of them easily tend to adapt with it than any other thing when it comes to diabetes treatment.

4.3.4. Family and friends.

Family and friends are often a part of the patient's everyday life; thus, it is expected that they play a central role in supporting people with diabetes management and they may influence the extent to which people with type 2 diabetes adhere to diabetes management. Informal support, received from family and friends, has been emphasised to be critical for diabetes management, although such support has been less studied compared to formal support (received from professionals or formal groups). Effective diabetes management behaviours are hard to achieve and even harder to maintain, which suggests that people with type 2 diabetes are in need of support.

The major support that I had, is that I knew my family was behind me with regards to it and I could do and ask them anything. My boss has given me a tremendous level of support by enabling me to take time off work to come here today and stuff like that and just to give me little words of encouragement is a driving force which pushes me in coming here. I'm getting support, I'm getting help and it is helping me manage my condition. With their support I am able to stick to my diet plan, lose weight and make my blood sugar go down so I am just trying to be motivated and to be sensible. (Rehackova 2017, p7)

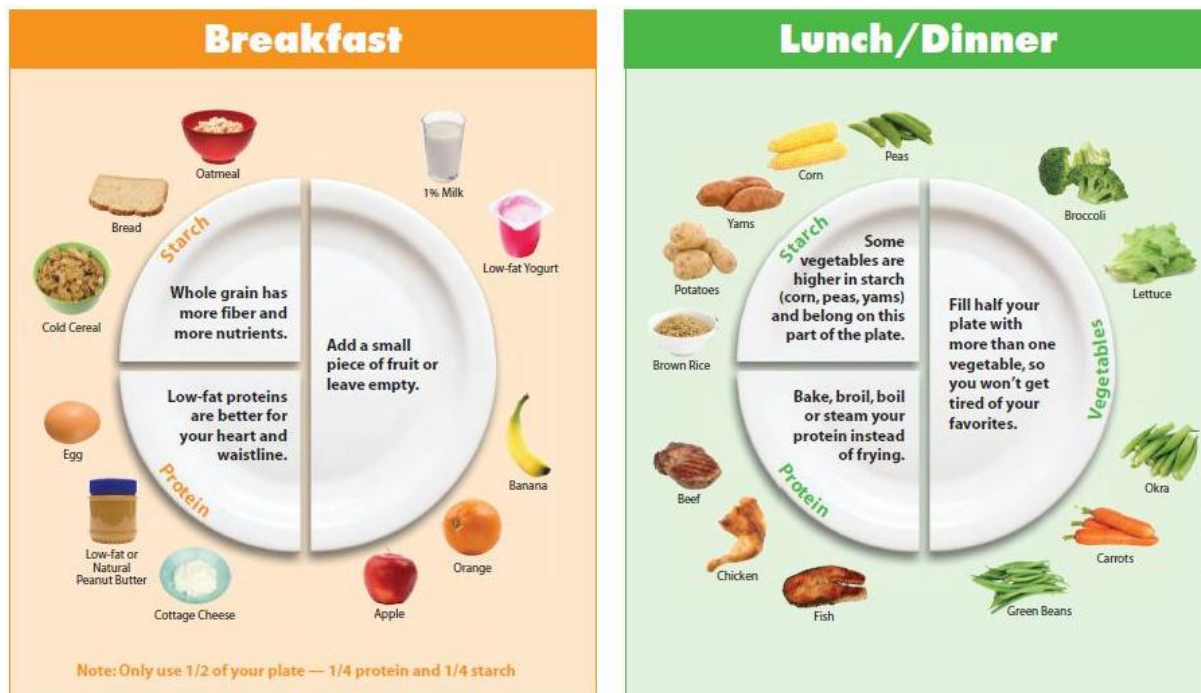
In addition to the above, family members take good care of each other especially during sickness like taking their patients to the hospital, or wherever necessary manner that will be of help to them. As friends they are there to look after each other and they are really of help because they can motivate, give in latest information that can be of help to their diabetic friends.

4.4.4. Healthy Eating Habits for Diabetes Patients

As a diabetes patient you are not supposed to totally restrict yourself from some types of food but rather you should adopt a healthy eating habit and balance your meals as a means of controlling your insulin levels. As a diabetic patient you should eat healthier fats from nuts, olive oil, fish oils, flax seeds, or avocados //piar//, fruits, and vegetables //wowah// ideally fresh, the more colourful the better; whole fruit rather than juices, high-fiber cereals and breads made from whole grains, fish and shellfish, organic chicken, or turkey and high-quality protein such as eggs, beans, low-fat dairy, and unsweetened yogurt. Choose high-fiber and slow-release carbs Carbohydrates have a big impact on your blood sugar levels more so than fats and proteins, so you need to be smart about what types of carbs you eat. Limit refined carbohydrates like white bread, pasta, and rice, as well as soda, candy, packaged meals, and snack foods. Focus on high-fiber complex carbohydrates also known as slow-release carbs. They are digested more slowly, thus preventing your body from producing too much insulin. High glycemic index (GI) foods spike your blood sugar rapidly, while low GI foods have the least effect on blood sugar. While the GI has long been promoted as a tool to help manage blood sugar, there are some notable drawbacks. The true health benefits of using the GI remain unclear, Having to refer to GI tables makes eating unnecessarily complicated, The GI is not a measure of a food's healthiness, Research suggests that by simply following the guidelines of the Mediterranean or other heart-healthy diets, you'll not only lower your glycemic load but

also improve the quality of your diet. This will help to regulate the health system to be void from diabetes (plate 4).

Picture 8: Eating plan of diabetes patients



Source: America Diabetes Association (1995-2022).

As seen in plate 4 above, a diabetic diet is constituted of different foods and has a large variety. A diabetic patient must not be restricted to a specific meal or cut off all the other classes of food which are considered harmful but rather they can eat small quantities of carbohydrates or starch provided that it is accompanied by other foods which help balance their insulin levels. In the plate above a diabetic patient can have breakfast with yogurt and banana which is better because the patient opts for the fruit rather than industrialized canned drink with artificial sweeteners.

Conclusion

As a diabetes patient, we are subjected to certain life changes which affect what we eat and the eating habits of those who surround us. In this chapter the various types of diet and classes of food was seen available for diabetes patients and what shouldn't be consumed for the betterment of their health. We continued by looking at the importance foods that help them manage their diabetes like vegetables, brown rice, unsweet milk, etc. Diabetes patients have a limited social life because of their medical condition. Some of them avoid public spaces because of how their surrounding will look and treat them. They are regarded as fragile and bearers of a complicated health condition. Most of them avoid public gathering because they do not want to face preying eyes especially when they are supposed to do their insulin shots or

measure their sugar levels. Diabetes patients have a major eating issue especially when they are out of their homes. As a result of this dieticians were put in place to help them to always be alert of what they need to eat to avoid high blood sugar.

CHAPTER FIVE

**HEALTH SYSTEM RESPOND TO CARE NEED OF MIDDLE-AGED
DIABETES PATIENTS AMONG THE BAKWERI PEOPLE OF
BUEA**

Introduction

Chapter 5 of this study will focus on the different methods which diabetes patients use to manage their condition such as biomedicine, insulin in-take, drugs, dietary supplements, continuous glucose monitoring system and physical exercise.

5.1. Biomedicine

Biomedicine is the knowledge, organization, and social roles of medicine in western cultures. The biomedical paradigm views disease and illness as physical or mechanical disorders with little relationship with person's social and religion experiences. (Fabrega, 1975). According to Kum (2005), the clinical environment is described both as an institution of biomedicine and as a local cultural setting. What comes across most strongly is a sense of hindrance on the part of clinic staff about patient behaviour. However, clinics cannot regulate patient behaviour outside the clinic, and the shock that patients fail to obey with clinic guidelines colours staff attitudes. The whole question of submission develops and is complicated by the fact that clinic staff knowledge of diabetes, and beliefs about suitable and effective treatment, vary greatly. The central paradox that this chapter addresses is why the authority of biomedicine is far from inevitable in the context of diabetes care. Here, we see the work of the clinic as in part of a cultural performance to persuade patients to trust and follow the 'expert' medical knowledge. The ethnography suggests that this act is not currently as convincing as senior staff would themselves hope. Diabetes is a medical condition which changes lifestyle.

As quoted by Tom (2019 p30) *"I have high blood sugar, and type 2 diabetes is not going to kill me. But I just must eat right, and exercise, and lose weight, and watch what I eat, and I would be fine for the rest of my life."*

Living with this condition is sometimes difficult and overwhelming and many patients do not know how to manage their diabetes. Some think insulin is a cure of diabetes meanwhile it is a treatment which enables the diabetic patient to burn sufficient carbohydrates so that proteins and fat may be added to the diet in sufficient quantities to provide energy for the economic burdens of life as quoted by Frederick Banting. In this light, diabetes patients should resort to effective means of managing their diabetes such as insulin, physical exercise or even through a diet. Based on the statistics gotten from the study most of the participants used insulin as a means of managing their diabetes. According to one of the health personnel:

“The hospital held regular diet plan meetings whereby they were counselled on their diet and what they should consumed. Some unfortunately came late for the meeting and those of them who manage to be there on time hardly kept track of all the information that was said. They got home and eat all what they wanted and forget about what had earlier been said on diet and physical exercises most specially to avoid swollen legs not knowing that it can worsens their health condition. (female, 47, Lower family, 5th April 2021).

In line with the above, the hospital see diet as a means of treatment to their health condition that’s why they emphasise on their dietary plan. A few diabetes patients of Buea notably those whose relatives had diabetes appeared knowledgeable about how to prevent diabetes. They variously cited regular physical exercise, balanced and moderate diets, reducing body weight, blood pressure, and blood sugar control. While some are limited in knowledge, expressed willingness to learn about and comply with recommended preventive measures. However, most health personnel admitted that people generally do little or nothing to prevent diabetes and that lifestyle modifications required to prevent the disease were unknown to or simply not possible for most ordinary people. Some of them gave the excuse that they had so much to deal with like work, life, and family they cannot engage in physical exercise to manage their diabetes. They did not have enough time at their disposal to do sport or any other physical exercise which could help them better manage their health condition. As Lubega quoted;

“The reason patients with diabetes are given this biomedical treatment doesn’t cure, and the traditional healers always promise to cure them. So, whenever they meet the herbalists, herbalists deceive them a lot that they abandon biomedical treatment and resort to herbal medicine. When you ask patients why they are taking herbs from the traditional healer, they tell you that the traditional healer told them that he is going to cure their diabetes.” (Lubega 2013, P5).

In addition, since going to the hospital cost them a lot to treat their diabetes they rush to traditional practitioners where they are being assured to get heal, they immediately do what is being ask of them without hesitation and more to that is cheap and affordable.

5.1.1. Insulin in-take

Insulin is a hormone that is produced by specialized cells (beta cells) of the pancreas. (The pancreas is a deep-seated organ in the abdomen located behind the stomach.) In addition, in helping glucose enter the cells, insulin is also important in tightly regulating the level of glucose in the blood. After a meal, the blood glucose level, the pancreas normally released glucose

level rises. In response to the increased glucose level, the pancreas normally releases more insulin into the bloodstream to help glucose enter the cells and lower blood glucose level are lowered, the insulin release from the pancreas is turned down. It is important to note that even in the fasting state there is a low steady release of insulin than strikes a bit and helps to maintain a steady blood sugar level during fasting. In normal individuals, such a regulatory system to keep blood glucose levels in a firmly controlled range. As outlined above, in patients with diabetes, the insulin is either absent, relatively insufficient for the body needs, or not used properly by the body. These factors cause elevated levels of blood glucose (hyperglycaemia). Diabetes is a medical condition which changes lifestyle. According to one of the informants:

It is very difficult for him to manage his insulin especially when he needs it at most. He continued by saying how he even forget the time to inject his insulin and even neglect how to conceive it because he always handles it to the children to take care of which they end up not doing it properly. he said the doctor told him to be careful with what he eats especially foods that contain low sugar so that his sugar level should not rise, and he was like surprise because he has never heard of diet management of diabetes (male, widower, 71, Campaign Street, 1st June 2021).

In this light, diabetes patients should resort to effective means of managing their diabetes such as insulin, physical exercise or even through a diet. Most patients used insulin as a means of managing their diabetes. They had rarely heard or had a diet plan for the management of their diabetic condition. They did not know what a diet plan and dietary intake meant talk less of having one. The proportion of patients who used insulin as a method of managing their diabetes constituted 70% of the participants who took part in the study. To them it was the only effective means they knew of and which they were used to. They knew the number of doses to take, when to take them and how to take them. They considered insulin as the only method of managing their condition. Incretin-Based Therapies Insulin secretion is admittedly much greater after glucose oral intake than after endogenous administration, which may indicate that insulin is secreted by means of interesting factors related to sugar ingestion, incretins, that act as intestinal tract messengers. Incretins are a group of metabolic hormones that share a postprandial hypoglycaemic effect and an enrichment of insulin secretion by pancreatic B-cells by means of a glucose-dependent mechanism, and that also inhibit glucagon secretion by α -pancreatic cells (Paul 2019).

5.1.2. Drug //ngea//

There are a few kinds of medicines used to treat diabetes. Each kind affects your body in a different way. Some diabetes medicines are taken as pills that you swallow. There are other medicines that you inject. Some people with diabetes needs to use medicines every day. What you need depends on your health and the type of diabetes you have. Diabetes can cause a heart attack, stroke, blindness, kidney disease, nerve damage, and other serious health problems. Therefore, it is so important for you to get treatment for your diabetes. Treatment can help prevent or slow some of these serious health problems. (Food and Drug Administration (FDA) Office of Women’s Health, 2015). Diabetes can make it hard to control how much sugar (called glucose) is in your blood. There is hope! Some people with diabetes can take medicines to help keep their blood sugar at a healthy level. There are a few kinds of medicines used to treat diabetes. Each kind affects your body in a different way. Some diabetes medicines are taken as pills that you swallow. There are other medicines that you inject. Some people with diabetes needs to use medicines every day. What you need depends on your health and the type of diabetes you have. Your healthcare provider can tell you if you need to use medicine to treat your diabetes. One of the interviewees said that:

After he was diagnosed in the hospital and realise, he has diabetes, drugs were prescript that need to be taken every day and the time assigned. But he doesn't have money hoping on his children to buy the drugs for him. It was not only difficult for him to take this drug, but he couldn't afford all of them on time require. At times he needs to work hard in his farm just to harvest crops go and sell to have money which he can't still afford to pay for the drugs, so he starts thinking for another alternative because he wants to be healed from the disease. (male, married, 52, Biaca street, 22nd June 2021).

This informant narrates the challenges he faces after he discover having diabetes, it was so difficult accepting it and most difficult managing it. One of the reasons is that he didn't have enough money to manage his health condition making things so problematic for him. He had hopes that his children will buy the drugs not knowing it will take much longer than expected. The more he delays his health condition keep getting worst. In this light he begins to start asking what else I can do to get heal apart from drinking the drugs. That is when the idea of traditional practitioner comes in their mind, and they rush there for solution because is affordable and they may ask them to bring just salt for consultation.

5.1.3. Dietary supplements

Eating healthy is important for everyone, but it's even more important for people living with type 2 diabetes. A healthy, balanced diet is together with exercise your most powerful tool for managing the disease. From childhood to old age, food is central to social life. Meals structure the day and define relationships with other people. Healthy eating can help you prevent, control, and even reverse diabetes. And with these, you can still enjoy your food without feeling hungry or deprived. Is a new life you are adopting, and you know what is good for you and for your health, though most patients with diabetes in Buea complains a lot but still try to maintain it for the good of their health. According to Sadovoy et al., (2017), a medication adherence to a diet and dietary habits forms the backbone of diabetic control and treatment. Depending on the type and harshness of the disease, the treatment options consist of supplementary insulin, special diet or drugs that modulate blood sugar, according to one of the patients.

She didn't know what a dietary plan is, she learns it after her visit at the hospital and a dietician told him about the types of food he needs to consume as a diabetes patient. As a diabetes patient your life changes automatically. When she left the hospital, he sat down and started thinking on how her going to decline her old eating habit and adopt a new one. And another challenge was financial poverty because she will not be able to afford some of this food. Since he cannot do as the doctor said he end up looking for place or another means that is cheaper and he will get heal fast. (female, married, 45, Place: Bonduma, 1st August 2021).

In consonance with, the living condition and living habits of middle age diabetes patients in Buea is quite precarious since they lack the necessary information which is needed by them to help improve on their health condition. These patients originated from different backgrounds and had different social and financial status. some patients were constituted of people who had lived with diabetes for at most 25 years and utmost 3 years. During this period, some learnt how to cope with the illness while others never got used to this new medical condition which had become an integral part of their lives. They managed to cope with the disease by either searching for new remedies which could cure the disease, or they improved on the living conditions and eating habits to have a better chance of surviving the disease. In line with what Kum (2008) said, nutrition therapy is an important part of the treatment of T2DM, showing beneficial outcomes, together with patient education for self-management and physical activity practice, on body weight, metabolic control, and wellbeing. Thus, international guidelines have

long recommended an individualized nutrition therapy for all diabetic individuals. Most patients may instantaneously require pharmacological therapy, which acts on at least one of several possible known targets.

5.1.4. Continuous Glucose Monitoring System (CGMS)

Since the first continuous glucose monitoring (CGM) system, developed in the early 1990s and marketed in 1999, many developmental steps of CGM systems were performed. Current CGM systems are smaller, have lower weight, are easier to use, have a prolonged wearing time and are more accurate than older ones. All these systems continuously measure the glucose concentration in the interstitial fluid and transfer the data via a transmitter to a receiver which displays the results. In the past, all CGM systems were intended by their manufacturers for adjunctive use in addition to self-monitoring of Blood Glucose (SMBG) measurements, because accuracy was not sufficient for making treatment decisions. Since a few years, some devices are claimed for non-adjunctive use due to their improved accuracy. Nevertheless, the point accuracy of CGM systems remains still behind that of SMBG systems. In addition to the above point, glucose meters are a great tool, but sometimes one need to keep a closer eye on their blood sugar levels. That's where a device called a continuous glucose monitor (CGM) can help. This FDA-approved system tracks for your blood sugar levels day and night. It collects readings automatically every 5 to 15 minutes. It can help detect trends and patterns that give you and your doctor a more complete picture of your diabetes. The data can help you find ways to better manage your condition. If your sugar drops to a dangerously low level or a high present level, the monitor will sound an alarm. In the past, only doctors could see the readings CGM systems collected. Now anyone can use the devices as part of at-home diabetes care. You can download data on your computer, tablet, or smartphone to see patterns and trends in your sugar levels. The information can help you and your doctor make the best plan for managing your diabetes (Freckmann 2019).

5.2. Physical exercises //liwangi//

The possible benefits of physical activity for the patient with type 2 diabetes are considerable, and recent studies strengthen the importance of long-term physical activity programs for the treatment and prevention of this common metabolic abnormality and its complications. Specific metabolic effects can be highlighted as follows. Glycaemic control Several long-term studies have confirmed a constant beneficial effect of regular physical activity training on carbohydrate

metabolism and insulin sympathy, which can be maintained for at least 5 years. These studies used physical activity treatments at a strength of 50–80% three to four times a week for 30–60 min a session. Improvements in haemoglobin (Hb) A1c were generally 10–20% of baseline and were most marked in patients with mild type 2 diabetes and in those who are likely to be the most insulin resistant. It remains true, inappropriately, that most of these studies suffer from insufficient randomization and controls and are confounded by associated lifestyle changes. (America Diabetes Association 2004).

Picture 9: Sensitisation Campaigns against the prevalence of diabetes



Source: Bong Lum G. 12th April 2021.

The picture 9 above illustrate how diabetes patients are being sensitized on how to manage their health condition. She emphasizes more on physical exercises like having a walk early in the morning or cleaning your surrounding which is another way of doing exercises. This exercise is good for diabetes patients because it is another way of managing your health condition and making sure not to have swollen legs because it might not be good as being a patient. One of the patients detailed that:

He gets so tired doing sport and he always have swallow legs which at time he can't even go upstairs because he lives in an up-story building. That the highest exercise he can do is to go to his garden to harvest his tomatoes and get home immediately. He does this once a month meanwhile in the hospital he was told to do physical exercises every morning or thrice a week. But he didn't respect that reason being that his body is tire and weak. (male, married, 49, Bova 13th April 2021).

In agreement, excise is good for everyone most especially for type two diabetes. Having a walk every morning or climbing stairs every morning is healthy for a diabetes patient because it burns calories and get your heart and lungs working faster. Going up and down stairs for 3 minutes about an hour after a meal is a good way to burn off sugar. But most of these patients neglect it a lot and they want to get heal by not respecting the doctor's order. According to Kaiser (2004), physical exercises are the performance of some activity to develop or maintain physical fitness and overall health. People with diabetes who exercise may have a decreased need for, or better utilization of, exogenous insulin, and thus may enjoy a decrease in diabetes medications usually, insulin. The acute effect of exercise is increased extraction of glucose from plasma. The blood glucose and hormonal response to exercise depends on the initial blood glucose level, insulin dosage, timing and content of meals or snacks, duration and intensity of the exercise, and fitness level, but mostly on the availability of insulin. Because the person with type 1 diabetes has no endogenous source of insulin, the most common problem encountered during exercise is hypoglycemias (low blood sugar). A regular exercise program can improve insulin sensitivity, thereby reducing blood glucose levels at times other than during exercise. Likewise, in people with type 2 diabetes, regular exercise can reduce insulin resistance and improve glucose tolerance.

5.3. The ritual and healing process of diabetes patients of Bakweri people of Buea

Health system is one of the places where most diabetes patients go there for treatment, but later on to traditional practitioners for treatments which will be elaborated below.

5.3.1. Traditional practitioners

Diabetes is a disease that really changes the lifestyle of people who have it, because as this stage everything about them changes like the way they eat, living their life on drugs. At a certain level some of them sees that the drugs they take from the hospital don't really help them or heal them at the speed they want, they end up going to a traditional healer to help them. Some of this diabetes patients of Buea goes there because they lack the means as we all know

going to see a traditional practitioner is economical. As Eddouks said in his article in (January 2012). Globally, diabetes is one of the most widespread diseases in existence that increase more than ten-fold in the last 40 years. Diabetes includes a group of diseases, in which the body's ability to convert glucose into energy is impaired, leading to a chronic condition. This metabolic disorder rises when the pancreatic beta cells are either unable to produce enough insulin, or the body cells do not respond to the free insulin. Even though diabetes itself is big enough health problem, the side effects are equally threatening. For example, one-third of the new diabetic cases ended with diabetic nephropathy; 20% eventually die from cardiovascular diseases, and diabetes is the principal cause of amputation and blindness in elderly people.

Picture 10: Showing a traditional practitioner and a diabetic patient



Source: **BONG L** (10th January 2022)

Picture 10 above demonstrates a traditional practitioner who just came back from the bush with few herbs for his patients. He doesn't only consult diabetes patients but other diseases. In this photo he just came back and got tired trying to rest before entering his hut after cleaning himself to look presentable. In addition, the traditional belief systems of the Mokpwe (traditional appellation of Bakweri) holds that are two promises. Those from the mountain and those from the sea. So, it is believed that the peace and belief of the Bakwerians is thanks to the presence of the gods of the mountain Epasa-Moto (half man-half animal). That is why the Bakwerians always pay loyalty and gratitude to these two gods. Rites are ways through which they are, around them and the way they deal with the changes which threatens their world. Purification rites as all symbolic actions meant to eliminate impurities, either through total eradication or by transferring it to another being like diabetes which is transmitted through family gene. Functionalism is a reaction of Malinowski and Radcliff Brown during the 19th century evolution, as they postulated a unilinear thinking towards civilization. Functionalism considers the satisfaction of social and human needs. The function of cultural element as defined by the role played in satisfying individuals needs or to preserve social cohesion. As function in social science means a profession, status or an assemblage of tasks given to an individual. This makes us to understand each culture has a vital role to play in the society. As such the cause of diabetes in the life of Bakweri people is seen as a great tragedy which carries with it great burden of grief and pain. Human societies have developed measures over the years to prevent, cure these unforeseen that may befall these patients within their well-established customs. The Bakweri did not see this as a task to be persuaded only by the medical specialist

as a great number of complications do have traditional origin thus deem it necessary to pursue both. It was observed that local or traditional medicines help a lot to curb the prevalence of diabetes among the locals of diabetic patients of the Bakweri inhabitants

“Joan had been living with diabetes for 10 years and has not been able to obtain her expected cure, despite all attempts to be treated with biomedicine. She has not been able to get an explanation for her continuous ill health. She thought her colleagues had bewitched her. But at the request of her family, she consulted with a traditional healer. The traditional healer informed her that she has neglected her ancestors by not performing annual sacrifices to them, so they punished her with diabetes and even blocked the efficacy of any treatment provided to her at clinics. The traditional healer prepared some herbal tea for Ngon promising a cure if she performs the rituals and respected her ancestors in the subsequent years.” (Awa P K 2008 p6).

Add to the above, many diabetes patients of Bakweri people of Buea are getting tired of their new lifestyle so they are looking for everything possible to ameliorate the situation, that's why they stop depending on biomedicine and look for an alternative which are traditional doctors. Everyone wants to be healed that's why they go an extra length to get help. As Paschal (2008) said a lot of people had depended on biomedicine alone for treating diabetes with the expectation that she will obtain a cure, but this never happened. The inability of obtaining an explanation for her inability to cure her diabetes called for her to seek alternative explanations. Biomedical explanations can readily be fitted into diabetes patient's frame of thinking up to a point. But biomedicine does not provide a sufficient explanatory framework for most Cameroonians and Africans alike, whether in rural areas or in the city.

5.3.2. Traditional medicine

Traditional medicine is the totality of all knowledge and practices, whether reasonable or not, used in diagnosing, preventing, or eliminating a physical, mental, or social instability and which depend on entirely experience and observation handed down from generation to generation, verbally or in writing. Medicine is an institution both biological and social as its present in all societies but what make a different is the conception of it by a particular group. It is however difficult to distinguish and draw the line between conventional and traditional medicine in terms of superiority and efficiency as they have stood the test of time. On the most part traditional medicine is being characterised by ethno medicine as Mbonji rightly puts it they move in line with ethnic characteristics of the group and found in a reduced dimension (Mbonji: 2009). Traditional medicine (MT) as explained by WHO, when studied revokes ancestral

tradition. Traditional medicine does not draw a contrast either in the reality of that of social life. Traditional medicine has taken the pains so deep to explain these areas and this makes the practice stand out. (Sindiga *et al.*, 1995). The World Health Organisation (1980) defines traditional medicine as the totality of knowledge and practices explicable or otherwise incorporating plants, animals mineral based therapies, manual techniques applied singularly or in combination for diagnosing, preventing, and eliminating any disequilibrium be it physical, mental, or social which is based exclusively on lived experience. Traditional medicine also known as indigenous or folk medicine comprises knowledge, system that developed over generations within various societies before the era of modern medicine for their primary health care needs. Referring to several traditional medical systems such as Chinese, Africa, Indian and other forms of indigenous medical practices complementary, alternative, or non-conventional medicine. Most participants believed that the right place to seek treatment for their health, including diabetes care, was a modern health care facility. On the contrary, some people seek alternative treatment from traditional healers and other sources because they cannot afford to pay the hospital bills. This is affirmed by Peltzer et al. who found people to have different practices in managing diabetes. (Kiawi et al 1988). Photo 6 below show a photo of *aloe-vera* which is one of the traditional herbs use by traditional practitioners for diabetes treatment.

Picture 11: Aloe vera as one of the diabetes treatment



Source: Bong Lum G. (Bomakwa 4th April 2021).

Plate 11 above shows a picture of *Aloe-vera* where most African countries like Cameroon have it in their surroundings because it has a lot of health benefits. In the case of diabetes patients, the people of Buea use it when they have wounds, as we all know a diabetes wound doesn't

get heal easily but immediately, they discover they have wound they immediately start applying aloe vera to it.

“Whenever I come here to get treatment and fail to get it, I use herbs; I go back home and get “Ekikaka” (aloevera), I boil it and keep it for two days, mix it with honeybee, then I take until I get biomedical drugs because you can’t just sit without taking anything drugs” (Eliseus 2004, p 4).

Aloe-vera has long ago been recognized as a traditional therapy for diabetes management. Orally administered *aloe-vera* juice produced from the plant leaves (*aloe-vera* gel) has shown promising results in reducing fasting glycemia and triglycerides in T2DM patients, either alone or combined with any conventional antidiabetic drug. As Paul (2019), explain that *Aloe-vera* contains phytosterols that exhibit long-term glycaemic control, being active against diabetes type 2. In addition, clinical trials undertaken with Aloe gel show that it may be a safe anti-hyperglycaemic and anti-hypercholesterolemic agent for T2DM patients presenting with hyperlipidaemia. Many patients lack the money to purchase the medicines prescribed at diabetes clinics. Some patients think that these medicines are expensive and turn to traditional medicine with the belief that they are cheap but may end up paying more in kind. Again, the turning to traditional medicine may be relating to the patients' perceptions of social causation and their attitudes to traditional medicine. Most patients with these beliefs subscribe to healing rituals, which give them a feeling of relief.

In addition, Ginseng is one of the most widely used natural compounds. Ginseng root has been used for over 2000 years due to its health-promoting properties. Over the last few years, it has persistently been placed on the top ten of selling herbs in the United States. The most used Ginseng species are *Panax ginseng* (Asian ginseng) and *Panax quinquefolium* (American ginseng). In addition, ginseng derivatives may vary in chemical composition depending on the chosen plant extract, root age, growth location, harvest season and drying method. The ginseng species are all made up of ginsenosides, polysaccharides, peptides, polyacetylene alcohol, and fatty acids. Ginseng actions associated with the pharmacological targets are mainly due to ginsenosides, which belong to the steroidal saponin family. Ginsenosides demonstrate an ability to target a myriad of tissues, producing an array of pharmacological responses although their exact mechanism is not well-known. Different hypotheses regarding ginseng's mechanisms of action have been proposed: ginseng may slow food digestion by a decrease in carbohydrate absorption rate into the portal circulation in liver; ginseng can either modify nitric oxide (NO)-mediated glucose transport or contribute to the modulation of the insulin secreted

by NO mediation and ginseng may interfere in the inflammatory pathway in both insulin-dependent and insulin-independent manners. There are very few known ginseng adverse effects, and the most common ones are nervousness and excitation, which may be reduced by prolonged use or dosage reduction (Raquel, 2019). The World Health Organization group foresaw this same trend and stated that:

“Since traditional medicine has been shown to have essential utility, it should be promoted and its potentials for wide use and benefits to mankind. It needs to be evaluated, given due recognition, and developed to improve its efficacy, safety, and wider application at low cost. It is already the people’s health system, and it is accepted by them it has certain advantages over imported system of medicine in any setting because as an integral part of the people’s culture, it is particularly effective in solving certain cultural health problems. Its recognition and development could secure due respect for a people’s culture and heritage.” (WHO Journal on traditional medicine (2005, p54).

Some of the patients prefers to go to traditional practitioners because the beliefs are more reliable and very affordable. Due to that they decide to implement it in the health system in such a way that the two can work together that is the Biomedical and traditional practice. Along the streets of Buea, one can see several traditional healing centres specialised in the healing of a wide range of diseases and most at times diabetes inclusive (Plate 9).

Picture 12: A traditional healing billboard in Buea



Source: Bong Lum G. 21st September 2021.

The term traditional medicine or practice have been given different appellations and when mentioned it is mostly referred to the less developed world such as Africa, Latin America, South-east Asia. In the developed world, their appellation does change as they are referred to as complementary or parallel due to the therapeutic experience. However, these appellations go a long way to draw the contrast between rich and poor countries as it is linked to their level of economic, as well as their degree of civilization. Although called differently, conventional medicine just simply means have not conformed to the norms, accepted social conventions, and defined international criteria.

5.3.3. Herbs healing

Despite the availability of conventional hypoglycaemic medications, many diabetic patients still prefer to use herbal remedies. This is because most of them believe that they can get healed through the herbs. Healing is something you need to believe it can work through whatsoever drugs or medicines you shall take. The popularity of herbal therapy of patients with chronic diseases may be attributed to the long-standing suffering of the patients or failure of the medical treatment to bring a quick and long-lasting relief. In general people believe that herbal therapy is more natural than modern pharmaceuticals. This is not always true as it is documented in a WHO report that some herbal remedies are potent, and their safety is not as evident as people think. Also, they can be dangerous when taken in combination with modern pharmaceuticals. The belief in herbal cure of diabetes was reiterated by the herbalists. One herbalist reported that if the illness is still in the early stages and if patients take herbs according to instructions, diabetes will get cured completely.

Picture 13: “Worongi” combination of various herbs to be boiled for diabetes patients



Source: Bong Lum G. (7th January 2022).

Picture 13 above are a collection of herbs used in the treatment process which are combined tied in a bundle (worongi) then given to the patient to boil and drink one glass morning and glass in the evening. According to the Bakweri people all the herbs are not only to treat diabetes but other illnesses that might come with diabetes like joint pain, malaria, typhoid etc. This treatment is affordable and the people belief so much in their local doctors as they call them. *“What I can say is that ..., I can treat diabetes. ...If the person comes and the disease is still in its early stages, I treat it. ...If you follow my words to the dot, you heal. You check this person, and he completely has no diabetes. Yes, it will completely not be there.”*

The religious healing process of diabetes patients of the Bakweri people of Buea

Despite the numerous ways use by middle-aged diabetes patient in other to amend their condition, they tend up seeking the face of God for healing mercy as expatiated beneath.

5.4. Faith Healers

As Marcia (1994) said there is no single meaning given to the term “healing”. Nonetheless, it is important to try to establish a common basis for understanding the term “healing”. On the other hand, healing can be what your belief of feeling that may happen. As it is said in the book of John 13:27 “peace I leave with; my peace I give you. I do not give to you as the world gives. Do not let your hearts be troubled and do not be afraid”. And there are different ways of healing like prayer and fasting, laying of hands, and anointing of the sick with oil.

5.4.1. Prayer and Fasting

Prayer is an invocation or act that seeks to activate a rapport with an object of worship through deliberate communication. In the narrow sensed, the term refers to an act of supplication or intercession directed towards a deified ancestor. Also, a sincere petition to God or an object of worship. A spiritual communion with God or an object of worship, as in supplication, thanksgiving, adoration, or confession, the act or practice of praying to God or an object of worship. A formula or sequence of words used in or appointed for praying: The Lord’s Prayer. Many people belief that the God almighty can be their only hope in the condition in whom they find their selves. Imagine a patient that has being through all types of hospitals and can’t be heal, the next option will be to depend on God for a miracle by praying and fasting. As it is always said prayer can move mountains if your belief. Yes, prayer is the way we take our

burdens to God but fasting can be a way to super-charge those prayers to experience the breakthroughs you are seeking. But if one has never tried biblical fasting, you may have some questions such as. What is biblical fasting? Biblical fasting means, say No to yourself and Yes to God. For example, denying the flesh to find a more powerful connection with the Holy Spirit. And in the same way that a regular fast is supposed to boost your metabolism, fasting is a way to super-charge the power of your prayer life. “The thief comes only to steal and kill and destroy; I came that they may have life and have it abundantly.” (**Mathew 9:14-15 NASB**) New America Standard Bible. As the pastor explain:

That each time they have a case of illness in church or at home they always ask the patient to do one week or three days wet fasting because of their ill health they can't do dry fasting. This is because fasting goes with prayers when you have faith and belief God exist and can healed you. But at times is difficult for some Christian because is their first time of belonging due to the situation they find themselves and they had no one to turn to other than God almighty. We help them with Bible verses on healing and pray with them. (male, married, 46, Bonama, 30th August 2021).

It is essential that a lot of people turn to God in time of need not because they want to serve him because they want man of God as they call pastor to pray for them to get healed. And when they are healed, they leave and don't come back not knowing that God gave them another change to serve him and know him more. In contrary to some Bakwerians, Traditional Bakweri belief states that the ancestors live in a parallel world and act as mediators between the living and God. Spirits live in the forests and the sea, and many Bakweri believe that traditional practices hold a malign influence on everyday life. Traditional festivals held each year serve as the most visible expression of these traditional beliefs in modern times. Central core of traditional religion is centred on Epasa moto, half man, half stone (Dugas 1949).

5.4.2. Laying of hands

Imposition of hands, also called laying on of hands, ritual act in which a priest or other religious functionary places one or both hands palm down on the top of another person's head, usually while saying a prayer or blessing. The laying on of hands was an action referred to on numerous occasions in the Hebrew Bible to accompany the conferring of a blessing or authority. In Christian churches, this practice is used as both a symbolic and formal method of invoking the Holy Spirit primarily during baptisms and confirmations, healing services, blessings and

ordination of priests, ministers, elders, deacons, and other church officers, along with a variety of other church sacraments and holy ceremonies. Moses ordained Joshua through semikhah, that is, by laying on of hands: (Numbers 27:7-23, Deuteronomy 34:9). Pentecostal Christians practice the laying on of hands as one of prayer for divine healing as one of the pastors demonstrate in the picture below how the laying of hands is being process in churches.

Picture 14: Laying of hands



Source: Bong L (August 10, 2021).

In 14 picture above the laying on of hands by a pastor, Bishop or priest mostly on patients like the case of middle age diabetes in Buea to pray for them asking God for healing mercy. Lord I surrender all unto to you as he said in his book what so ever you ask I will give to you. As this patient have been moving from place to place in search of healing and good health that's how they find themselves in churches.

5.5. Anointing of the sick with //mauja// (Oil)

In the book of James 5:14-15 “is anyone among you sick? Let him call on the elders of the church, and let them pray over him, anointing him with oil in the name of the Lord. And the prayer of faith will save the one who is sick, and the Lord will raise him up. And if he had committed sins, he will be forgiven.” Anointing of the sick was widely practice from apostolic times as sacramental rite in association with the ceremony of the imposition of hands to convey a blessing or recovery from illness or with the last communion to fortify the believer safely on his or her new career in fuller life of the eternal world. According to God anointing provide

physical and spiritual healing. It offers necessary graces so that the sick person might get heal. The sacrament of the sick is in three main parts: the prayer of the faith, the laying on of hands and the anointing with oil //mauja//. As one of the patients said:

He stops going to the hospital because he didn't have the financial means to buy whatever drugs that were recommended by the doctor, and he turns to the traditional practitioner thinking he will get heal at a low cost but didn't know what await him. After all the struggle looking for way to get heal, he finally ends up in church crying for the pastor to heal him. (male, widower, 69, Stranger quarters, 15th April 2021).

Despite all the struggle to get healed, most people realise now that God do exist as the saying goes “what God cannot do doesn't exist”. In this situation his so desperate and ready to do everything to get heal. So, the pastor started by praying for him, anoint him with oil //mauja// and ask him to have faith that God will heal him. In line with this Peltzer (2001) said a person came to him at an advanced stage of diabetes. The person has partially lost his sight. The legs were very swollen, and he complained of pains all over the body. I used holy water because it is very important. From there I referred him to Moria (Zion Christian Church) to be baptised. When the person came back, he was healed. He even went to a doctor for confirmation that he is healed.

5.5.1. Health Insurance Governance

Health-insurance coverage is one of the most important health-policy issues affecting people with diabetes, according to Maureen et al., (1996). Few studies have examined the proportion of patients covered or the types of health insurance for people with diabetes in representative samples of the U.S. population. In addition, whether certain subsets of diabetic patients are uninsured or, if insured, whether the insurance mechanism or types of services covered are different for patients with diabetes compared with people without diabetes is not known. To explore these issues, we analysed data from the 1989 National Health Interview Survey (NHIS).

Conclusion

The elaborated discourse above on the various ways of managing diabetes which affect the people of Bakweri by bringing out the various ways used to manage this disease through Biomedical, traditional practitioner and Faith healers, by bringing out their point of view why they move from one place to another in search of treatment for the disease. This equally ushers us to the next section of our study which seeks to bring out various point on why they prefer diet than any kind of treatment. In light with this, in Africa, an estimated 80% of people in the continent turn to traditional medicine as a source of primary care, including those with diabetes; however, the efficacy, safety and quality of raw medicinal plant are not well controlled and regulated. The strategy of WHO to encourage the African countries to integrate the TM in the management of chronic diseases represent a very precious tool to the management of diabetes in Africa under the optimal conditions of efficacy, safety, and quality.

GENERAL CONCLUSION

The research work titled **“Diet and therapy among the Bakweri middle age diabetes patients in Buea, South West Region Cameroon: a contribution to medical anthropology”**, is written on the scientific perspective of anthropology and medical anthropology. Through which the context of the study was largely elaborated and researched upon. Despite all the hospitals open in Buea by the Government and individuals to reduce the increase of diabetes cases in Buea, it didn't turn out a success because the population of middle age with diabetes keep increasing. This study was to understand why it so difficult for patient with diabetes to maintain a healthy diet plan despite the hospitals, dieticians, health personnel to help them cope or maintain their health condition.

Despite the numerous majors put in place by the Government and the authorities in Buea, the problem of diabetes within the middle-aged people keeps increasing. We stepped in as curious observers of the society to comprehend this phenomenon. To present the existing situation, this work was intended to understand the reasons why the increased of dieticians in hospitals the case of diabetes keeps increasing.

Several questions enabled us to understand the object of the study. A main research questions of the study go thus: how do middle-aged patients use diet to manage their diabetes? While the secondary questions are what are the aetiologies of diabetes of middle-aged patient in Buea and the third question: what are the different types of diet available for diabetic patients in Buea? And the last research question is how the health system responds to the care need of middle-aged diabetes patients on diet? This research questions permitted us to come up with hypothesis being the temporal and not tasted or verified, we had to get into the field of study with the main objective and three specific objectives. We thus had to get the population's response to this phenomenon. The main objective of the research is to examine how middle-aged people use diet to manage diabetes. Then the two specific objectives are as follows: to study the etiology of diabetes among the Bakweri people of Buea, secondly, to examine the different types of foods that can be used to help manage the health of diabetic patients. Thirdly, to investigate how far health system respond to the use of diet in middle aged diabetic patients. As such a general hypothesis, Diet and health care have significantly induced increment in diabetes within the middle-aged group in Buea Municipality and management of what they eat and the quantities of what they eat help them improve on their health. They are represented as people who have a fragile immune system and should not consume everything because of their medical condition. The main classes of food to be consumed by middle-aged patients are fatty

fish, avocado, beans, cocoyam's, unripe plantains, leafy greens, eggs, broccoli, extra virgin olive oil and fruits. The middle-aged people and the healthcare system respond to these challenges by using better strategies like the services of a dietician, informing themselves on the risk of poor diabetes management and the healthcare service carries out massive sensitization campaigns on better management of their diabetes.

For this to be realized, we had to follow a methodological tend organized in two parts: documentary research and field work collection of data. In which documentary research permitted us to gather information from secondary written sources. Then the second was that of field research. In the first, it allowed us to give an ethnographic description of our study site and subsequently necessary literature on diet and therapy in which we did an assessment on the prehistoric, Europe, Africa and Cameroonian then narrow it down to our area of study the Bakweri people of Buea on how they are been treated by traditional healers, medical personnel, and Faith healers. In which we went further in testing our hypothesis and verifying them. The field data collected was done using techniques such as focus group discussion, direct observation, interview with people concerned. The data collected led us to carry out to a context analysis in which we used our theoretical framework built from functionalism in which the concept of functional cohesion was removed, and the next theory was that of cognitive behaviour therapy to bring out the confidentiality in these patients. This methodological move led us to obtain the following results: that the occurrence of the disease is partly linked to the dietary intake. Educational levels, marital status also partly represented instigating factor to the occurrence of the disease. Results also showed that the occurrence of the disease in the years have been very irregular recording 22 cases in 2017, and 18 in 2021 spanning from 2016-2021. Principal causes of the disease were noted to be overweight, genetic inheritance, State health care system among others. The study equally found out that 60 % of the treatment of the disease is being treated by local herbalists.

Secondly, the awareness that the Bakweri people have had a long-standing tradition that they believe and hold true as it ensures harmony. It is efficient and has been solving their health concerns, so diabetes patients find it safe when they practice if before complementing with conventional medicine. As such there are some traditional healers who are meant to heal diabetes patients and they mention is good to easily cure it when it is at the early stage. The information gotten was through questions asked from one traditional healer to the next with respect to how they practiced and executed their functions. There by explaining the functions

and necessity of each. As it was notice that just few of the healer where able to treat the disease as they claim. Later, we gathered information on the complementarities with conventional medical practices in which I was told how they try to integrate traditional practices. Some ended up in church because they were stranded and didn't know what else to do so they decided to turn to God for healings.

According to Atab Ahmed et al., (2017), without knowing about the diagnosis of a disease we cannot manage a disease. In the case of diabetes mellitus, we must control the glucose level not only but also considered the other associated risk factor such as smoking, hyperlipidaemias, obesity, as well as blood pressure. The author further stated that Management of diabetes mellitus requires a deep concentration means without the coordination between nurse and another member of health care team, management of the disease is not possible. Awareness about diabetes of his or her family member plays a vital role in the management of diabetes mellitus. Because without awareness patient cannot take the medicine regularly. A person with diabetes mellitus should be encouraged and enable to participate actively in management and monitoring their condition. Diet and therapy are ways in which diabetes patients use to ameliorate their health condition. To understand the causes and provide solutions, the doctors oversee diagnosing and some health practitioners are carrying out ritual practice to solve certain health concerns. As illness episodes are believed to arise through Witchcraft, genetic, overweight, and so on. Jorgo Chatzimarkakis (2010) says initiative will be taken to bring patient empowerment from concept to practice, integrating the patient's experience will be essential. Any concept that medical practice and health care politics may come up with will need to win acceptance from patients. Ultimately, patient empowerment will work only if patients are able to integrate their increased responsibilities into their everyday lives. In this regard, patient empowerment may provide an opportunity to enhance multidisciplinary dialogue, foster networked thinking and planning, and take a more holistic view of patients and their diseases. This may not make our work easier, but likely more effective and certainly more beneficial to patients living in Europe

As such, with the individuals providing self-care to keep themselves and traditional healers are accepted as important potential allies of health staff, and those that could contribute to improving health.

There are many types of food diabetes patients eat to manage their health condition. They had rarely heard or had a diet plan for the management of their diabetic condition. But they did not

know what a diet plan and dietary intake meant talk less of having one. The proportion of patients who used insulin as a method of managing their diabetes constituted 70% percent of the participants who took part in the study “The hospital held regular diet plan meetings whereby they were counselled on their diet and what they should consumed. Some unfortunately came late for the meeting and those of them who manage to be there on time hardly kept track of all the information that was said. They got home and eat all what they wanted and forget about what had earlier been said on diet”. Some of them gave the excuse that they had so much to deal with like work, life, and family they cannot engage in physical exercise to manage their diabetes. As a diabetes patient we are subjected to certain life changes which affect what we eat and the eating habits of those who surround us. As a diabetes patient in a home the eating habits of the household would be altered by your medical condition to fit your eating pattern. Due to their medical condition some diabetes patients decide to develop healthier eating habits and will like that their households develop such a pattern so that they could have a better chance of avoiding the fate which befell them.

WHO in 2002-2005 came up with so many strategies which one of them will explore the potential for using accessible and affordable traditional medicine and complementary alternative medicine (TM/CAM) resources to combat common communicable diseases. This will include research into the most effective herbal medicines and encouraging governments to develop strategies for protecting wild populations of medicinal plants and sustainable cultivation of such plants. (This will contribute not only to access to health care, but also to protecting the environment and generating income.) Protection of indigenous TM knowledge relating to health and equitable sharing of its benefits will be promoted within the context of any research undertaken. WHO will also encourage dialogue and interaction between TM/CAM practitioners and allopathic practitioners to promote recognition of the role of TM/CAM in health care provision. In developing countries, it will work with TM practitioners’ associations and NGOs so that the role of TM practitioners in preventing and managing common communicable diseases is optimized. The health care system of every community is grounded in the perception of its members as they tend traditional practitioners, faith healers, because they saw it as the only means for their health condition after the hospitals didn’t satisfy them. Secondly, this study recommends improve health care system, dietician sensitisation on various diets to mitigate the incidence of diabetes in Buea Municipality and the country at large. Thirdly, how it can be managed through Biomedicine, traditional practitioners, and faith healers. There by explaining the function and necessity of each. Even though they tend to prefer

diet than any other treatment and we gather information that is because of easy accessibility, affordability, and availability. The research topic was on diet and therapy among Bakweri middle age diabetes patient in Buea. Other researchers can research to other topics similar to what has be done already. Comparable topics like diet and treatment, diet and healthcare for further research to done in better understanding on what other treatment can be used for diabetes patient other than diet management.



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1. ORAL SOURCES

List of informants

Names	Age	Occupation	Sex	Place of interview	Date of interview
TABI FRIDA	69	Farmer	Male	Great Soppo	30/06/2021
MOKOTE	46	Traditional Healer	Male	Regional Hospital	03/04/2021
EKO SILVIA	49	Doctor	Female	Adventist Hospital	10/06/2021
BESSIONG	45	Farmer	Male	Bova	11/08/2021
ARRAY	52	Farmer	Male	Small Soppo	02/04/2021
LUM Anna	71	Teacher	Female	Street Seven	17/08/2021
Pastor Angela	47	Pastor	Female	Molyko	01/06/2021
EJEMA	58	Doctor	Male	Regional Hospital	30/04/2021
Namondo Juliana	66	Farmer	Female	Bokwango	29/06/2021
TAMBE Hortense	51	House wife	Female	Bakweri Town	20/04/2021

ASONG Marbel	65	Heath personnel	Female	Regional Hospital	20/11/2021
Theressa	50	Cleaner	Female	Molyko	20/08/2021
MBOLLE William	60	Teacher	Male	Bova	6/06/2021
TABE-OJONG	47	Farmer	Male	Street Two	10/04/2021
AGBOR Emilia	45	Night Watch	Male	Street Three	10/04/2021
Pauline TENDO	55	House wife	Female	Clerks Quaters	31/08/2021
BEJA Scolastica	65	Farmer	Female	Santa Babara	11/06/2021
AGEM Stephen	72	Gardiner	Male	Upper Bunduma	14/08/2021
Enow TAKU Cecilia	46	Dietician	Female	Low Family	05/04/2021
Pastor Chris	52	Pastor	Male	Campaign Street	01/06/2021
MOLONAE Mariana	49	House wife	Female	Biaca Street	22/06/2021
NJUKENG George	61	Trader	Male	Upper Bunduma	01/08/2021
TAKANG William	67	Security	Male	Bova	13/04/2021
EYOUNG	50	Security	Male	Bonama	30/08/2021
MUBATOH Doris	68	Farmer	Female	Strange Quaters	15/04/2021
TAPANG Martina	70	Teacher	Female	Regional Hospital	03/06/2021
Mandi Asoh	45	widow	Female	Bova	13/04/2021
Arrey-Manyi	62	Married	Male	Clarks quarter	30/06/2021
Rebecca Mambo	64	Married	Female	Bokusufu	17/08/2021
Tabe-Ojong Martin Paul	50	Married	Male	Great Soppo	18/04/2021
Pastor Robert	45	Married	Male	Buea Town	05/06/2021
Susan Enjema	65	Married	Female	Street two	19/06/2021
Njukeng George	56	Married	Male	Bonama	24/08/2021

Agbor Simon	60	Married	Male	Upper Bonduma	11/06/2021
Monono Ebah	62	Widow	Female	Bokwai	2/06/2021
Ekane Joseph	70	Married	Male	Bokwango	10/08/2021
Eposi Loise	45	Teacher	female	Small Soppo	1/07/2021
Mbua	58	Driver	Male	Bonduma	30/06/2021
Njie Mark	43	Security	Male	Bova	23/06/2021
Nanyongo Patricia	50	Married	female	Campaign Street	29/06/2021
Likowo Venessa	60	Married	Female	Great Soppo	03/08/2021
Eweli Nerisa	45	Teacher	Female	Buea Town	05/08/2021
Etombi Karl	65	Trader	Male	Clarks Quater	14/08/2021
Mwambo	45	Farmer	male	Molyko	6/07/2021
Efeti Marie	43	Teacher	Female	Bianca street	27/08/2021
Enanga Salomen	61	Famer	Female	Low Family	30/06/202
Eyole Claris	72	Gardiner	Male	Upper Buduma	1/07/202
Ewenye Emerencia	50	House Wife	Female	Street Sveen	30/08/2021
Moname	49	House Wife	Female	Molyko	05/08/2021
Ndive	59	Driver	Male	Bunduma	02/07/2021



APPENDIX

APPENDIX 1: AUTHORIZATION OF RESEARCH

UNIVERSITÉ DE YAOUNDÉ I
THE UNIVERSITY OF YAOUNDE I

FACULTE DES ARTS, LETTRES ET
SCIENCES HUMAINES



FACULTY OF ARTS, LETTERS
AND SOCIAL SCIENCES

DEPARTEMENT D'ANTHROPOLOGIE

DEPARTMENT OF ANTHROPOLOGY

Yaoundé, le 12.2 DEC 2020...

AUTORISATION DE RECHERCHE

Je soussigné, Professeur **Paschal KUM AWAH**, Chef du Département d'Anthropologie de la Faculté des Arts, Lettres et Sciences Humaines de l'Université de Yaoundé I, atteste que l'étudiant **LUM Goerseline MBONG**, Matricule **150239** est inscrit en Master dans ledit département. Il mène ses travaux universitaires sur le thème : « *Diet and healthcare in Buea South-West Region Cameroon* » sous la direction du **Dr Afu Isaiah**.

A cet effet, je vous saurais gré des efforts que vous voudriez bien faire afin de fournir à l'intéressé toute information en mesure de l'aider.

En foi de quoi la présente autorisation de recherche lui est délivrée pour servir et valoir ce que de droit.

Le Chef de Département

APPENDIX 2: OBSERVATION GUIDE

Site:

Time of arrival at site

Time of departure

From site: name of

Each site visited:

ITEMS AND ACTIVITIES OBSERVED	
Observe how patients are received at the hospitals and at the homes of traditional healers.	
Observe therapeutic interview and procedure between traditional healer and patients and between health professional and patient.	
Observe the healing process done in church by Pastor.	
The hygienic nature of traditional healing homes and medications.	

APPENDIX 3: INTERVIEW GUIDE SOCIO DEMOGRAPHIC VARIABLES

Name.....

Age.....

Sex.....

Religion.....

Occupation.....

Education.....

Marital Status.....

QUESTIONS FOR BIONEDICAL PERSONNELS

How is the hospital

How do you manage diabetes patients

What quantity of food should a diabetes patients take and why.

How do you intent to implement a diet plan within your hospital.

In your opinion is diet plan an effect means which should be used by middle-aged patients to manage their diabetes and why

How does the society view middle-aged diabetes patients

What are the other things that can help manage diabetes

FOR TRADIONAL HEALERS

Which disease do you treat.

How do you manage diabetes

Do you carry out diagnosis, protection, or prevention therapies if yes how, what do you do in your healing process.

Do you relate with biomedical.

What problems do you face during carry out your test? What are some of the items you demand from patients.

Why do you think patient prefer coming to you.

What are your treatment procedure

QUESTION TO PASTORS

What are the things you do in other to heal a diabetes patients.

What are they produced they followed in other to get heal.

Are you the one healing this patients or God.

How do you see or think about diabetes.

FOR DIABETES PATIENTS

What type of diabetes do you have.

For how long you have had diabetes.

How do you manage your diabetes.

What types of food do you eat and why.

How does your health care facility help you in managing your diabetes.

How do people think of you suffering from diabetes.

Why do you chose to visit traditional healers. Are you satisfy with the service they render.

APPENDIX 4: SOME WORD IN BAKWERI LANGUAGE

English	Bakweri
Sugar	wombo
Beer	mimba
Cigarette	zika
Illiterate	elainge
Food	molely
Coco yam	ndah
Yam	weyono
Plantain	mekor
Banana	mbo
Beans	bengi
Bitter leaf	bitterleavi
Garri	garleh
Fufu	wolanga
Rice	kondi
Sweet potato	nduko
Honey	woah
Vegetables	wowah
Fish	nyama jar malowa
Egg	meyor me yuwa
Avocado	piar
Orange-	ebuma
Lemon	ebumalamajo
Oil	mauja
Groundnut	gondor

Garlic	garlicky
Onion	onezy
Water	maliwa
Tea	atea
Pumpkin	liwowe
Ekwang	ekpang
Drug	ngea
Sport	liwangi

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