

# Anthroposocial-Medical-Educational Approach and Educational Diagnosis of People Living with Type 2 Diabetes: Case of the National Obesity Centre in Cameroon

Danielle Takam<sup>1</sup>, Myriam Sylvie Ambomo<sup>1</sup>, Jean-Claude Katte<sup>2</sup>

<sup>1</sup>School of Health Sciences, Catholic University of Central Africa, Yaoundé, Cameroon

<sup>2</sup>National Obesity Centre, Yaounde Central Hospital, Yaounde, Cameroon

## Email address:

dynoutakam@gmail.com (Danielle Takam), sylvie.mvoa@ess-ucac.org (Myriam Sylvie Ambomo)

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**Abstract:** Therapeutic patient education is an approach that is increasingly used in the management of chronic diseases. It has a structure, the first essential component of which is the educational diagnosis. However, empirical findings show that this first link is often forgotten or poorly negotiated in the implementation of therapeutic patient education. This situation reveals a difficulty in contextualising the proposed models. Hence our objective, which was to describe the process of integrating the anthroposocial-medical approach into the construction of an educational diagnosis for people living with type 2 diabetes. We conducted a descriptive qualitative study in the National Obesity Centre of the Yaoundé Central Hospital. People living with type 2 diabetes and health professionals constituted our target population and our sample size reached saturation with 16 participants (10 patients and 6 professionals). Semi-structured interviews using interview guides were conducted with the participants. The results revealed that in order to integrate the anthropological dimension in the construction of the educational diagnosis, firstly, the health professional must become acquainted with the patient's culture, his or her eating habits, find out about his or her dietary difficulties and investigate his or her behaviour in the usual environment. Secondly, the health professional must get the patient to verbalise his or her representation of the disease, his or her practices and therapeutic remedies. Thirdly, the health professional must get the patient to narrate his or her therapeutic itinerary. In order to integrate the social dimension into the construction of the educational diagnosis, the professional must firstly find out about the patient's economic situation. Secondly, he/she must find out about the patient's profession, his/her plans, find out about his/her professional interactions and assess his/her physical activity. Thirdly, he/she has to find out about his/her interactions with his/her family. Finally, in order to integrate the medical dimension into the construction of the educational diagnosis, the health professional must collect the patient's biomedical data and assess the patient's knowledge of his or her illness. In conclusion, the anthroposocialmedical approach can be considered as a contextual guide in the process of constructing an educational diagnosis which constitutes the foundation for the development of a therapeutic education programme.

**Keywords:** Anthroposocial-Medical Educational Diagnosis, Therapeutic Education, Type 2 Diabetes

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## 1. Introduction

Type 2 diabetes is a disease that places demands on the lives of those affected and their families. The management of the diabetic patient is very complex. It is based on three pillars: medical treatment, physical activity and dietary changes. It aims to ensure blood sugar control and improve the well-being of the diabetic patient so that he or she can

lead a life similar to that of a person without diabetes. Patients with these conditions are required to perform technical procedures and make therapeutic decisions themselves [1].

## 2. Methodology

A qualitative study was conducted using a clinical method

at the National Obesity Centre of the Central Hospital of Yaoundé. We used the non-probabilistic technique of reasoned choice directed at a population consisting of health professionals from the diabetes department of the HCY and people living with type 2 diabetes followed at the national obesity centre of the Yaoundé central hospital. To carry out our study, we used a semi-directive interview with type 2 diabetes patients and another with health professionals. The interviews were recorded using a Dictaphone, by recording what was said and by asking open-ended questions. At the end of the recording of our interview, we said goodbye to the participants after thanking them.

### **2.1. Data**

The data collected by an interview guide through a voice recorder (dictaphone) was manually analysed. The themes of the interview guide highlighted the anthropological, social and medical dimensions of people living with type 2 diabetes and the integration of these dimensions in the construction of the educational diagnosis of patients. During transcription, the participants' words were respected even if they were repetitive and grammatically incorrect. After reading and rereading the transcripts of the participants' words, we codified by marking and categorising the data to facilitate their analysis while preserving the words and expressions used by them to ensure maximum rigour.

### **2.2. Sample Size**

The sample size depended on the saturation threshold. Research population includes a total of 16 participants (10 patients and 6 health professionals). The patients were those with type 2 diabetes hospitalized and those coming for consultation and follow-up at the NOC of the HCY. The health professionals (doctors, nurses) were those working with the diabetes department and others willing to participate in the study.

Participants were recruited as they arrived on the ward according to the inclusion criteria.

### **2.3. Data Analysis**

The method of data analysis in this study is content analysis according to Bardin (2013). After careful listening to the recorded interviews, and rereading the notes taken, the (16) interviews were transcribed in full while respecting the anonymity of the participants. Themes and categories were identified. In order to guarantee the anonymity of the survey, no names were put on the data collection forms, and no financial participation was required. We also obtained an ethical clearance from the CEIRSH (Comité Éthique Institutionnel de la Recherche pour la Santé Humaine) and thus respected the conditions for obtaining the clearance, namely:

#### **2.3.1. Respect for Human Dignity**

No one was forced to participate in this study, and they should receive full information in order to decide whether or not to take part.

#### **2.3.2. Respect for Free and Informed Consent**

No information was collected without the knowledge of the people surveyed.

#### **2.3.3. Respect for Privacy and the Information Obtained**

Their anonymity was guaranteed, so that no questions were asked about the identity of the individuals or aspects that could identify them.

The protocol for this study was validated by an academic jury and by the SSE/UCAC ethics committee, hence the information letter. A research authorisation was sent to the director of the Central Hospital of Yaoundé, through UCAC. With this authorisation, we presented ourselves to each resource person before collecting the data. The objectives and approach of the research were clearly explained to the participants by collecting their consent using the information leaflet for participants.

### **2.4. Scientific Criteria**

#### **2.4.1. Authenticity**

All interviews were recorded.

#### **2.4.2. Credibility**

The research results truly describe the phenomenon of the study.

#### **2.4.3. Integrity**

We believe that we have reached the threshold of data saturation.

#### **2.4.4. Internal Validity**

After the transcription, we went back to the participants to expose the verbatim, and to see if the transcription was faithful in order to be validated by them.

#### **2.4.5. Transferability**

Our research is based on a well-defined population, and it will be difficult to generalise the results to the whole population. However, some theoretical elements can be explained to other similar contexts.

#### **2.4.6. Triangulation**

We used several publication sites in our literature review (Pubmed; Cairn.info; Google scholar; Hinari), then we used the social representations theory and the structuro-functional theory, finally, we used various sources of information, namely: interviewed heads of households and adolescents from different social classes; different genders, different social and cultural groups.

## **3. Results**

### **3.1. Integration of the Anthropological Dimension**

#### **3.1.1. Integration of the Cultural (Food) Values of the PVD2 in the Construction of the ED**

Learning about the patient's culture: PIII1: "Already the management of diabetes in general... So we integrate the food culture of the patients, first of all by informing us about their

region of origin, about their food habit and according to that, we educate them about their diet: putting emphasis on the prohibitions and the why of the prohibitions and on what is allowed plus the quantities and how to arrange them. We also try to understand them and what difficulties they have with food". And PII2: "we start by asking about their ethnicity, what they are used to eating, because each one has their own eating habits and then we educate them about this information! We also ask them what difficulties they have in relation to the food they eat because of the disease. This is information that the care provider needs to adapt his educational care.

Learning about the patient's eating habits: For our participants, the second step would then be to learn about the eating habits according to the patient's culture (PII1, PII2, PII4, PII5). Let's confirm it with the words of PII4: "I think we could integrate the culture of the patients in the TVE by already taking knowledge of the ethnicity of the patient, his food habits, considering that the patients we receive come from different parts of Cameroon, so the nursing staff should already educate themselves or equip themselves with this knowledge, know how it is done in the different cultures, talk with them, learn from them! Investigate how they eat, how they behave in the environment they come from and then use this information to adapt it either to the care plan or to what we would like them to receive in the end!

We notice 5 different ethnic groups among our participants I (patients), namely the Béti, the Bamileké, the Maka (East) and the Gbaya (North), and each ethnic group has its own food culture! Firstly, consumption of tubers (manioc, macabo, yams) and vegetables (folong, zom) among the central and southern (Béti) natives. Secondly, a diet based on meat and fish for the people from the east. Thirdly, a diet based on starchy foods and palm oil among the people from the west (Bamileké) and the south-west (Bayangi) and fourthly, a diet based on cereals and beef among the northerners (Gbaya).

Find out about dietary difficulties: PII3 stated that: "Yes, in this area, if we have to show the patient how to eat, we must first know what he is used to eating, because that counts a lot, imagine a patient who lives in the village, and you ask him, for example, to eat wholemeal bread, he will eat wholemeal bread or follow his diet, so we must take into account the patient's dietary habits and even his dietary difficulties.

Investigate patients' behaviors in the environments in which they live. PII4: "I think we could integrate the culture of the patients in the TVE by already taking knowledge of the ethnicity of the patient, his food habits, given that the patients we receive come from different parts of Cameroon, so the nursing staff should already educate themselves or equip themselves with this knowledge, know how things are done in the different cultures, talk with them, learn from them! Investigate how they eat, how they behave in the environment they come to and then use this information to adapt it either to the care plan or to what we would like them to receive in the end.

### **3.1.2. Integration of PVD2 Representations in the Construction of the ED**

Getting the patient to verbalise their representation: during our data collection, we find that almost all our participants II (PII1, PII2, PII3, PII4, PII6) declare that the ideal way to integrate the representations of PVD2 in the construction of an ED is to push the patient to verbalise their representation, because it is impossible to act on a representation that is not known. Then educate them about diabetes. But there are some who think that they should be explained at the first appointment (PII5): PII1: "first of all, we have to get the patient to verbalise his representation, 99/100 of the patients who come to the hospital have fixed ideas, preconceived ideas that may be true or false, we should already get the patient to verbalise it, to say what he thinks".

During our collection from participants I (patients), we note 2 main representations of the disease: Diabetes: a dangerous hereditary disease and linked to diet PII1: "I know that it is a very dangerous disease that leads to many complications. That's my eyes are already affected, and it can cause amputations so we have to avoid foot injuries. It's worse than HIV, really I would rather have HIV than this. PII3: "I know that diabetes is a lot of sugar in the body, so I avoid sugar, I don't even eat it anymore! And when I see people's feet being cut off it's so scary. Diabetes: a generational punishment. PII2 says: "Honestly what I know is that it's a hereditary disease! My father had it! But it's a disease that was only started because of the history of the land. My father had a lot of land and it was so coveted. And a lot of other people were fighting it and that's where his diabetes came from. 8 years of diabetes.

### **3.1.3. Integration of the Therapeutic Practices and Recourses of PVD2 in the Construction of the ED**

Getting patients to verbalise their therapeutic practices and remedies: the interview with our participants shows that almost all our participants II (PII1, PII2, PII3, PII4, PII6) declare that the ideal way to integrate the practices of PVD2 in the construction of an ED is to push the patient to verbalise what he/she had to do and/or what he/she is doing as a practice to improve his/her health condition, and what is practised in his/her culture in case of an illness such as his/her, this through dialogue Participants' comments: PII1: "yes that's why we need to dialogue a lot with the sick because all of them have tried something! They have terrible journeys! But it's the same principle. They have to tell you everything they have taken as other treatments, and then make them understand that they were wrong by asking them that if you think your treatment was good, why are you here today, why didn't your wound heal?

Prayer: A quick fix, consumption of traditional decoctions, and modern medicine are the practices of our participants (patients).

PII1: "I pray a lot really, it is prayer that helped me to overcome the depression and suicidal thoughts that this disease gave me. PII2: "I'm a very religious person so when my treatment doesn't change anything in my condition really

my recourse is prayer. I pray a lot and I know that it is because of this that I am still standing.

PI3: "I drank a lot of drinks, even the water from the Ndolè as it is bitter, I tell myself that it can fuck up the sugar in my body, one of my sisters gave me a bark that I had to boil in water to drink for two days. At first I took the vitamins myself as I was very weak, I thought it would help me.

PI7 says: "No, nothing at all! I didn't take anything else. I believe very strongly in medicine.

#### **3.1.4. Integrating the Treatment Pathways of PVD2 in the Construction of the ED**

Getting information on the patient's therapeutic pathway PI2: "Oh, we always have to find out if our patients have recourse to other means of healing, again we have to get the patient to reveal this! and after that, make him understand that this means of healing is not the right one and that it won't work. But most of them don't listen in this case I encourage them to always take what the doctor prescribed!

The data we collected shows us that some of the participants have visited traditional healers and marabouts, in search of a cure for their illness. PI9: "I went to the traditional practitioner and then I came to the hospital".

PI3: "With my sister I went to a marabout who gave me the barks, we even went to the village to see traditional practitioners, but nothing really worked until I came to the hospital.

The comments of our participants also reveal that most of them are looking for a solution, going from hospital to hospital, especially those who already have a complication such as diabetic foot. We see this in the words of PI4: "I don't take anything other than what the doctor prescribed and that's what gives me so much relief. Before coming here I saw another doctor in a clinic and he was the one who was following me and then he asked me to come here". As for PI6: "I went to Etoug-Ebe, I went to Mbingo, I walked a lot but my situation is not improving! I even went to see traditional doctors in my village, they gave me barks, drinking herbs.

We also found that some of our participants were taking medicines without medical prescription to relieve them. This is the case of PI3: "At the beginning I took vitamins as I was very weak, I thought that it would help me".

### **3.2. Integration of the Social Dimension of PVD2**

#### **3.2.1. Integrating the Economic Level of Developing Countries 2 into the Construction of the ED**

Finding out about the patient's economic situation (source of income, family support, insurance), PII1 "this is also a very important element, we should always start with this! we should always find out about the patient's level of income, find out about their profession, in order to adapt the treatment to their means. For example, normally dressings are done with sterile gloves and a pair of sterile gloves costs 250 francs, there are patients who cannot afford to buy sterile gloves for each dressing! So it is important to take into account the financial situation of the patient.

During our data collection we noticed that some

participants complained about the cost of the disease in relation to their very low economic situation. So they find it very difficult to take care of themselves. PI1: "Everything was fine but since Corona arrived everything has changed. But I manage to pay for my medication without any problem, but it is still the food that is difficult to manage. I used to eat everything that was necessary, but since then I have been obliged to make do with what there is, but otherwise there are foods that I have cut out" and PI2: "It is not very easy, my daughter! This disease is so expensive! Despite the little I manage to have, everything goes into medication, dressings, food.

We also note that some participants are supported either partially or totally by their family (PI4, PI5, PI6, PI9) and do not complain. We confirm this with the words of PI4: "I earn almost nothing eh! It's my children who take care of me, my food, my medicine, it's my children! I often do a little business that gives me a little money!

We also note that most of these families are the children of the participants. The child as an adult has the responsibility to take care of his parents. PI5: "It is my children who take care of me, those who have the means, I myself have no source of income; so even the smallest needs, it is my children who take care of them!

Among our participants, there are also those who have the means to take care of themselves (PI7, PI10). PI7: "Well, I have my pension, I told you that I am retired, so I have my pension which comes every month and I manage with that! Now there are things that I do on the side that also give me something to take care of a lot of children that I have" PI9 also says: "I don't complain too much, really I have someone to take care of me, my health! I'm not married and I don't have any children so I don't really have any responsibilities! So I think I'm OK with that.

#### **3.2.2. Integration of the Professional Environment of PVD2 in the Construction of the ED**

Informing about the patient's profession/nearest colleague: Thus, PII1 thinks that: "first of all, we should know if a colleague at the place of service is aware of his illness, if not, he should tell or confide in a colleague, if he cannot explain well to his colleague, then a health worker can do it in case a hypoglycaemia or any other complication happens at the place of service", as well as PII2: "the professional entourage must also be informed, in case of malaise, or hypoglycaemia crisis, we try to find out which colleagues are close to the patient, are they aware of the disease? If so, do they know what to do if they feel unwell?

Find out about the person's interactions with colleagues (peaceful or conflictual): This is the opinion of PII4 who states that: "During the survey we always try to find out what the patient does for a living, this allows us to assess the patient's level of physical activity, even in terms of diet. We also try to understand what kind of relationship he has with his colleagues, with whom he has more affinity, and if he is in conflict with a colleague.

Assessing the patient's physical activity: PII4 states that:

"During the survey we always try to find out what the patient's occupation is, this allows us to assess the patient's level of physical activity, even in terms of diet. If he has the possibility of having meals in the morning, noon and evening, his place of occupation may also be a risk factor or exposure to either the aggravation of the disease or the occurrence of non-compliance with treatment. We also try to understand what kind of relationship he has with his colleagues, with whom he has more affinity, and if he is in conflict with a colleague.

As far as the daily activities of our participants are concerned, we find that most of them are quite active and occupy their day either with sports, business or professional activity, avoiding a sedentary life in a way. P11: "I do the housework, I also do sport about 3 times a week. And my job!" As well as P12: "as I can't move well, I only do land sales, I also do real estate to keep myself busy so I don't spend all my time physically because I'm not at 100% capacity. I do a lot of things but at the moment that's what I'm reduced to.

### **3.2.3. Integration of the Family Environment of the DVP2 in the Construction of the ED**

Find out about the person's interactions with family members (peaceful or conflictual): The participants' comments are as follows: P11: "as far as type 2 diabetic patients are concerned, we should first know if the family is aware of their health condition and then the presence of a family member should be obligatory during the therapeutic education sessions, especially because of the patient's diet, drug conservation and general health! And it is the patient who (from the family) must choose who comes with him/her for the education! We will ask him who he gets along with better, who takes care of him at home".

P12 also thinks that: the family is very important in the follow-up of the patient, so it is necessary to involve the family as much as possible, we should know with whom the patient lives, with whom he is closer, what is the approach of the family regarding his disease, is he supported even psychologically? Is his family even aware of his situation?

The comments collected from the participants show that most of them are supported by their family and friends. Our participants feel confident and supported in every way by their family and do not complain but are quite grateful for this. Let's check it in the words of P11: "I have a very good relationship with my family and friends. I have so much support in this challenge, especially my husband, he supports me a lot, my brothers, my sisters, my children even, everyone supports me".

We met only one participant during our collection who felt rejected by his family and friends. Since his hospitalisation (1 month and more), he was accompanied by only one person who is his sister, but the rest of his family did not visit him. He therefore states that (P110): "a lot of people, friends, even family have abandoned me here in the hospital, it really hurts, yet I have always been there for everyone, I am someone who helps everyone, and in the family everyone always turns to me! Only my sister takes care of me!

### **3.3. Integrating the Medical Dimension of VDPs2**

Evaluate the patient's knowledge about his disease: This is how P111 thinks that: For me, we should first evaluate the knowledge that the patient has about his disease, collect information about the history of the disease, the antecedents, his treatment, his diet, his lifestyle. And according to this information, we can give him education either to correct his mistakes, or to deepen his knowledge, or to make him acquire knowledge! It is important to find out about the patient's current knowledge in order to organise their education.

Collect the patient's biomedical data: This was confirmed by the participants: P111: For me it would be necessary first to evaluate the knowledge that the patient has about his disease, to collect information on the history of the disease, the antecedents, his treatment, his diet, his lifestyle. And according to this information, we can give him an education either to correct his mistakes, or to deepen his knowledge, or to make him acquire knowledge!" and P114: It is all of these elements that allow us at the end to discuss a diagnosis and to elaborate a management plan, and a therapeutic education framework for the patient.

## **4. Discussion**

### **4.1. Integration of the Anthropological Dimension of PVD2 in the Construction of the Educational Diagnosis**

According to the results of our research, the professionals in charge of TVE believe that in order to integrate cultural values, more specifically in the area of nutrition, the professional must first learn about the patient's culture, then learn about dietary habits, learn about dietary difficulties and investigate the behavior of patients in the environments in which they live, and finally adapt his or her nutrition education according to the previous information. These results corroborate with the recommendations of the national nutrition programme of Cote d'Ivoire: module 7 (Nutritional education) which states that health providers should know the dietary habits of the communities in which they work so as to be able to reinforce good habits and combat bad ones. To this end, they must learn about: the food customs of the populations in the region; the food practices of the populations in the region; the food availability in the region. They also need to know for each patient: their dietary behavior; their socio-economic characteristics in order to determine food accessibility [2]. Similarly, Ambomo and Essaga [3] state that the anthropological dimension in TVE will then allow these cultural factors and even the traditional therapeutic and culinary habits of the developing countries to be taken into consideration in order to better care for them (Ibid). As a result, the health personnel offer a fairly relevant framework for integrating the cultural values of the patients' diet during the education process. Similarly, according to Purnell, cultural competence means adapting care in a way that is congruent with the client's culture and nutrition is one of his 12 domains of culture [4].

After the interviews with our participants I, we notice that each patient is different on the ethnic point of view, we have the Béti, the Bamiléké, the Maka (East) and the Gbaya (North), and each ethnic group has its food culture! For example, a diet based on tubers (manioc, macabo, yams) and vegetables (folong, zom) for those in the centre and south (Béti). A diet based on meat (beef, bushmeat), fish for the people from the East (the Maka) and vegetables. A diet based on starchy foods and palm oil for the people from the West (Bamiléké) and the South-West (Bayangi): mashed potatoes, banana, koki, eru, ekwang, as well as peanuts and vegetables. A diet rich in cereals (sorghum and millet) and beef among the northerners (Foulbé): couscous made from maize, lots of tea, vegetables, beef and cereals. These results corroborate with the food surveys of the programme "Anthropologie Alimentaire des Populations Camerounaises" concerning the Yassa, Mvae and Bakola of the Campo region, the Koma and the Duupa of North Cameroon and include surveys of other programmes: the Eton of Evoudoula; the Massa of Yagoua and the town of Mbandjock The populations differ in their choice of staple foods (starchy foods and especially cassava in the southern zones, cereals in the northern zones). Within each zone the choice concerns the form in which these foods are consumed. Diets are based on fish (Yassa and Massa), game (Mvae and Bakota), or almost vegetarian (Duupa and Koma), or based on purchased meat and fish (Evoudoula, Awing, Mbandjock) [5]. It is therefore necessary to have knowledge (cultural competence) on the different Cameroonian food cultures in order to take into consideration the food culture of a patient during his therapeutic education,

which simplifies the patient's diet. According to the theorist, nutrition covers more than just access to enough food to satisfy hunger. The whole dimension of its meaning in culture, regular foods and rituals, nutritional deficiencies and dietary restrictions. Finally, the use of food in health promotion, disease prevention and health restoration has its place [4].

The results of our study on the integration of disease representations of PVD2, show that the ideal way to integrate the representations of PVD2 in the construction of the educational diagnosis is to push the patient to verbalise his representation, because it is impossible to act on a representation which is not known.

This corroborates with Robin-Quach's findings: This collection of care establishes rules for relating to patients from different cultures. It is necessary to: collect information on individual beliefs in the environment of people from different cultures; start from a cultural point of view to collect data on communication variables [6]. As well as those of Elodie who proved that: "Representations are constituted from our experiences, but also from the information, knowledge, models of thought that we receive and transmit through tradition, social communication. It is therefore a socially elaborated and shared knowledge. Whether it is a question of acute or chronic illnesses, medically unexplained syndromes or situations of social precariousness, the clinician is confronted with the unknown world of his or her patient, which he or she must try to understand" [7]. She also proposes a series of questions that will help understand the patient's representation:

*Table 1. Representation of PVD2.*

<b>Treatment:</b>	<b>do you think that the proposed treatment will help you?</b>
Identity	what are the main symptoms related to your illness?
Temporality	how long do you think your illness will last?
Treatment	do you think that the proposed treatment will help you?
Treatment	do you think that the proposed treatment will help you
Control	how much control do you have over your illness?
Emotions	do you feel emotionally affected by your illness? e.g. does the illness make you angry, scared, upset or depressed?
Cause	what do you attribute your illness to? have you identified one or more reasons for your illness?

With regard to the representations of PVD2, our results show us that people living with type 2 diabetes represent diabetes as a hereditary disease and others think that it is a fate, a generational punishment. These results corroborate with those of Simon [8] on Beliefs and representations of type 2 diabetes patients: a review of the literature. It shows that beliefs about the causes of diabetes are at the origin of different feelings among patients. Those who believe that their poor eating habits are the cause of their diabetes seem to feel guilty. Those who believe that heredity is the cause of their diabetes feel a sense of inevitability and sometimes injustice [8]. These results also corroborate those of Bernard [9] on the experience and mental representations of the disease in type 2 diabetics: a preliminary study. This study shows that some type 2 diabetic patients experience their illness as a punishment, a trial, a punishment for past excesses. It is therefore essential for the health professional

to understand the world in which the patient lives, to know what he or she knows in order to know how to proceed in order to make him or her acquire new knowledge [9]. Ambomo [10] in the same vein, believe that diabetes is a throwaway of multiple representations in several orders of knowledge such as magico-religious knowledge. This is the order of meta-social knowledge which has a strong presence in the African social imagination in general and Cameroonian in particular [10].

Each community (ethnic group, clan, village) has a body of knowledge and practices on health that is constantly enriched or challenged by experience and will lead to behaviours that seek to optimise the survival and well-being of the members of the community, according to its own rationalisations [11]. Concerning the integration of PVD2 practices and therapeutic remedies in the construction of the educational diagnosis, the results of our study show that

almost all our participants think that the ideal way to integrate PVD2 practices in the elaboration of the ED is to push the patient to verbalise what he/she had to do and/or what he/she does as a practice to improve his/her health condition, and what is practised in his/her culture in case of an illness such as his/her own, through dialogue. These results corroborate with those of Robin-Quach: This collection of care establishes rules for dealing with patients from different cultures. It is necessary to: collect information on beliefs, individual practices in the environment of people from different cultures; start from a cultural point of view to collect data on the variables of communication and dialogue. Similarly, according to Purnell, practices are one of the 12 domains of the patient's culture that must be taken into account during care [4].

Our interviews with patients show us that individuals create mental representations of their illness from the concrete and abstract sources of information available (personality, childhood, experience, surrounding culture). The aim is to make sense of the event and to manage the situation. And from these mental representations, the patient seeks the possibility of controlling or curing the disease. This control can concern the effectiveness of the proposed treatment or the actions of the subject himself on his illness. This can be done either by consuming decoctions prescribed by marabouts and traditional practitioners, or by religious means: prayer, or by modern medicine. These results corroborate those of Simon [8], who shows that several articles concern studies carried out on populations where traditional and alternative medicine have an important place.

The results of our study show us that, in order to integrate the recourse and therapeutic itineraries of PVDs2 in the development of the ED, it would be necessary to be sure to have all the information on their therapeutic pathway in order to know how to plan an education on the subject. Patients in the quest for recovery try several therapies. The results of our research show that they try either self-medication, a modern health care facility or a traditional practitioner.

These results are in line with those of Nguendo, who shows three main routes were identified: self-medication, recourse to a modern health care structure, and recourse to the service of a traditional practitioner [12]. This knowledge is therefore crucial for the professional. Similarly, Ambomo and Essaga [3] state that the anthropological dimension in TVE will then make it possible to take into account these cultural factors and even the traditional therapeutic and culinary habits of developing countries in order to better care for them [3]. Similarly Purnell states that many societies practice a combination of health care and some of them favour traditional, folk and magic-religious care over biomedical care. Furthermore, the majority add acupuncture, massage and other traditional treatments in addition to herbal therapies and a ceremonial of dances and songs [4].

#### **4.2. Integration of the Social Dimension of PVD2 in the Construction of the Educational Diagnosis**

According to the results of our research, professionals in

charge of TVE think that in order to integrate the economic level of people living with type 2 diabetes, it would be necessary to find out about the economic situation of the patient (source of income, family support, insurance) because in our context (low and middle income countries), chronic non-communicable diseases such as diabetes increase the financial burden. And in our country, most of the time it is the patients who take care of themselves financially. It is therefore the responsibility of the health professional to take into account the income level of the patient for possible therapeutic education. These results are in line with those of Zakia Pareau [13] who shows that the socio-economic determinants in the management of diabetic patients are: access to medical coverage and economic accessibility to health care. It is therefore a necessity for health personnel to have this information to adapt and individualise educational care according to the uniqueness of the patient.

Type 2 diabetes has negative physical, psychological and social repercussions on the person affected, and is responsible for significant economic losses for diabetics and their families, due to medical costs. A study on the barriers to good care of diabetics in the first line structures of the province of Khouribga in Morocco showed that the main barriers to correct care of patients were the low socio-economic status of patients (94%), their low level of education (86%), and the lack of means of treatment and follow-up (80%).

Regarding the economic level of our participants, the results of our study showed that some have limited income and really feel the difficulty of adapting to the cost of the disease, a medium income and manage to provide for the needs required for treatment and feeding, and others have no income but receive family support and therefore depend entirely on their family. These results are in line with Soyeux [14] who testifies that the costs of monitoring and treating diabetes are very high both for the medical teams and for the patients, in countries where there is often no social security coverage [14]. The IDF estimates that the annual global health expenditure on diabetes is USD 760 billion. These direct costs are expected to reach USD 825 billion by 2030 and USD 845 billion by 2045 [15]. In the same vein, Nkoum [16] reports that non-communicable diseases such as diabetes and its complications involve huge costs and lengthy treatments, with inadequate support in particular and the absence of a social support network in general, which in some African countries would be a source of endemic poverty and thus a gateway to significant underdevelopment. In the same vein, WHO [17] reports that due to their morbidity and mortality, chronic diseases such as diabetes and its complications constitute a heavy economic burden, which has a negative impact on the global economy in general and that of a country in particular.

Taking into account the family environment in therapeutic education is an important part of its management. In our interviews with health professionals, the results we obtained tell us that we should find out about the person's interactions with the members of his/her family (peaceful or conflictual):

who he/she lives with, what is the relationship between them, does the family even know about the patient's condition, what is the family's approach to the patient's illness, is he/she supported psychologically. These results are in line with those of Annabelle [18], who shows that interventions with the patient should also target the family. Helping the family to understand the disease reduces stress and conflict. By being better informed, the family can encourage the patient and understand their efforts. Thus, family support and involvement promotes glycaemic control [18]. Hu and al. [19] raise the need to include the family in educational interventions as they can provide emotional and psychological support to the patient.

This emphasises the importance of holistic care and helps to strengthen the cohesion of the family unit [19].

The results of our interviews with people living with diabetes show that some are supported by their families and others are rejected or left to fend for themselves especially during hospitalizations. In most studies, there was a negative correlation between family stress and patients' glycaemic control. Good family functioning was strongly related to good glycaemic control of patients, while family conflict was associated with poor glycaemic control [20]. It is in the same sense that Paquette-Desjardins and colleagues state that in practice, professionals take into account the resources of the patient and his or her family. Indeed, "the family and the environment predispose or reinforce health behaviours or, on the contrary, weaken them" [21]. This demonstrates once again the importance of family support and involvement in the management of the disease. Furthermore, Garbacz et al [22], highlight the importance of therapeutic education in the management of chronic diseases. The results show that support and engagement are important elements for therapeutic adherence. Therefore, if the family or significant other is involved in therapeutic education, adherence will be enhanced [23]. Not only do Mayberry & Osborn [24] emphasise support, but they also place importance on the knowledge of the relatives about the disease. Indeed, the family caregiver must be effective in caring for the patient's illness [25]. This care can cause significant stress in the exercise of their role. This means that the patient's illness has impacts on the health of the carer. Therefore, patient adherence is important for their survival. Thus, family caregivers must also maintain their health and it is important to empower them to act effectively in order to prevent burn-out and reduce the burden. In order to do this, the nurse must constantly assess their abilities and resources in order to support them in this process.

#### **4.3. Integration of the Medical Dimension of PVD2 in the Construction of the Educational Diagnosis**

The bioclinical dimension to be explored is a synthesis of the essential data to appreciate the functional impact of the disease and its treatments on daily life: disabilities related to complications, types of treatments and risks, intake schedules, associated pathologies. According to the results of our research, professionals in charge of TVE believe that in order

to integrate the medical data of people living with type 2 diabetes in the elaboration of the educational diagnosis, it would be necessary to first collect the patient's biomedical data as well as his or her experiences with the disease, and then to assess the patient's knowledge of his or her disease. These results are in line with those of Traynard [26] who believes that it is imperative to encourage patients to express their experiences of their illness and the difficulties they have in adapting their treatment in their daily lives; to collect precise information in order to plan educational activities that correspond to the reality of the patient's life (adaptive education strategy); all educational diagnoses include an assessment dimension. It occurs when the carer-educator makes an assessment of what the patient says, by comparing, sometimes unconsciously, his/her own knowledge (scientific, medical) with the patient's lay knowledge. There is a risk of a hasty, normative interpretation, which can go as far as denying what the patient is saying. It is in fact a question of trying to understand in detail and precisely the behaviours adopted by the patients, in an approach that favours permanent feedback. The patient is the subject of the assessment and is involved in the process. It is then an aid to self-determination in the face of their situation.

Type 2 diabetes is a disease for which there is currently no cure. Like any chronic disease, the patient will have to deal with it on a daily basis. In our interviews with patients, it was clear that the daily experience of the disease is not easy. Most of them complained of fatigue, loss of feeling in the lower limbs, polyuria, sexual weakness.

There were some who were already manifesting complications such as arteriopathy, neuropathy and infection that resulted in diabetic foot. Through these data we can see that their quality of life is altered as they experience the manifestations of the disease on a daily basis. This is in line with the IDF, which stresses that type 2 diabetes is a chronic disease whose evolution is marked by the occurrence of degenerative complications. Their consequences can have a major impact on patients' quality of life [27]. As regards adaptation to the onset of the signs of the disease for the participants, all of them say that they can bear and adapt to the onset of the manifestations. Let's illustrate this with the words of PI2: "hummm my life is a bible eh! The Lord helps me a lot, I have testimonies every day and by his grace I manage to adapt". Adaptation being the process and outcome by which individuals, thinking and experiencing emotions, use consciousness and choice to create human and environmental integration [28].

Dietary health measures play a key role in controlling glycaemic imbalance and cardiovascular complications in diabetes. There is a well-defined set of dietary guidelines and drug treatments for this condition defined by the medical profession [15]. With regard to the diet of people living with type 2 diabetes, our results show that people with type 2 diabetes do not respect their diet either because of a lack of financial means, a lack of willpower or a lack of time. These studies corroborate those of Coulibaly [29] who identified certain difficulties of factors favouring the non-respect of the



diabetic diet: the fact of not participating in educational sessions' the fact of not consulting one's dietitian' the fact of eating at any time' the lack of education' poverty. Most diabetics in the Diocesan Health Centre live in poverty; these socio-economic characteristics do not predispose them to a good diet. The health expenses incurred in the purchase of food take up a large part of the household income because diabetes is a long, chronic, incurable disease and the diet continues until the patient dies. Thus, as this work is far from being completed, because verbalising one's experience is also necessary for an effective diagnosis educational and it is the first step to propose an educational process making sense for the patient [29]. We open the door to other researchers interested in this theme to broaden this field of research on the factors that encourage non-compliance with the diabetic diet [30].

## 5. Conclusion

In the interest of contextualised therapeutic education for people living with type 2 diabetes, we propose an integration of the anthroposocial-medical approach in the construction of a therapeutic education programme for people living with type 2 diabetes. Furthermore, this work will serve as a basis for the development of a therapeutic education programme for diabetic patients according to the anthroposocial-medical approach. Similarly, in order for these people to self-manage and observe an improvement in their quality of life, we hope that other studies will be carried out on the factors favouring therapeutic non-compliance by people living with T2DM in an anthroposocial-medical approach.

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