

REPUBLIQUE DU CAMEROUN  
*Paix – Travail – Patrie*

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MINISTERE DE L'ENSEIGNEMENT  
SUPERIEUR

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UNIVERSITE DE YAOUNDE I  
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FACULTE DE MEDECINE ET DES  
SCIENCES BIOMEDICALES

DEPARTEMENT DE SANTE PUBLIQUE



REPUBLIC OF CAMEROON  
*Peace – Work – Fatherland*

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MINISTRY OF HIGHER  
EDUCATION

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THE UNIVERSITY OF YAOUNDE I  
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FACULTY OF MEDECINE AND  
BIOMEDICAL SCIENCES

DEPARTEMENT OF PUBLIC HEALTH

**Assessment of patient satisfaction with  
oral healthcare at the Biyemassi District  
Hospital**

Thesis Submitted in Partial Fulfilment of the Requirements for the Degree of Doctor in Dental  
Medicine by:

**FONYUY Michael Wolani**

Mat N° 15M164

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Professor  
*Medical Anthropology*

**Co-directors**

Dr MBEDE NGA MVONDO Rose  
Assistant-lecturer  
*Dental medicine*



*Academic year 2021-2022*

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*Academic year 2021-2022*

*Preliminaries*

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# **THANKSGIVING PRELIMINARIES**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*

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## **THANKSGIVING DEDICATION**

To our dear uncle and aunt:

*SHUDZEKA Wolani Etiene  
and BOOBONGHA Fasin Ester*

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## THANKSGIVING APPRECIATIONS

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[To all who impacted our progress in one way or the other, we express our](#) sincere gratitude.



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215	MBONO SAMBA ELOUMBA Esther Astrid	L	Biochemistry
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<b>DEPARTMENT OF PHARMACOLOGY AND TRADITIONAL MEDICINE</b>			
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228	EDOUMA BOHIMBO Jacques Gérard	L	Surgery / stomatology
229	LOWE NANTCHOUANG Jacqueline Michèle épouse ABISSEGUE	L	Pediatric dentistry
230	Jules Julien NDJOH	L	Dental Surgery
231	MBEDE NGA MVONDO Rose	L	Dental medicine
232	MENGONG épouse MONEBOULOU Hortense	L	Pediatric dentistry
233	NIBEYE Yannick Carine Brice	L	Bacteriology
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237	GUEDJE Nicole Marie	AP	Ethnopharmacology/Plant Biology
238	BAYAGA Hervé Narcisse	L	Pharmacy
<b>DEPARTMENT OF PHARMACOTOXICOLOGY AND PHARMACOKINETICS</b>			
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240	MPONDO MPONDO Emmanuel	P	P Pharmacy
241	TEMBE Estella épse FOKUNANG	AP	Clinical pharmacology
242	TABI OMGBA	SL	Pharmacy
243	NENE AHIDJO épouse NJITUNG TEM	L	Neuro-pharmacology
<b>DEPARTMENT OF GALENICAL PHARMACY AND PHARMACEUTICAL LEGISLATION</b>			
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246	SOPPO LOBE Charlotte Vanessa	SL	Quality Control of Drugs
247	MINYEM NGOMBI Aude Périne épouse AFUH	L	Pharmaceutical Regulations
248	NYANGONO NDONGO Martin	L	Pharmacy

**KEY**

- **HOD**= Head of Department
- **P**= Professor
- **AP**= Associate Professor
- **SL**= Senior Lecturer
- **L**= Lecturer

Declaration of Geneva adopted by the 2<sup>nd</sup> General Assembly of the World Medical Association, Geneva, 1948 et revised in October 2017 :

*« As a member of the medical profession, I solemnly pledge to dedicate my life to the service of humanity;*

*The health and well-being of my patient will be my first consideration;*

*I will respect the autonomy and dignity of my patient;*

*I will maintain the utmost respect for human life;*

*I will not permit considerations of age, disease or disability, creed, ethnic origin, gender, nationality, political affiliation, race, sexual orientation, social standing, social standing, or any other to intervene between my duty and my*

## THANKSGIVING ABSTRACT

**BACKGROUND:** Patient satisfaction plays an important role in patient adherence, both to dental treatment and to treatment recommendations proposed by oral health professionals. As such, can lead to the success or the failure of a dental practice is affected depending on whether the patients are satisfied or not with services offered.

**OBJECTIVES:** Assess patient satisfaction with oral healthcare offers on the basis of accessibility, environment and care quality in two District Hospitals in Yaounde.

**METHODS:** To attain this objective, a descriptive cross-sectional study was conducted among patients visiting the Biyem-Assi (BA) and Cite Verte (CV) District Hospitals in the Year 2021-2022. Their level of satisfaction was assessed using an administered questionnaire derived from the Dental Satisfaction Questionnaire (DSQ) and the Service Quality Questionnaire (SERVQUAL). Data analysis was done with the use of the statistical package for social sciences (SPSSspss) version 25. The mean was used for quantitative data and the Likert scale was used to assess qualitative variables. Results with p-value less than 5% were considered significant following a multivariate analysis using the Chi-squared test.

**RESULTS:** Following data collection, 200 participants were included in the study with a sex ratio of 2.4 and a mean age of  $27 \pm 9$  years. The age range from 29 years to 39 years was the most represented (40%), as well the grassfield cultural area (41.5%). The literacy rate in this study was high, given that 73.5% of participants had attended the university. A majority of participants spent about 46 minutes of transport time and rated treatment cost as high (41%). Most participants (66% at BA and 69% at CV) were satisfied with access to oral healthcare. Eighty five percent of participants rated waiting rooms as comfortable, 88% reported a tidy hospital environment. Most participants (74%) of participants were satisfied with the health environment in BA, and 42% were satisfied in CV. The main reason reported for dissatisfaction with the environment was lack of intimacy (60%). Waiting times between 60 minutes and 300 minutes were reported by 44% of participants. Services were considered to be in line with participants' needs at 96%. 85.5% of participants thought of that the staff is dependable, 75% strongly agreed that treatments received were effective, 45% reported an average service provision time, 81.5% reported that treatment information was always given and 70.5% that the staff is always willing to help in time of need. Most participants were satisfied with the quality of care received (98% at B.A and 92% at CV). Average satisfaction ratings of 3.34 (sd  $\pm$  0.77), 3.46 (sd  $\pm$  0.63) and 3.89 (sd  $\pm$  0.515) out of 5 were obtained in the dimensions of accessibility,



*Preliminaries*

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environment and care quality respectively. A global satisfaction rating of 3.55 was recorded. Participant satisfaction was significantly linked to education ( $p=0.000$ ).

**CONCLUSION:** Patient satisfaction with oral healthcare offers at BA and CV is high in general. Complaints on the non respect of patient intimacy, long ~~and~~ waiting times and high costs were the most recorded ~~long waiting hours~~. Strategies should be put in place to reduce waiting time and the environment improved to address the problem of compromised patient intimacy.

**KEYWORDS:** Patient satisfaction, Oral healthcare, Yaounde-Cameroon.

## THANKSGIVING RESUME

**CONTEXTE** : la satisfaction des patients joue un rôle majeur dans [leur](#) l'adhésion-[du patient](#), tant aux soins dentaires qu'aux recommandations de traitement proposées par les professionnels de santé. Cela peut mener au succès ou à l'échec d'un cabinet dentaire selon que les patients sont satisfaits ou pas des services offerts.

**OBJECTIFS** : Évaluer la satisfaction des patients vis-à-vis des offres de soins bucco-dentaires sur la base de l'accessibilité, l'environnement et la qualité des soins dans deux Hôpitaux de District à Yaoundé.

**METHODOLOGIE** : Pour atteindre cet objectif, une étude transversale descriptive a été menée auprès des patients fréquentant les Hôpitaux de District Biyem-Assi (BA) et de la Cité Verte (CV) au cours de l'année 2021-2022. Le niveau de satisfaction a été évalué à l'aide d'un questionnaire administré. Les données recueillies ont été analysées à l'aide du Statistical Package for Social Sciences ([SPSS](#)) [dans sa](#) version 25.0. La moyenne a été utilisée pour les variables quantitatives et l'échelle de Likert a été utilisée pour évaluer les variables qualitatives. Les résultats avec une valeur-p inférieure à 5 % ont été considérés comme significatifs à la suite d'une analyse multivarié.

**RESULTATS** : Suite au recueil des données, 200 participants ont été inclus dans l'étude avec un sex ratio de 2,4 et un âge moyen de  $27 \pm 9$  ans. La tranche d'âge de 29 ans à 39 ans était la plus représentée (40 %), ainsi que l'aire culturelle grassfields (41,5 %). Le taux d'alphabétisation dans cette étude était élevé, étant donné que 73,5 % des participants avaient fréquenté l'université. Une majorité de participants ont passé environ 46 minutes de temps de transport et ont évalué le coût du traitement comme élevé (41 %). La plupart des participants (66 % à BA et 69 % à CV) étaient satisfaits de l'accès aux soins bucco-dentaires. Quarante-vingt-cinq pour cent des participants ont qualifié les salles d'attente de confortables, 88 % ont signalé un environnement hospitalier bien rangé. La plupart des participants (74 %) étaient satisfaits de l'environnement de santé en BA et 42 % en CV. Le principal motif d'insatisfaction à l'égard de l'environnement était le manque d'intimité (60 %). Des temps d'attente entre 60 minutes et 300 minutes ont été signalés par 44 % des participants. Les services ont été jugés conformes aux besoins des participants à 96 %. 85,5 % des participants pensent que le personnel est fiable, 75 % sont tout à fait d'accord pour dire que les traitements reçus sont efficaces, 45 % déclarent un temps de prestation de service moyen, 81,5 % déclarent que les informations sur le traitement sont toujours données et 70,5 % que le personnel est toujours disposé à aide en cas

## *Preliminaries*

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de besoin. La plupart des participants étaient satisfaits de la qualité des soins reçus (98 % au B.A et 92 % au CV). Des notes moyennes de satisfaction de 3,34 (SD  $\pm$  0,77), 3,46 (SD  $\pm$  0,63) et 3,89 (SD  $\pm$  0,515) sur 5 ont été obtenues respectivement dans les dimensions d'accessibilité, d'environnement et de qualité des soins. Une note de satisfaction globale de 3,55 a été enregistrée. La satisfaction des participants était significativement liée à l'éducation ( $p = 0,000$ ).

**CONCLUSION** : La satisfaction des patients vis-à-vis des offres de soins bucco-dentaires à BA et à la CV est généralement élevée. Les plaintes concernant le non-respect de l'intimité du patient, les longs délais d'attente et les coûts élevés étaient les plus enregistrées. Des stratégies devraient être mises en place pour réduire le temps d'attente et l'environnement amélioré pour résoudre le problème de l'intimité compromise.

**MOTS CLES** : Satisfaction des patients, Soins buccodentaires, Yaoundé-Cameroun.

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**WHO** :World Health Organisation

**PSQ** :Patient Satisfaction Questionnaire

**DVSS** :Dental Visit Satisfaction Questionnaire

**DSQ** :Dental satisfaction questionnaire

**SI** :Satisfaction Index

**BDHS** :Biyem-Assi District Hospital

**CVDH** :Cite Verte District Hospital

**DH** :District Hospital

**PS** :Percieved satisfaction

**ES** :Estimated satisfaction

**BA** :Biyem-Assi

**CYT** :Cite Verte

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Introduction

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# INTRODUCTION

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*



Oral health refers to a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing (WHO, 2021). Due to the prevalence of oral pathologies, patients are for one reason or the other prompted to meet a dentist or a dental health assistant. Depending on patient expectations, this interaction might end in the patient either being satisfied or not. The WHO states that oral pathologies affect about 3.5 billion people world wide. The majority being dental caries at a prevalence ranging from 60% – 90% in (children and adults), and parodontal diseases at a prevalence ranging from 68% – 70% in Africa [1]. A study conducted by the Cameroonian association of dentists in 2017 revealed that 98% of the population is attained by periodontal diseases and 91% of children ranging from 6 years – 12 years suffer from dental caries. The same study, further concluded that the most part of the Cameroonian population suffers from gingivitis and oral cancers [2]. This epidemiologic occurrences bring about a public health problem that needs to be solved by satisfying the patients.

Patient satisfaction with healthcare has in the recent years gained widespread recognition as a measure of quality. This has arisen partly due to the need for greater involvement of the patient in decisions involving healthcare. Furthermore, the link between patient satisfaction and compliance in areas such as appointment keeping, intentions to comply with recommended treatment and medication use is not to be neglected [3]. In the dental field, patient satisfaction can help in locating the strength and weaknesses ~~-aspects~~ of a dental practice, thereby helping in elevating the quality of treatment and better future planning. It is a multifactorial concept that takes into consideration several features such as techniques, functions, infrastructure, interactions, and the environment [4]. The significance of patient satisfaction is seen in the fact that it is increasingly becoming an important indicator of the quality of dental care due partly, to the shift towards the consumer ethos in the past years. In fact, ~~the patients areis~~ considered ~~a~~-consumers of services, ~~given that and~~ more people want to have a say in issues relating their health, the health of their families and the freedom to choose within the care they receive[5]. Studies show that several dimensions of satisfaction, such as poor communication between dentist and patient, low confidence in the dentist, and dissatisfaction with quality and high fees are associated with poor compliance with dental recommendations, low utilization and/or termination of treatment[6].

It is admitted that patient satisfaction plays an important role both in the evaluation of healthcare quality and in patient adhesion to treatment. However, little is known about patient satisfaction to oral healthcare in Cameroon. Thus, the importance of conducting such a study to provide

## Introduction

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evidence for the present state of facts having as main objective to assess the level of patient satisfaction specifically, within the dimensions of (i) accessibility, (ii) care environment and (iii) quality of care administered in two District Hospitals in Yaoundé.

### Context and justification

Patient satisfaction in our dental departments is not considered one of the most important aspects of healthcare. This can be seen in the level of communication that exists between the patient and their physician, and the quality of oral healthcare offers presented to patients. Nevertheless, more research on the subject might draw attention to the stakes it holds and perhaps help in the improvement of patient experience and on the quality of healthcare, given that little is known about patient satisfaction with oral healthcare offers in cameroon. Hence the present study which aims at evaluating patient satisfaction from three dimensions: accessibility, reception and service quality.

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| Context and justification

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## **CHAPTER I : RESEARCH FRAMEWORK**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*

### **I.1- JUSTIFICATION**

It is admitted that patient satisfaction plays an important role both in the evaluation of healthcare quality and in patient adhesion to treatment. However, little is known about patient satisfaction to oral healthcare in Cameroon. Thus, the importance of conducting such a study, so as to provide evidence of the present state facts in the dental departments of two district hospitals in Yaounde.

### **I.2- RESEARCH QUESTION**

What is the level of patient satisfaction to oral healthcare at Biyem-Assi and Cite Verte district Hospitals?

### **I.3- HYPOTHESE**

Although treatment quality and physical accessibility to oral healthcare is good, treatment cost and waiting time contribute to a moderate satisfaction level at the Biyem-Assi and Cite Verte district hospitals.

### **I.4- OBJECTIVES**

#### **General objective**

Assess patient satisfaction with oral healthcare in two district hospitals in Yaounde.

#### **Specific objectives**

1. Deducit the level of satisfaction of patients with respect to accessibility to healthcare.
2. Determine the level of satisfaction of patients as concerns the environment.
3. Measure the level of satisfaction of patients to the quality of healthcare offer.

### **I.5- RESEARCH INTEREST**

Patient satisfaction is an important concept both for the health facility and for the patients benefiting from the services provided by the health facility. This study will help in the provision of scientific information that might help the government and stake holders take decisions that would help improve patient conditions.

### I.6- CONCEPTUAL FRAMEWORK

This section is a presentation the essential concepts mention in the study, the relationship that exists between them, as well as the definition of technical terms [applied throughout this workms mentioned in the diagram.](#)

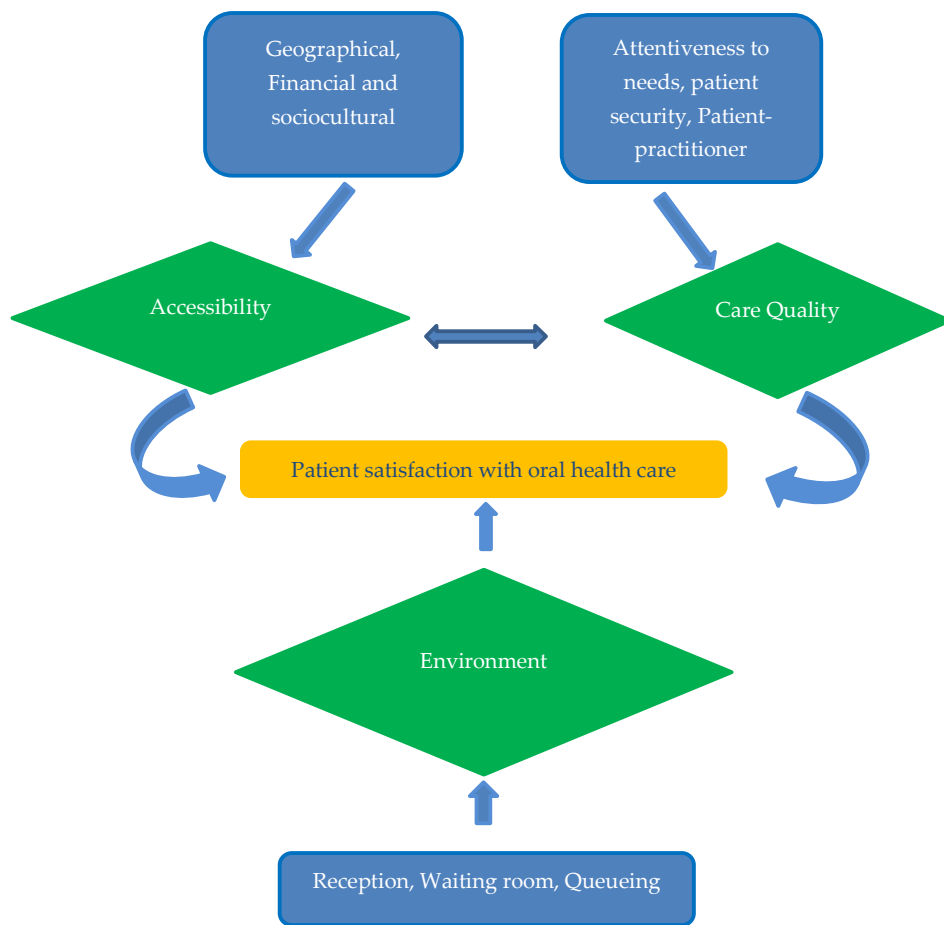


Figure 1: Conceptual framework

#### Operational terms:

**Accessibility:** The ease with which oral healthcare can be reached in the face of financial, geographical and emotional barriers [7].

### Context and justification

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**Care quality:** The degree to which oral health services for individuals and populations increase the likelihood of desired outcomes [8].

**Environment:**

It is the sum of elements, factors and conditions in the place of treatment. It may involve the geographical location as well as the immediate surroundings of the hospital [9].

**Waiting time:** waiting time has been defined as the time a patient spends in a facility from arrival at the registration desk until the time they leave the facility or receive the last service [10].

**Patient satisfaction:** The measure of the extent to which the patient is contented with the healthcare provided and their experience while using a health service [20].

### **I.7- THEORITICAL FRAME**

This study is in relation to dental medicine and public health. In dental medicine it is centered in odontology and in public health it covers social medicine.

| Literature review

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## **CHAPTER II : LITERATURE REVIEW**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*



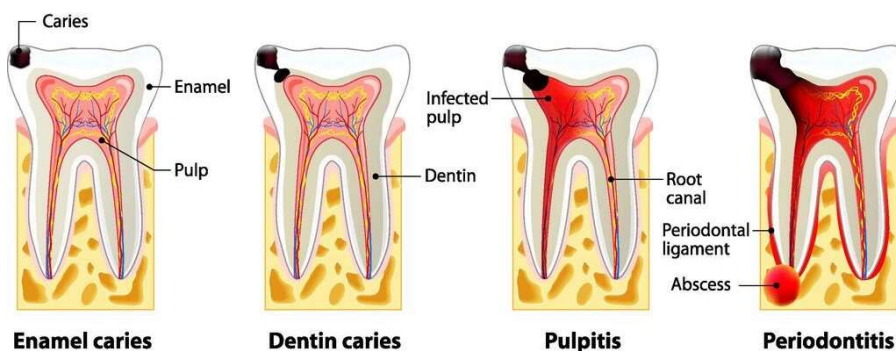
The following chapter is divided into two different sections. The first section [explores the epidemiologic aspects of is-centered-on-oral-health](#) oral pathologies and the second section [is centered on n-on patient satisfaction with oral healthcare.with-healthcare-services.](#)

## II.1- ORAL HEALTH

The world health organization (WHO) defines oral health as a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing [1]. Dental caries and periodontal diseases have been considered the most important global health burdens, with dental caries still being a major health problem in most industrialised countries [7].

The WHO states that oral pathologies affect about 3.5 billion people world wide. The majority being dental caries at a prevalence ranging from 60% – 90% in (children and adults), and parodontal diseases at a prevalence ranging from 68% – 70% in Africa [1]. A study conducted by the Cameroonian association of dentists in 2017 revealed that 98% of the population is attained by periodontal diseases and 91% of children ranging from 6 years – 12 years suffer from dental caries. The same study, further concluded that the most part of the Cameroonian population suffers from gingivitis and oral cancers [2].

Tooth decay is a bacterial infection that affects the calcified tissues of the tooth and causes dissolution of the organic component and demineralization of the inorganic portion. It is caused by bacterial and plaque deposition on the surface of the tooth. Frequent consumption of fermentable carbohydrates facilitates its progression, leading to cavitation of the tooth. Oral microbes such as *streptococcus mutans* metabolize fermentable carbohydrates and produce lactic acid, which lowers oral PH to a level where the minerals of the dentine and enamel dissolve easily [8]. The figure 1 belows show the progression of a carious lesion.



**Figure 2:** Stages in caries development [9]

Periodontal diseases comprising of gingivitis and periodontitis are common oral affections that affect the tissues that surround and support the teeth. It often presents as gingivitis, which is characterized by bleeding gums, swollen gums, pain, and when left untreated, may progress to periodontitis which involves the loss of periodontal attachment and supporting bone. According to the Global Burden of Disease Study in 2016, severe periodontal disease was the 11<sup>th</sup> most prevalent condition in the world [10].



**Figure 3:** Patient with plaque induce gengivitis [11]

The Global Burden of Disease Study in 2017 estimated that oral diseases affect 3.5 billion people worldwide. According to the International Agency of Research on Cancer, cancers of the lips and oral cavity are among the top 15 most common cancers worldwide, with nearly 180,000 deaths each year [12].

In African region, Oral cancers are among the most common non-communicable diseases (NCDs), and may affect people throughout their lifetime, causing pain, disfigurement, social isolation, distress, and even death. They share risk factors with leading NCDs, including tobacco use, harmful alcohol consumption and unhealthy diets, high sugars, all which are increasing in the region. In African, caries prevalence is high with 60% - 90% of children and adults affected. HIV infections are common with 40% - 50% of infected and up to 84% of patients with AIDs showing oral lesions like candidiasis [13].

## **II.2- PATIENT SATISFACTION TO ORAL HEALTHCARE**

Patient satisfaction with healthcare has in the recent years gained widespread recognition a measure of quality. This has occurred due to the need to involve patients in the healthcare process and the important link that exists between patient satisfaction and compliance in areas such as appointment keeping, intention to comply with treatment and medication use [14]. It is a key factor for improving the quality of healthcare [15], and greater satisfaction is associated

with adherence to doctor orders. For this reason, patient satisfaction evaluation has become part of a strategic process of healthcare organizations [16], essential for the growth and prosperity of any dental service or practice [17].

The concept of satisfaction may seem unproblematic but there is still no unifying definition of it. This is because satisfaction is considered a complex notion [18]. Far from being a feeling, it is the assessment of a feeling [19] and has been defined as the measure of the extent to which the patient is contented with the healthcare provided and their experience while using a health service. Satisfaction is an expression of the gap that exists between the expected and perceived characteristics of a service. Being an important measure of healthcare system performance and responsiveness, patient satisfaction also reflects the extent to which healthcare meets patient's expectations [20]. Satisfaction is influenced by a mixture of perceived need, patient's expectations, and experience of care. Literature on the subject, points out factors such as interpersonal care, physical environment, accessibility, and quality of care, whereas factors related to demography, health and psychological characteristics are variable and the association between them is weak [21]. In Iran in 2014, a study was conducted that found dimensions such as doctor-patient communication, care, convenience, cleanliness and cost to be closely related to patient satisfaction [22].

Another study conducted in Tehran in 2011 laid emphasis on access as having the most important association with overall satisfaction. Access is defined as the absence of undue financial limits or limits of time and distance in the acquisition of a healthcare service [23]. The disaggregation of access into broad dimensions, such as geographical, economical or social aspects, permits more operational measures through the study of specific determinants of access to care. Access to healthcare is a product of supply factors such as the location, availability, cost and appropriateness [24]. It can be evaluated from the dimensions of availability, accessibility and acceptability. The accessibility domain refers to the separation between the population and healthcare services, i.e. travel time. Availability can be considered as waiting time and acceptability is related to financial barriers and transportation problems. The use of healthcare is associated to accessibility, an is directly related to the satisfaction of patients [25]. The cost of care, predicting the overall satisfaction with access to health services might be related to the patient's insurance status and for employed people, the opportunity cost of taking time to see the provider, which is measured by a loss of hourly wages. Satisfaction with access could also be determined by organizational aspects such as obtaining a referral, the ease of obtaining appointments and the opportunity to be seen a doctor in the person's day of choice [23].

Physicians play an important role in patient satisfaction since they lead the healthcare team, offer diagnosis, treatment and communicate with the patient regularly [26]. It is the quality rather than the quantity of care that influences patient's satisfaction. Almost all encounters between the patient and the physician involve the exchange of information via communication and the evaluation of the quality of relationship is dependent on the quality of such communication. Communicating with patients gives the physician an opportunity to comfort patients and display empathy, which is one of the most important sources of satisfaction among patients [18]. Quality medical care is defined as the extent to which a patient's physiological functions have improve as a consequence of receiving medical services, or the ability to increase the probability of desired patient outcomes and decrease the probability of undesired outcomes [27]. Care quality could be measured based on the perception and evaluation of the patient [28]. The service providers technical competence as well as the immediate results from many treatments, is very difficult for a patient to evaluate [29]. The relationship between patient satisfaction and clinical outcomes remains unclear [17]. Some studies show that patient satisfaction correlates positively with clinical outcomes, while others show no correlation or an inverse correlation [26]. A systematic analysis concluded that poor patient healthcare quality was the primary factor contributing to an increasing number of fatalities [30].

Patient safety is not only a fundamental principle in of quality heightened in the health agenda, but also a human right. It is defined as the management of risk over time. Unsafe healthcare services lead to 134 million adverse events annually in low-, and middle-income countries, accounting for nearly 2.6 million death. The WHO therefore prioritizes patient safety as an avenue to improve the overall quality of healthcare [31].

Patient's satisfaction is influenced by the environment either directly or indirectly. A study conducted in 2016 found out overarching categories for patient satisfaction. The physical environment can be divided into the physical ambient environment and the interpersonal aspects of the care environment [32]. Waiting time is an important predictor of patient satisfaction. Increased waiting time changes the patient's perspective, resulting in disappointment or even loss of control. A prolonged waiting time increases excitement, unhappiness and encourages a growing concern over the psychological symptoms of the disease [33]. The physical environment of the hospital or clinic is critical to the quality of services provided and major determinant of satisfaction. Patients have the right to be cared for in clean and safe environment [34].

Data on satisfaction can be collected using a quantitative approach. Various quantitative questionnaires such as the Dental Satisfaction Questionnaire, the Dental Visit Satisfaction

Scale, The Scale for Measuring Consumer Perception of Service Quality and the Australian satisfaction scale have been developed to assess patients' satisfaction level [35]. There are considerable variations in the items and dimensions used by instruments that are present. This variability was related to the availability of questionnaire instruments in healthcare which lacked comparability and even reported a frequent absence of similar underlying dimensions. The relevant dimensions for this instrument in oral health were often adapted from pre-existing instruments in overall healthcare such as the medical satisfaction questionnaire and the medical interview satisfaction questionnaire [36].

### **II.3- STATE OF THE MATTER**

In developed countries patients are highly satisfied (90% – 95%) with healthcare provided while in developing countries, studies show that the patient satisfaction to healthcare ranges from 20% to 90% [20].

#### **In America**

In Brazil in 2019, a study was carried out on user satisfaction with oral health services in the Brazilian Unified Health System. The study population was made up of 37,262 participants, 65.51% were satisfied with oral health services. Ratings were higher among those above 20years old, beneficiaries of the Family Grant Program and lower among users with a high level of education and those who reported being employed. The same study further concluded that socio-economically disadvantaged user was more satisfied with oral health services and that satisfaction increased with age. The study stated that the quality of oral health services can result in greater satisfaction [37].

A study was conducted in 2016 in the United States on the effect of waiting times in dental offices on patient satisfaction and evaluation of patient-provider relations. Data was collected from 399 adult patients who came for regular scheduled visits to a dental school clinic. The patients ranged in age from 19 years to 93 years (mean = 52 years; SD= 16.9). This study found out that patients in the "early appointment" group were more satisfied, more likely to plan to follow their provider's recommendations and evaluated their relationship with their provider more positively than patients whose providers were not on time, while patients in the "late group" showed the most negative responses to all questions. Patients with higher education backgrounds were more negative in their responses when their providers were late [38]. Another study carried out in Iowa in the United States from 2014 to 2018 during which 10,956 patients took part used a thematic dictionary including 12 categories, developed from 48 working codes, and enabled the patient annotations to be grouped and sorted based on common themes that emerged from patient comments and included: satisfaction with emotional care felt during their

appointment, satisfaction with skills and treatment provided and the connections made with various personnel, the importance of establishing and maintaining patient expectations throughout their care and the high value patients place on clear communication with the patient, as well as the communication between departments, dental student and faculty, providers, and from desk. This study further concluded that these data provide insight into aspects of the dental experience that have a large effect on patient satisfaction [5].

### **In Asia**

In 2020 in Indonesia, a study was carried out on the assessment of patient satisfaction level to dental health care services. In this study, female participation was 72.8%, 74.6% of participants were less than 40 years, 21.1% were between 40 year to 60 years old and 4.4% were over 60 years old. Waiting time ( $p = 0.46$ ), distance to dentist ( $p = 0.026$ ) had a significant impact on patient satisfaction. There were significant values on interpersonal aspect subscale that were present at age ( $p = 0.016$ ), education ( $p = 0.038$ ) and occupation ( $p = 0.007$ ). The highest satisfaction was found in the technical quality subscale ( $4.11 \pm 1.75$ ). There was no significant difference between the value of patient satisfaction with age, education and occupation [39].

A study was conducted on in 2020 in Malaysia on patient satisfaction towards dentist-patient interaction among patients attending outpatient Dental Clinic Hospital University Sains Malaysia. The mean age of patients was  $32.6 \pm 13.9$  years, 71.6% of them had a tertiary level of education. 51.5% came for dental check-up and 23.6% of them had tooth decay. This study found out that 64.6% of patients were satisfied with patient-dentist relationship. Satisfaction with distress relief domain was 60.7%, 56.8% in the rapport domain and 53.7% in the interaction outcome domain. Patient satisfaction in this study was significantly associated with the dentist's characteristics such as age (OR = 0.563, 95% CI  $p = 0.001$ ), gender (OR = 0.386, 95% CI 0.22-0.69,  $p = 0.001$ ) and years of service (OR = 0.294, 95% CI 0.15 – 0.57,  $p = 0.001$ ) [40].

In Pakistan in 2014, a study was conducted on to determine the level of patients' satisfaction with dental care provided at Private Dental Hospital Peshawar. A total of 360 patients that had received or were receiving treatment, participated in the study. The overall estimate of factors related to satisfaction showed a mean percentage of 74.8% for the 4 disciplines of satisfaction, displaying a high level of satisfaction [41].

A study carried out in 2016 in Iran on non-clinical expectations of patients in an oral healthcare setup found out that "met expectations" included four subthemes consisting of "students and staff behaviors", "infection control", "fees", and "trust" in dental school clinics. "Unmet expectations" included seven subthemes consisting "length of reception process", "waiting

time”, “accessibility”, “explanation about treatment “procedures”, “facilities and equipment”, “working hours of the clinic” and “insurance coverage” [42].

In Kuwait in 2016, a study was conducted on patient satisfaction in Dental Healthcare Centers found out that respondents were generally satisfied, but internal differences were observed. They exhibited highest satisfaction with the dentists’ performance, followed by the dental assistants’ services, and the lowest satisfaction with the center’s physical appearance and accessibility. Female, participants with less than a bachelor’s degree, and younger individuals were more satisfied with the clinical and non-clinical dental services. The patient’s satisfaction with the dentists explained 42.6% of the overall satisfaction, whereas their satisfaction with the clinical setting explained 31.5% of the overall satisfaction [15].

#### **In Europe**

In Turkey in 2020, a study was carried out on the impact of patient satisfaction on patient commitment and the mediating role of patient trust. The study population was made up of 595 patients. During this study, it was demonstrated that patient satisfaction affects patient trust and commitment [4].

Assessing patient satisfaction has been mandatory since 1998 in all French hospitals [27]. In Germany, measuring patient satisfaction has been required since 2005 as an element of quality management reports. Since 2002 in England, the department of health launched a national survey program in which all NHS trusts must survey patient satisfaction on an annual basis and report the results to their regulators [36].

#### **In Africa**

A study was carried out in Tanzania in 2021 on patient satisfaction toward dental health services offered at Mnazi Mmoja dental clinic in Dar Es Salaam during which a total of 145 patients aged 18 years to 65 years constituted the study population. In study, there were more female respondents than males (53.1% versus 46.9%) and majority (62.1%) of the respondents were young adults (between 18 years and 35 years). Most respondents (93.4%) showed overall satisfaction with services offered. The level of education influenced the participant’s satisfaction. Patients with secondary or higher level of education (96.3% and 51.6% respectively) ( $p \leq 0.05$ ). The rest of social-demographic characteristics did not significantly influence patient’s satisfaction [43].

In 2014, a study during which 198 patients took part was carried out in Egypt. This study aimed at assessing patient satisfaction at dentists clinic in Zagazig University Hospitals. Most participants were satisfied with the items of time, condition and treatment provided except time in waiting area and fees. Only 22% and 9.19% of patients were satisfied respectively. More

than half (56.1%) of participants were satisfied with the services, 59.6% were willing to recommend the service to others and more than sixty percent of patients expected improvement in service (60.1%) [44].

A study conducted on factors affecting patient satisfaction at the Lagos state University Teaching Hospital Dental Clinic in 2013 found that the scores obtained for satisfaction with dental services ranged from 19 to 75 with a mean of  $55.30 \pm 11.55$ . The majority of respondents (87.4%) were satisfied with the services received. The items generating the highest and lowest mean satisfaction score were cleanliness/comfort of the facility and cost of services respectively. Long waiting time was the item respondents liked least about the services. There was statistically significant relationship between the items assessing communication and respondent's gender ( $p = 0.001$ ). The relationship between the overall satisfaction score and gender ( $p = 0.233$ ), age category ( $p = 0.842$ ) and educational status ( $p = 0.565$ ) were not statistically significant [45]. Another study was conducted on patient's waiting experiences and satisfaction with oral care delivery at two levels of care of in Ibandan during which 266 respondents participated. Mean age of  $36.3 \pm 17$  years was recorded. The waiting time at the Primary Oral Health Care Center (POHCC) and tertiary health centre (UCH) were  $11.5 \pm 17.0$  and  $102.3 \pm 47.3$  minutes respectively. Many (85.3%) were satisfied with the services offered by the dentist, 78.0% were comfortable while waiting to see the doctor. Patients attending the POHCC were more satisfied with the stage of dropping appointment cards but less satisfied with the stage of being called in to see the doctor (22.9%) and with the doctor (20.6%) compared with patients attending UCH (13.3%) ( $P < 0.005$ ) [46].

In Uganda, studies conducted show a range of 40% - 84.2% satisfaction rates [20]. In South Africa in 2014, a study shows an overall satisfaction of 80% [49].

#### **In Cameroon**

In 2018, a study was carried out on the reasons for late dental consultations at the Central Hospital of Yaounde. Two hundred patients made up of 55% of women and 45% men were recruited in the study. The age range was between 3 and 76 years with a mean age of 29 years. During this study it was noted that 96% of patients were satisfied with the dental treatment received [47]. The ministry of public health stated in 2011 that most Cameroonian healthcare users who can afford it seek medical care abroad. However, a study conducted in 2020 in Cameroon showed patient satisfaction rates of 85% [48].



*Research methodology*

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## **CHAPTER III : RESEARCH METHODOLOGY**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*

*Research methodology*

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### III.1- STUDY TYPE

Observational descriptive cross-sectional study.

### III.2- SITE

~~Biyem-Assi and Cité Verte District Hospital~~~~emassi District Hospital~~. This was to favor cosmopolitanness of the results. This was to favor cosmopolitanness of the results. Human resources at the dental department of the Biyem-Assi District Hospital comprise 4 permanent dental practitioners, 2 dental practitioners on internship, 1 chief nurse and 1 laboratory technician. The technical platform on the other hand is made up of two dental chairs, two composite polymerization lamps, an amalgamator, a scaling machine and an X-Ray machine. The dental department of the Cité Verte District Hospital counts 5 dental practitioners, each working a day in the week, with a technical platform constituted by 1 dental chair, a scaling machine and an amalgamator.

### III.3- DURATION / STUDY PERIOD

The study took place for a period of 9 months from September 2021 to May 2022.

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### III.4 STUDY POPULATION

#### • Target population

The population of Yaounde.

#### • Source population

All patients visiting the dental departments of the ~~hospitals of study~~~~Biyemassi District Hospital~~.

#### • Inclusion criteria

- Consenting patients aged 18 years and above.

#### • Exclusion Criteria

- Patients having not completed their questionnaire.

- Patients visiting ~~the the sites of study~~ for the first time.

### III.5- SAMPLING

The study sample was calculated using Schwatz's sample size calculation formula,  $n = Z^2 P(1-P) / d^2$

Where n is the sample size, Z is the statistic correspondence of level of confidence, p is expected prevalence and d is the precision.

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### Research methodology

Suppose  $Z= 1.96$ ,  $P= 5\%$  then  $d$  will be  $0.05/4$  which gives  $0.0125(0.01)$   
Then  $n=(1.96)^2 \times 0.53(1-0.53)/(0.5)^2$

$n = 384.14617024$  patients

This was rounded up to give a sample size of 400 patients

### III.6- DATA COLLECTION TOOL

This consisted of an administered questionnaire containing 3746 questions divided as follows: 7 questions on sociodemographic data, 9 questions on accessibility, 10 questions on the environment, 1127 questions on service quality and ended with patient recommendations. The questionnaire was pretested in Douala and it took about 20 minutes ~~to be completed to be filled~~. The pretest was followed by some modifications in the domains of sociodemographic data and care quality, ~~due to the redundant nature of some questions as participants found them redundant~~. This led to a reduction in administration time to about 17 minutes.

### III.7- PROCEDURE

- Ethical and administrative considerations

Validation of research protocols by thesis directors, after which ethical clearance was obtained from the institutional ethics and research committee of the Faculty of Medicine and Biomedical Sciences as well as from the Regional Delegation of Public Health.

- Data collection

It was carried out from Mondays to Fridays from 8AM to 4PM and sometimes to 6PM in the hospitals of study. Patients were sorted following their number of visits. Patients having above one visit were then check for inclusion criteria, after which eligible patients were informed about the study and their written consent taken. The researcher then made use of the waiting space to administer the study questionnaire, both parties being comfortably seated.

### III.8- DATA ANALYSIS

Data obtained was ~~then~~ incorporated into an input mask and analysed with SPSS version 26.0, then restuted in the form of frequencies, ~~and~~ means and standard deviations following the list of variables here after:-

- Socio-demographic data: age, sex, education, profession, cultural area
- Accessibility: Financial accessibility, Geographical accessibility, socio-cultural accessibility

| *Research methodology*

- Reception: chairs, cleanliness, level of comfort, waiting time
- Service quality: reliability, assurance, responsiveness, empathy

The likert scale, as well as the Chi-square test was used with a confidence interval level of 95% and a p-value of 0.05.

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## **CHAPTER IV : RESULTS**

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This chapter is a walk through the data collection process in the form of tables, histograms and pie-charts. It begins with the path followed for patient recruitment, followed by sociodemographic data, data on accessibility, the hospital environment, care quality and global satisfaction ratings respectively.

### I. RECRUITMENT

A response rate of 85.8% was recorded during this study. 100 participants were recruited from CVDH and the rest from the BADH, giving a total of 200 participants. This was done as illustrated in figure 4 below.

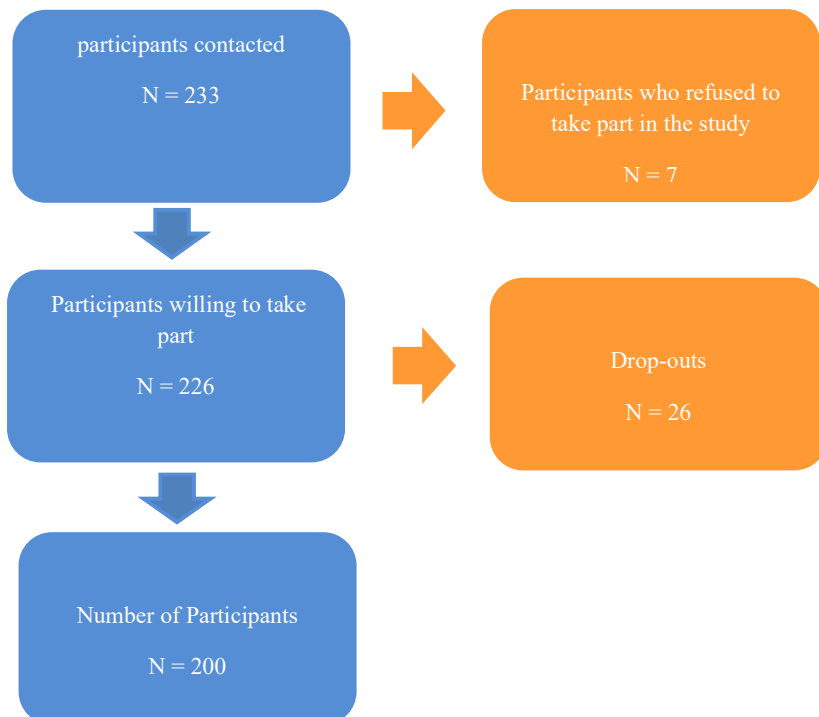


Figure 4: Recrutement diagram

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These participants varied in their socio-demographic data as shown below.

### I. SOCIODEMOGRAPHIC PROFILE

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The sex ratio in this study was 2:4. Ages ranged from 18 years to 72 years, with a mean age of 27 years and a standard deviation of  $\pm 9$  years. The remaining details are shown in the table I [here after below](#).

**Table I:** Sociodemographic data

Variable	Modality	Biyem-Assi n (%)	Cite Verte n(%)	Total n(%)
Age (years)	18-28	36 (36)	19 (19)	55 (27.5)
	29-39	33 (33)	47 (47)	80 (40)
	40-50	22 (22)	28 (28)	50 (25)
	51-61	0	6 (6)	6 (3)
	>62	9 (9)	0 (0)	18 (9)
Cultural area	Coast	9 (9)	8 (8)	17 (8.5)
	Forest	28 (28)	42 (42)	70 (35)
	Grass fields	52 (52)	31 (31)	83 (41.5)
	Sahel	6 (6)	11 (11)	17 (8.5)
	Savannah	5 (5)	8 (5)	13 (6.5)
Education	Illiterate	0	3 (3)	3 (1.5)
	Primary	1 (1)	0	1 (0.5)
	Secondary	9 (9)	6 (6)	15 (7.5)
	High school	17 (17)	17 (17)	34 (17)
	Tertiary	73 (73)	74 (74)	147 (73.5)
Profession	Jobless	1 (1)	8 (8)	9 (4.5)
	Private	30 (30)	33 (33)	63 (31.5)
	Public	20 (20)	27 (27)	47 (23.5)
	Retired	6 (6)	3 (3)	9 (4.5)
	Student	43 (43)	29 (29)	72 (36)

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Most participants (69%) were less than 40 years in age. 4% of those working in the public sector were from the medical field, implying an easy access to oral health services as shown below.

## I. ACCESSIBILITY

The accessibility domain refers to the separation between the population and healthcare services, i.e. travel time, transport means, treatment cost etc. The data collected is as shown in the table II below.

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Table II: Healthcare Access

Variable	Modality	Biyem- Assi n(%)	Cite Verte n(%)	Total n(%)
<b>Transport means</b>	Taxi	52 (52)	56 (56)	108 (54)
	Bike	24 (24)	25 (25)	49 (24.5)
	Personal vehicle	13 (13)	16 (16)	29 (14.5)
	On foot	11 (11)	3 (3)	14 (7)
<b>Transport time(minutes)</b>	< 15	12 (12)	3 (3)	15 (7.5)
	15-30	66 (66)	55 (55)	121 (60.5)
	31-45	8 (8)	14 (14)	22 (11)
	47-60	6 (6)	17 (17)	23 (11.5)
	>60	7 (7)	3 (3)	10 (5)
	I don't know	1 (1)	8 (8)	9 (4.5)
<b>Consultation cost</b>	Low	0	3 (3)	3 (1.5)
	Moderate	63 (63)	61 (61)	124 (62)
	High	26 (26)	22 (22)	48 (24)
	Too high	4 (4)	8 (8)	12 (6)
	I don't know	7 (7)	6 (6)	13 (6.5)
<b>Treatment cost</b>	Moderate	41 (41)	50 (50)	91 (45.5)
	High	48 (48)	34 (34)	82 (41)
	Too high	4 (4)	8 (8)	12 (6)
	I don't know	7 (7)	8 (8)	15 (7.5)
<b>Medication cost</b>	Low	2 (2)	0	2 (1)
	Moderate	71 (71)	66 (66)	137 (68.5)
	High	11 (11)	6 (6)	17 (8.5)
	Too high	1 (1)	0	1 (0.5)
	I don't know	15 (15)	28 (28)	43 (21.5)

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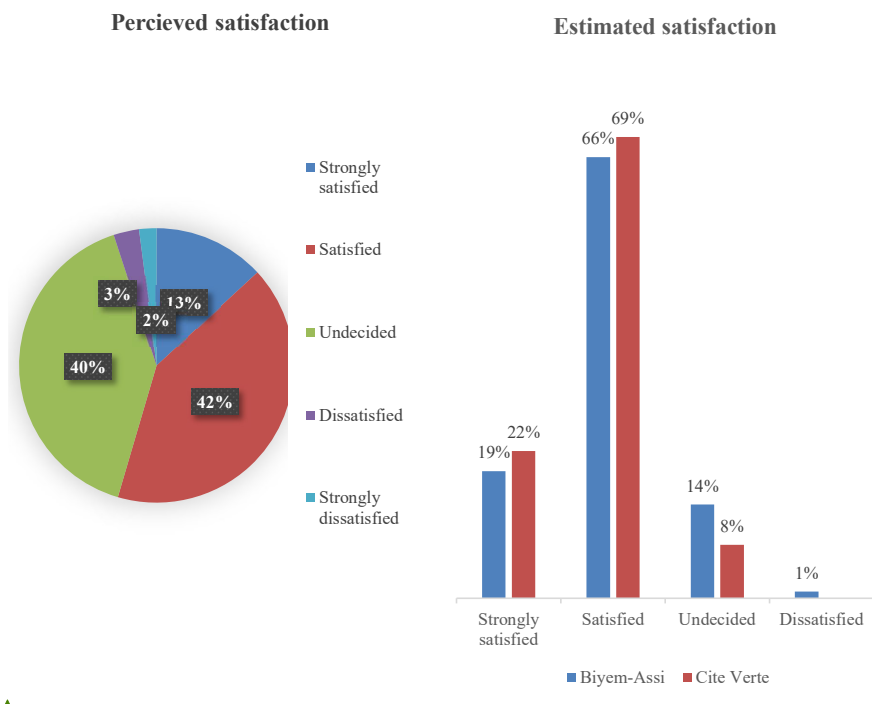
A majority (71%) of participants spent ~~15 minutes to~~ about 46 minutes of transport time ~~to access the different hospitals.~~ However, ~~Most participants reported an~~ equitable treatment of patients ~~was reported~~ in both hospitals (93% and 100% for **Biyem- Assi BA** and **Cite Verte CV** respectively). Discrepancies between perceived and estimated satisfaction ratings are shown in figure 5 below.

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Figure 5: Accessibility ratings

Accessibility ratings represent the extent to which patients are satisfied with access to dental services. The percentage of participants with high perceived accessibility ratings was 55% whereas high estimated accessibility ratings of 85% and 91% were recorded in Biyem-Assi-BA and Cite VerteCV respectively. These patients were influenced by the hospital-environment setting as follows as shown below.

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**4.3.3. ENVIRONMENT**

Waiting time is an important predictor of patient satisfaction as far as the environment is concerned. Increased waiting time changes the patient's perspective, resulting in disappointment or even loss of control. The different domains assessed in the environment are shown in table III below.

**Table III:** Environment setting

Variable	Modality	Biyem- Assi n(%)	Cite Verte n(%)	Total n(%)
<b>Accessible reception</b>	Yes	95 (95)	97 (97)	192 (96)
<b>Waiting room</b>	Comfortable	85 (85)	61 (61)	146 (73)
<b>Tidiness</b>	Not tidy	5 (5)	6 (6)	11 (5.5)
	Tidy	84 (84)	91 (91)	175 (87.5)
	Very Tidy	9 (9)	3 (3)	12 (6)
	I don't know	2 (2)	0	2 (1)
<b>Convenience</b>	Yes	79 (79)	69 (69)	148 (74)
<b>Explanation if no</b>	Too crowded	7 (7)	8 (8)	15 (7.5)
	No chairs	2 (2)	0	2 (1)
	Too noisy	1 (1)	0	1 (0.5)
	Lack of sufficient shelter	2 (2)	0	2 (1)
	Patient intimacy not respected	8 (8)	22 (22)	30 (15)
<b>Waiting time</b>	< 15 minutes	4 (4)	3 (3)	7 (3.5)
	16-30minutes	30 (30)	17 (17)	47 (23.5)
	31minutes – 1hour	31 (31)	22 (22)	53 (26.5)
	>1 hour	33 (33)	55 (55)	88 (44)
	I don't know	2 (2)	3 (3)	5 (2.5)
<b>Data entry speed</b>	Slow	6 (6)	8 (8)	14 (7)
	Average	41 (41)	22 (22)	63 (31.5)
	Fast	44 (44)	36 (36)	80 (40)
	I don't know	9 (9)	33 (33)	132 (66)

The reception is one of the most important [compartments,blees](#) both for the hospital and for [the](#) patients. Majority of participants (86%) thought of the reception as being [identi](#)fiabile where as 44% reported waiting times ranging from 60 minutes to 300 minutes. Few (27%) participants thought of the waiting room as being uncomfortable and 26% of them were inconvenienced by the environment. These ratings were computed for global environment ratings and compared to perceived environment ratings. This is shown on figure 6.

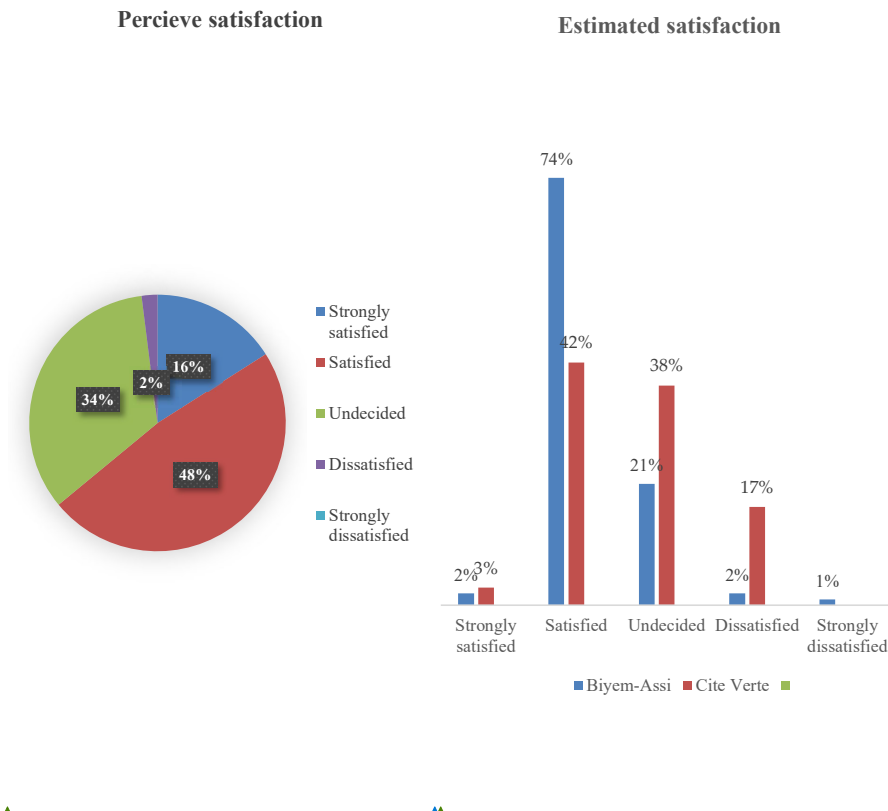


Figure 6: Satisfaction with respect to the hospital environment

Perceive environment satisfaction ratings were high (64%), same as estimated environment ratings in Biyem-Assi (76%) but low in Cite Verte (45%). Though the environment is important, the main reason for participants' visits was the services (care) offered in these hospitals.

#### III-IV. SERVICE QUALITY

Quality medical care is defined as the extent to which a patient's physiological functions have increased the probability of desired patient outcomes and decrease the probability of undesired outcomes. The data recorded in this field is shown on table IV below.

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**Table IV:** Assessment of service quality

Variable	Modality	Biyem-Assi n(%)	Cite Verte n(%)	Total n(%)
<b>Service in line with needs</b>	Yes	96 (96)	83 (83)	179 (89.5)
<b>Dependable staff</b>	Undecided	5 (5)	11 (11)	16 (8)
	Agree	7 (7)	6 (6)	13 (6.5)
	Strongly agree	81 (81)	83 (83)	164 (82)
<b>Effectiveness of treatment</b>	Disagree	0	8 (8)	8 (4)
	Undecided	5 (5)	6 (6)	11 (5.5)
	Agree	14 (14)	17 (17)	31 (15.5)
	Strongly agree	81 (81)	69 (69)	150 (75)
<b>Error free records</b>	Disagree	5 (5)	11 (11)	16 (8)
	Undecided	2 (2)	8 (8)	10 (5)
	Agree	21 (21)	12 (12)	33 (16.5)
	Strongly agree	72 (72)	69 (69)	141 (70.5)
<b>Time of service provision</b>	Short	24 (24)	28 (28)	52 (26)
	Average	45 (45)	53 (53)	98 (49)
	Long	23 (23)	19 (19)	42 (21)
	I don't know	8 (8)	0	8 (4)
<b>Treatment information</b>	Always	83 (83)	80 (80)	163 (81.5)
	Often	5 (5)	8 (8)	13 (6.5)
	Sometimes	5 (5)	3 (3)	8 (4)
	Never	6 (6)	6 (6)	12 (6)
	I don't know	1 (1)	3 (3)	4 (2)
<b>Willingness to help</b>	Always	77 (77)	64 (64)	141 (70.5)
	Often	5 (5)	3 (3)	8 (4)
	Sometimes	6 (6)	8 (8)	14 (7)
	Never	2 (2)	0	2 (1)
	I don't know	10 (10)	25 (25)	35 (17.5)

Most participants (90.5%) either agreed or strongly agreed that treatment received relieved their symptoms. The remaining data is shown on figure 7 below.

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Results

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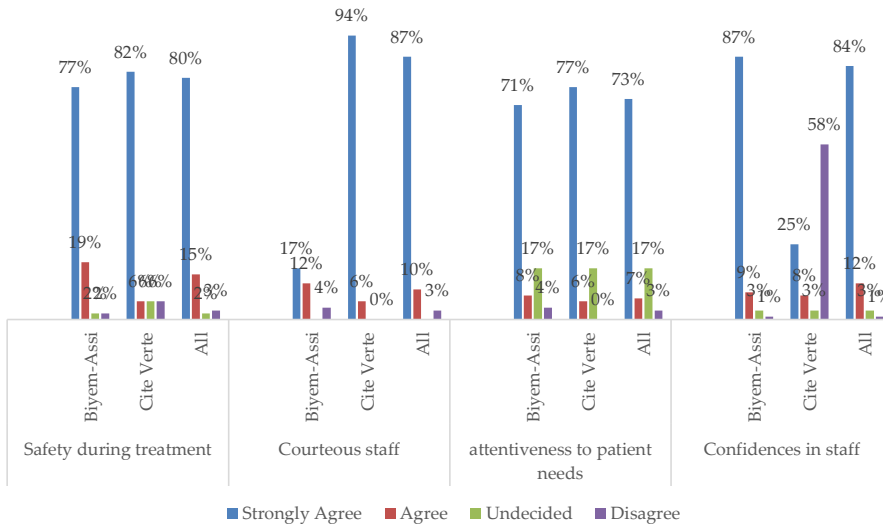


Figure 7: Care quality

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A majority of participants (78%) wasere of the opinion that working hours were convenient and 55 % thought that the facilities were appealing. Estimated satisfaction ratings vary from global satisfaction ratings as shown in figure 8 below.

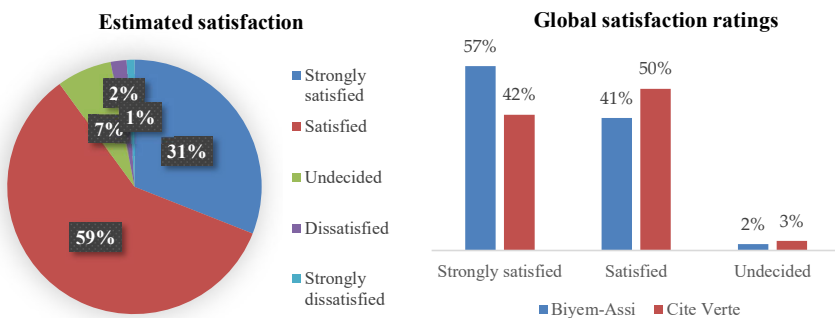


Figure 8: Perceived and estimated care quality ratings

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Perceived care quality ratings represent the extend of perceived patient satisfaction to dental care. Most participants (90%), perceived the quality of care received as satisfying, where as estimated care quality rating of 98% and 92% were observed in BA and CV respectively. All

| *Results*

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of the above data was computed for global satisfaction ratings. The values obtain are shown in sub-chapter V below.

#### IV.V. Global satisfaction

Average satisfaction ratings of 3.34 (SD= +/- 0.77) , 3.46 (SD = +/- 0.63), and 3.89 (SD = +/- 0.515) out of 5 were obtained in the dimensions of accessibility, environment and care quality respectively. This gave an estimated global satisfaction of 3.55. Patient's global satisfaction was influenced by their education as shown in table V Below.

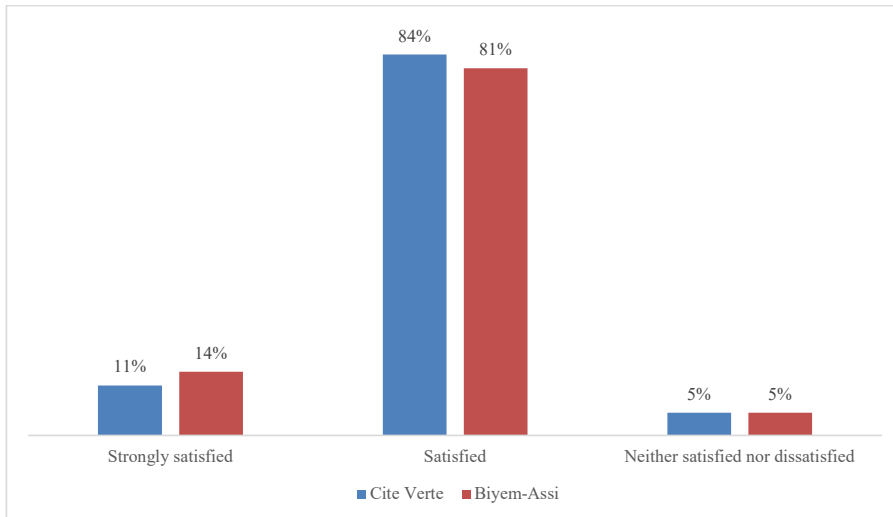
**Table V** : Link between patient satisfaction and sociodemographic data

Variable	Modality	Global satisfaction n(%)			P-value
		SS	S	NSND	
<b>Age (years)</b>	18-28	4 (2)	28 (14)	0	0.854
	29-39	3 (1.5)	30 (15)	2 (1)	
	40-50	4 (2)	16 (8)	3 (1.5)	
	51-61	0	2 (1)	0	
	>62	2 (1)	6 (3)	0	
<b>Cultural area</b>	Coast	2 (1)	6 (3)	0	0.903
	Fore st	2 (1)	27 (23.5)	2 (1)	
	Grassfields	6 (3)	40 (20)	1 (0.5)	
	Sahel	1 (0.5)	7 (3.5)	1 (0.5)	
	Savannah	2 (2)	3 (1.5)	0	
<b>Education</b>	Illiterate	0	0	1 (0.5)	<b>0.000</b>
	Primary	0	1 (0.5)	0	
	Secondary	1 (0.5)	7 (3.5)	0	
	High school	2 (1)	13 (6.5)	1 (0.5)	
	Tertiary	10 (5)	61 (30.5)	3 (1.5)	
<b>Profession</b>	Jobless	0	2 (1)	0	0.378
	Public	4 (2)	16 (8)	3 (1.5)	
	Private	2 (1)	27 (23.5)	2 (1)	
	Retired	0	3 (1.5)	0	
	Student	8 (4)	41 (20.5)	0	
<b>Sex</b>	Male	6 (3)	20 (10)	3 (1.5)	0.39
	Female	6 (3)	63 (31.5)	2 (1)	

\*SS= strongly satisfied, S= Satisfied, NSND= Neither satisfied nor dissatisfied

Results

Global satisfaction ratings were distributed as shown on figure 9 below



**Figure 9** : Global satisfaction ratings per site of study

Ninety five percent of patients were satisfied in both hospitals of study.



| *Discussion*

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## **CHAPTER V : DISCUSSION**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*

The findings of the previous chapter are interpreted and confronted to existing studies in this section. It is organized based on the order sub-topics in chapter V.

**LIMITS OF THE STUDY**

- Data collection was based on patient declarations.
- The study was carried out in two district hospitals in Yaounde. To this effect, [the results obtained](#) can not be generalized for the population of Yaounde.
- Patients visiting for the first time, as well as patients under the age of 18 years were not involve in this study. Results obtained in this study can not be applied for these groups of patients. Further research needs to be done to obtain data that is applicable to them.
- The sample size was not attained in this study.

I. —

II. —

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### **I. SOCIO-DEMOGRAPHIC DATA**

The sex ratio in this study was 2.4/1. This is similar to a study carried out in Yaounde in 2018, ~~and can be explained by the fact that men pay less attention to their oral health as compared to women.~~ Studies reveal that women are more conscious of their health, appearance and esthetics than men, who are always busy with their daily activities trying to fend for their families. Furthermore, ~~studies affirm that the~~ lower pain threshold in women or fear of pain will stimulate women to consult early. In Cameroon, it is known that men wait for the last moment, when the pain is unbearable and it is no longer controllable by self-medication [47]. This could equally be a reason for the observed high satisfaction ratings in this study, given that it is admitted that women are generally more satisfied with oral healthcare services than men [50].

Participants less than 40 years ~~of age,~~ made up a large part of the study population, with a mean age of  $27 \pm 9$  years. This is similar to a study carried out in Yaounde [47]. A high literacy rate was observed in this study. This can be explained by a high literacy rate of 77.1% among the adult population in Cameroon [51]. However, this is contrary to a study carried out in the West Indies, where most participants had a secondary level of education [52].

The data shows that 76.5% of participants were from the Forest and Grassfields cultural areas. ~~The population of these areas, especially Biyem-Assi, is dominated by those~~ ~~population in these areas, especially Biyem-Assi is~~ from the north-west and south-west regions. ~~This is obvious since. Furthermore,~~ these areas are considered anglosaxon zones by the local population.

~~The number of students that took part in this study was important~~ Many students participated in this study (36%), ~~and~~ followed by workers in the private sector (31.5%). This demonstrates a good health oral health promotion among students and can be explained by a high literacy rate among adults in Cameroon, given ~~estimated at 77.07% in 2018 (UNESCO) and~~ the fact that in 2020, a study provided evidence that 90% of the work force in Cameroon is trapped in the informal sector [53]. One of the reasons for inter urban migration is for educational purposes and the sites of study are surrounded by many academic facilities.

### **III. ACCESSIBILITY**

The main transport means used by participants to access the hospital was the taxi (53.3%). This can be explained by the fact that most urban areas in Cameroon have two main transport means which are taxis and motorcycles (bikes) [54]. Most participants had transport times ranging from 15 ~~minutes to~~ 30 minutes (62.3%) and just a few participants had transport times above 30

minutes. This could be explained by the fact that there are several renowned hospitals such as the University Teaching Hospital (UTH), the Central Hospital, the military hospital and many others that offer dental services. This may limit the influx of patients from far destinations, hence reducing transport time. [This shows a good geographical access](#) to oral healthcare.

Consultation costs were perceived as either average or high (88.5% and 87.7% respectively in BA and CV) by most participants. This is contrary to what is commonly thought about prices in public hospitals. However, a greater percentage of participants in CVDH reported moderate consultation costs, compared to participants [at the BADH in Biyem-Assi](#). The reason for this increase in consultation costs at Biyem-Assi by about 50% of the initial cost, could be as a result of the inclusion blood sugar test in the consultation procedure. [Patients](#) Most participants were not welcoming of this idea as they could not tell the relationship between dental [treatment](#) and blood sugar tests. However, their point of view switched when ever they were given detailed explanation on the benefits of blood sugar values in dental treatment.

Treatment costs were rated as high by most participants. This is similar to studies carried out in Tanzania, Burkina faso and Nigeria [55]. This explains the little drop in participants' estimated accessibility ratings, [followed by a decrease and hence a drop](#) in their satisfaction. Furthermore, Dental treatment often warrants the use of dental materials and consumables that are costly. The reported high treatment cost could be as a result of participants' lack of knowledge on the stakes dental treatment holds, given that dental treatment has been classified as the "fourth most expensive treatment in most industrialised countries" [56].

Participants thought of medication cost as being moderate and gave little complaints on the matter compared to treatment and consultation costs. [This could be because](#) Patients in these hospitals [are not obliged to buy their drugs from the hospital pharmacy](#) ~~can buy their drugs from where ever they deem convenient,~~ [Consequently](#) as a result, they cannot directly blame the hospital for drug prices. [Furthermore, drugs frequently prescribed in dental medicine involve](#) antibiotics, anti-inflammatory drugs and paracetamol, most of which are essential drugs [in Cameroon, hence relatively cheap](#) and available.

Data shows that participants reported a high equity among patients. This is not surprising, given the relationship that exists between the medical staff and patients visiting these hospitals. Every participant was well received and treated without any display of favoritism or preference. Health equity means that everyone has a fair and just opportunity to be as healthy as possible [57].

III.

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### III. ENVIRONMENT

The dental departments were identifiable for most participants. This might be because participants who took part in this study had been to these hospitals at least once. However, when prompted for more information as concerns their first visits, majority of participants from Cité Verte, revealed that they faced difficulties making their way to the dental department and had to make inquiries for that purpose. This shows that patient circulation in Cité Verte presents a problem that needs to be addressed given the importance it carries on patient experience as well as patient satisfaction. In Biyem-Assi on the other hand, this problem was not encountered by many participants probably as a result of the high exposure of the dental department.

The receptions in these hospitals were often open and functioning throughout working hours and sometimes beyond. This enabled that patients were always received or always had a chance to be received. This further explains the high satisfaction ratings expressed by participants in these hospitals.

Though most participants found the waiting room as being comfortable, a greater percentage of participants from CV reported that the environment was uncomfortable. The top reason for this was a lack of intimacy. This may be due to the fact there is only one dental room at CV, and no reception for incoming patients. As a result other patients for one reason or the other sometimes find themselves in the treatment room, compromising the intimacy of patients being treated. The other reason might be the constant visit from medical delegates. An average number of about five medical delegates visit the dental department at Cite CVDH daily, and sometimes during working hours. Doctors are often obliged to attend to them while a patient is being treated since no time is allocated for doctors to attend to them. This also leads to a compromise in patient intimacy. Studies show that the absence of privacy due to the sharing of the same dental office environment can be a source of embarrassment and feelings of dissatisfaction due to a breach of confidentiality, shame in showing one's mouth to the others or insecurity [58]

The tidiness of the environment was commonly reported by most participants. This could have had a positive effect on patient stay in the hospital and hence on patient satisfaction. Furthermore, a tidy environment is primordial both for the comfort of both the medical staff and the patient being treated. However, these results are contrary to a study carried out in Tanzania where most participants gave poor ratings to the cleanliness of the environment [59]. The physical environment of the hospital or the clinic is critical to the quality of services provided and a major determinant of patient satisfaction. Patients have the right to be care for in a clean and safe environment [60].

Waiting hours drew more complaints from participants than any other variable in this dimension. The average waiting period in both hospitals of study was more than an hour, with some patients having to wait for close to five hours before being attended to. This was more pronounced at the CVDH and could be explained by the lack in the technical platform. In BA, this can be explained by the long queue often seen in the dental department. The level of satisfaction of patients with the environment decreased as waiting time exceeded one hour. Waiting time refers to the time a patient waits in the clinic before being seen by one of the clinic's medical staff. Patients perceive long waiting times as a barrier to actually obtaining services, reason for which studies recommend that at least 90% of patients be seen within 30 minutes of their scheduled appointment time. This is not the case in developing countries where patients spend 2-4 hours in the outpatient departments before seeing the doctor. These results are similar to those observed in Benin (173 minutes) and in Nigeria (1 hour 13 minutes) [61]. Studies show that dental patients do not want to wait for long periods prior to dental therapy. Any failure in fulfilling these expectations might lead to expressions of dissatisfaction from patients, given that long waiting hours are the cause of anxiety and boredom.

From the results, hospitals of study had no source of distraction for waiting patients. This might have had a negative impact on patient satisfaction, given the long waiting hours observed in these hospitals.

From the data collected, it was observed that those who rated data entry speeds as fast also rated the environment as satisfying and those who rated data entry speeds as slow, were undecided about their environment ratings. This clearly illustrates a close link between the speed of administrative procedures and patient satisfaction to the services rendered in the dental departments of these hospitals. This is contrary to a study carried out in Pakistan in 2019, where an insignificant link was observed between administrative procedures and patient satisfaction [62].

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#### **IV. SERVICE QUALITY**

Services provided were considered to be in line with their oral health needs of most participants. This could be explained by the fact that participants' expectations as concerns dental healthcare were relatively low, resulting in greater satisfaction ratings as most of their expectations were met [63].

A majority of participants strongly agreed that the staff was dependable. When prompted for more information, it was confirmed that none of the participants had been referred to any other dental clinic for the management of their dental pathology. This could be one of the reasons for high satisfaction ratings among participants. However, the number of participants was slightly higher in BA than in CV. This may be due to the small technical platform at CV and might explain the high satisfaction ratings observed in BA in comparison to CV.

Treatments received were strongly perceived as effective in both hospitals of study. This could be due to the fact that participants felt relief in their symptoms after their visit to these hospitals. Few participants complaints were registered either on the persistence of their symptoms or a relapse in to their initial state. However, the level of satisfaction was insignificantly altered in these participants. This is similar to a study conducted at the Central Hospital in Yaounde in 2018 [47].

The willingness to help or responsiveness was high in both hospitals though slightly higher at BADH compared to CVDH. This could be explained by the an organized staff in BA compared to CV where the Doctor sometimes has to attend to almost everything as versus specific details. This could have explained the slightly lower satisfaction ratings observe at CVDH. This is contrary as studies report a negative responsiveness of health workers in the public sector [19]. Records are one of the most important components of a patient visit. Most participants reported that their records were error free. This could be explained by the fact that the staff made sure that records are well filled. This might have resulted in high patient satisfaction ratings among participants. Furthermore, participants reported that prescriptions were always well explained even to patients that could not understand them, leading to high satisfaction levels. Studies have shown that physician-patient relationship is a powerful tool to improve the satisfaction, compliance and adherence of patients to a care plan [64].

Most participants considered the time of service provision as being average. Even though part of participants reported this time as being long, this had a positive effect on their satisfaction levels. This is because they linked the time spent treating them to a high quality of care and

attention from the practitioner. The time spent on solving dental problems in the hospitals is one of the aspects that affect patient satisfaction [65].

Most participants were of the accord that they were always given treatment information before treatment. Those who reported otherwise did so because the practitioner might have had language difficulties and thus was not had able to express themselves to these patients. However, 90% of participants reported that their questions were always well answered whenever they asked the staff. This demonstrates good communication between the staff and patients. Communication affects patient satisfaction as well as the perceived quality of care experienced by a patient. Studies reveal that effective communication with patients is required to intergrate safe and effective care as it plays a role in creating quality of services, affecting patient outcomes [66].

From the results, participants strongly agreed to the courteousness of the staff. This had a positive consequence on patient satisfaction. Studies reveal that patients greatly value being treated by a caring dentist who respects and listens to their concerns without “blaming” them for their dental concerns. These patients complied with and supported preventive care options because “they were being treated as individuals, not as patients [67].

From the results, most participants strongly agreed that the staff is attentive to patient needs. Studies show that interpersonal factors like friendliness caring and sympathy are the most reported determinants associated with satisfaction with health services. Bonding with patients by thoughtfully asking about his/her health beyond issues related to the chief complaint was associated with satisfaction. The same study further explains that this simple method has been shown to boost patient satisfaction in both Brazilian dental and medical settings [68].

When prompted for convenience in working hours, a great part of participants reported that working hours were convenient. This was confirmed by the fact that the medical staff sometimes received participants even after closing time, sometimes extending to about 2 hours 30 minutes after closing time. However, some participants expressed the need for night shifts and for working hours extending to Sundays. This is contrary to a study carried out in Tehran, Iran, where patients rated waiting hours as being inconvenient [69].

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Discussion

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**V. GLOBAL SATISFACTION**

The global satisfaction level in this study was high (3.55). This can be seen in the fact that most patients were satisfied with the services provided in the hospitals (86.5%). Similar results have been obtained in studies carried out in the United States and in the West Indies [5, 47]. These results were contrary to a study carried out in Brazil [70]. In this study, global satisfaction ratings were strongly linked to sex education and profession of participants. This is not a surprise, given that studies are in line with these findings [46, 71].

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Conclusion

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## **CONCLUSION**

*Doctorate thesis in Dental Medicine written by FONYUY Michael WOLANI*

## Conclusion

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The present study was conducted to assess patient satisfaction with oral healthcare in two district hospitals in Yaounde. Patient satisfaction is considered one of the most important aspects in healthcare, as it impacts the utilization of the services provided by a practice and so greatly affects its success.

This study is in line with studies that recorded high patient satisfaction levels. As such, the research hypothesis formulated at the beginning of the study was surpassed. This is good, as it is a translation of the quality of dental services rendered in these hospitals. The level of patient satisfaction recorded might have been so because aspects such as patient perception of the care rendered by students, the technical platform of the hospitals of study, as well as their human resources were not assessed.

Data analysis led to the conclusion that the level of satisfaction experienced by patients in these two districts is strongly influenced by accessibility (financial accessibility), environment (waiting time and patient intimacy), and care quality (patient-practitioner relationship, treatment information, and symptom evolution). The level of satisfaction experienced by participants in these dimensions was average, high and high respectively. However, improvements still need to be done in aspects such as financial accessibility, waiting time and patient intimacy.

Though the objective of the study was attained, this study did not assess the satisfaction of patients visiting for the first time. This assessment is important because though patient satisfaction influences compliance to treatment as well as service utilization, it is admitted that the patient's first impression impacts the patients satisfaction level as well. An ideal research should take into consideration patients' satisfaction levels before, during and after utilization of the services offered. However, this approach might be cumbersome, and demanding in terms of time, human, and material resources.

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*Recommendations*

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## **RECOMMENDATIONS**

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## Recommendations

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In the light of the results obtained, we humbly suggest the following recommendations to better patient experience.

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### **To the Ministry of Public Health**

- Ensure that hospital norms as concerns the technical platform and human resources are respected in all District Hospitals. This will enable that patient satisfaction in one aspect or the other does not vary considerably in hospitals at the same level in the health pyramid.
- Provide hospitals with generators and water supply systems. This will partly solve the problem of prolonged waiting times.

### **To the hospitals of study**

- Conduct frequent patient satisfaction surveys as this will enable them to know patient expectations.
- Improve patient comfort and experience during waiting hours by providing patients with health talks, newspapers or television sets etc.

### **To the medical staff**

- Re-enforce patient-practitioner relationships. Patient satisfaction is strongly influence by the patient-practitioner relationship in areas such as communication, empathy, responsiveness and question answering.

### **To researchers**

- Carryout more research on the subject, so as to obtain data applicable in the Cameroonian context.

### **To patients**

- Freely but respectfully express their minds concerning the services rendered, as it concerns their health and the health of those close to them.

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## REFERENCES

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**a mis en forme** : Police :(Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

**a mis en forme** : Taquets de tabulation : Pas à 8 cm

**Code de champ modifié**

**a mis en forme** : Police :(Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

**Code de champ modifié**

AppendixesReferences

44

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Code de champ modifié

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Code de champ modifié

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Code de champ modifié

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45\*

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**a mis en forme** : Police :(Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

**a mis en forme** : Taquets de tabulation : Pas à 8 cm

**a mis en forme** : Anglais (États-Unis)

**a mis en forme** : Anglais (États-Unis)

**a mis en forme** : Anglais (États-Unis)

**a mis en forme** : Anglais (États-Unis)



## **APPENDIXES**

a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

a mis en forme : Taquets de tabulation : Pas à 8 cm

a mis en forme

Appendix 1 : Ethical clearances

<p>UNIVERSITÉ DE YAOUNDÉ I FACULTÉ DE MÉDECINE ET DES SCIENCES BIOMÉDICALES</p>		<p>THE UNIVERSITY OF YAOUNDE I FACULTY OF MEDICINE AND BIOMEDICAL SCIENCES</p>																			
<p>COMITÉ INSTITUTIONNEL D'ÉTHIQUE DE LA RECHERCHE Tel/ fax : 22 31-05-86 22 311224 Email: decanatfmsb@hotmail.com</p>		<p>INSTITUTIONAL ETHICAL REVIEW BOARD</p>																			
<p>Ref. : N° <u>197</u> /UY1/FMSB/VDRG/DAASR/CSB</p>																					
<p><b>CLAIRANCE ÉTHIQUE</b></p>																					
<p>28 AVR 2022</p>																					
<p>Le COMITÉ INSTITUTIONNEL D'ÉTHIQUE DE LA RECHERCHE (CIER) de la FMSB a examiné La demande de la clairance éthique soumise par :</p>																					
<p><b>M.Mme : FONUY MICHEAL WOLANI</b></p>		<p><b>Matricule: 15M164</b></p>																			
<p>Travaillant sous la direction de :</p> <ul style="list-style-type: none"> <li>• Pr <b>ESSI Marie José</b></li> <li>• Dr. <b>MBEDE Rose</b></li> </ul>																					
<p>Concernant le projet de recherche intitulé : <b>ASSESSMENT OF PATIENT SATISFACTION WITH ORAL HEALTHCARE OFFER AT THE BIYEM ASSI DISTRICT HOSPITAL</b></p>																					
<p>Les principales observations sont les suivantes</p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Evaluation scientifique</td><td></td></tr> <tr><td>Evaluation de la convenance institutionnelle/valeur sociale</td><td></td></tr> <tr><td>Equilibre des risques et des bénéfices</td><td></td></tr> <tr><td>Respect du consentement libre et éclairé</td><td></td></tr> <tr><td>Respect de la vie privée et des renseignements personnels (confidentialité) :</td><td></td></tr> <tr><td>Respect de la justice dans le choix des sujets</td><td></td></tr> <tr><td>Respect des personnes vulnérables :</td><td></td></tr> <tr><td>Réduction des inconvénients/optimalisation des avantages</td><td></td></tr> <tr><td>Gestion des compensations financières des sujets</td><td></td></tr> <tr><td>Gestion des conflits d'intérêt impliquant le chercheur</td><td></td></tr> </table>	Evaluation scientifique		Evaluation de la convenance institutionnelle/valeur sociale		Equilibre des risques et des bénéfices		Respect du consentement libre et éclairé		Respect de la vie privée et des renseignements personnels (confidentialité) :		Respect de la justice dans le choix des sujets		Respect des personnes vulnérables :		Réduction des inconvénients/optimalisation des avantages		Gestion des compensations financières des sujets		Gestion des conflits d'intérêt impliquant le chercheur		
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Respect des personnes vulnérables :																					
Réduction des inconvénients/optimalisation des avantages																					
Gestion des compensations financières des sujets																					
Gestion des conflits d'intérêt impliquant le chercheur																					
<p>Pour toutes ces raisons, le CIER émet un avis favorable sous réserve des modifications recommandées dans la grille d'évaluation scientifique.</p> <p>L'équipe de recherche est responsable du respect du protocole approuvé et ne devra pas y apporter d'amendement sans avis favorable du CIER. Elle devra collaborer avec le CIER lorsque nécessaire, pour le suivi de la mise en œuvre dudit protocole. La clairance éthique peut être retirée en cas de non - respect de la réglementation ou des recommandations sus évoquées. En foi de quoi la présente clairance éthique est délivrée pour servir et valoir ce que de droit</p>																					
<p><b>LE PRÉSIDENT DU COMITE ETHIQUE</b></p> 																					

a mis en forme : Police : (Par défaut) Times New Roman, pt, Anglais (États-Unis)

a mis en forme : Taquets de tabulation : Pas à 8 cm

REPUBLIQUE DU CAMEROUN  
 Paix - Travail - Patrie  
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 MINISTERE DE LA SANTE PUBLIQUE  
 -----  
 SECRETARIAT GENERAL  
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 COMITE REGIONAL D'ETHIQUE DE LA  
 RECHERCHE POUR LA SANTE HUMAINE DU CENTRE  
 -----  
 Tel : 222 21 20 87/ 677 75 73 30

REPUBLIC OF CAMEROON  
 Peace - Work - Fatherland  
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 MINISTRY OF PUBLIC HEALTH  
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 SECRETARY GENERAL  
 -----  
 CENTRE REGIONAL ETHICS COMMITTEE  
 FOR HUMAN HEALTH RESEARCH  
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CE N° **E-189-** /CRERSHC/2022

Date: **25 JAN 2022**

**ETHICAL CLEARANCE**

The Centre Regional Ethics Committee for Human Health Research (CRERSH-Ce) has received the request for an ethical approval for the project entitled 'Assessment of patient satisfaction with oral healthcare at the Biyem-Assi District Hospital' submitted by Mr FONYUY Michael Wolani.

After evaluation, it appears that the subject is worthy of interest, the objectives are well defined, and the research procedure does not include invasive methods harmful to the participants. In addition, the informed consent form intended for participants is acceptable.

For these reasons, the CRERSH-Ce approved for a period of six (06) months the implementation of the current version of the protocol.

The Principal Investigator is responsible for scrupulous compliance with the protocol and must not make any amendments, however minor, without the favourable approval of the CRERSH-Ce. In addition, the Principal Investigator is required to:

- collaborate on any descent from the CRERSH-Ce for monitoring the implementation of the approved protocol.
- and submit the final report of the study to the CRERSH-Ce and to the competent authorities concerned by the study.

This clearance may be withdrawn in the event of non-compliance with the regulations in force and the directives mentioned above.

In witness whereof the present Ethical Clearance is issued with the privileges thereunto pertaining /-

Copy: The National Ethics Committee for Human Health Research (CNERSH)



Chair person  
 Regional Ethics Committee,  
 Centre region,  
 Yaoundé

*[Handwritten signature]*  
 Pharmacia

www.minsante.gov.cm

Appendix 2 : Research autorisations for Biyem-Assi and Cite Verte District Hospitals

- a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)
- a mis en forme : Taquets de tabulation : Pas à 8 cm
- a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (Royaume-Uni)
- a mis en forme : Légende, Centré, Retrait : Première ligne : 0 cm

REPUBLIQUE DU CAMEROUN  
.....  
Paix – Travail – Patrie  
.....  
MINISTÈRE DE LA SANTÉ PUBLIQUE  
.....  
DELEGATION REGIONALE DU CENTRE  
.....  
DISTRICT DE SANTE DE BIYEM-ASSI  
.....  
HOPITAL DE DISTRICT DE BIYEM-ASSI  
.....  
BP : 31 350 Ydé . Tél./Fax 22.31.64.05



REPUBLIC OF CAMEROON  
.....  
Peace-Work-Fatherland  
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MINISTRY OF PUBLIC HEALTH  
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CENTER REGIONAL DELEGATION  
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BIYEM-ASSI HEALTH DISTRICT  
.....  
BIYEM-ASSI DISTRICT HOSPITAL  
.....  
E-mail:hospital\_biyemassi@yahoo.fr

N° 3451 /AR/MINSANTE/DRSPC/DSBA/HDBA.

**AUTORISATION DE RECHERCHE**

Le Directeur de l'Hôpital de District de Biyem-Assi à Yaoundé soussigné, donne autorisation de recherche à Monsieur FONYUY Michael Wolani, étudiant en 7<sup>ème</sup> année de Médecine Bucco-Dentaire à la Faculté de Médecine des Sciences Biomédicales de L'Université de Yaoundé I (FMSB) dont le thème porte sur : *« Assessment of patient satisfaction to oral at the Biyem-Assi District Hospital».*

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

Yaoundé, le 24 DEC 2021



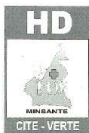
Le Directeur

*Dr. Daniel Ekoua*  
Médecin - Cardiologue



- a mis en forme : Police :(Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)
- a mis en forme : Taquets de tabulation : Pas à 8 cm
- a mis en forme : Police :(Par défaut) Times New Roman, 12 pt, Italique, Couleur de police : Texte 2, Français (France)
- a mis en forme : Retrait : Première ligne : 0 cm

REPUBLIQUE DU CAMEROUN  
\*\*\*\*\*  
Paix – Travail – Patrie  
\*\*\*\*\*  
MINISTÈRE DE LA SANTÉ PUBLIQUE  
\*\*\*\*\*  
DELEGATION REGIONALE DU CENTRE  
\*\*\*\*\*  
DISTRICT DE SANTÉ DE LA CITE VERTE  
\*\*\*\*\*  
HOPITAL DE DISTRICT DE LA CITE VERTE  
\*\*\*\*\*  
B.P. : 3604 Messa-Yaoundé  
Tél. : 22-22-87-34 / 22-22-12-73



REPUBLIC OF CAMEROON  
\*\*\*\*\*  
Peace – Work – Fatherland  
\*\*\*\*\*  
MINISTRY OF PUBLIC HEALTH  
\*\*\*\*\*  
REGIONAL CENTER DELEGATION  
\*\*\*\*\*  
CITE VERTE HEALTH DISTRICT  
\*\*\*\*\*  
CITE VERTE DISTRICT HOPITAL  
\*\*\*\*\*

N° 037 /L/Minsanté/DRC/DSCV/HDCV

Yaoundé le, 25 MAI 2022

LE DIRECTEUR

A  
MONSIEUR FONYUY  
Michael WOLANI

Objet : Autorisation de recherche

Monsieur,

Je soussigné, **Dr Paul ELOUNDOU ONOMO**, Directeur de l'hôpital de District de la Cite Verte, accuse réception de votre lettre du 22 février 2022 dont l'objet est ci-dessus repris en marge.

Y faisant suite, Je vous voudrais vous signifier de mon accord pour la collecte de données relatives à l'étude portant sur le Thème : « **ASSESSMENT OF PATIENT SATISFACTION HEALTEARE AT THE BIYEM-ASSI DISTRICT HOSPITAL AND CITE-VERTE DISTRICT HOSPITAL** ». Aussi, seriez-vous obligés de respecter le règlement de notre structure pendant la période de votre collecte.

Veuillez croire, Monsieur, en l'assurance de ma parfaite considération.

  
**LE DIRECTEUR**  
*Dr. Paul ELOUNDOU ONOMO*  
Médecin Rhumatologue

**ETHICAL AND ADMINISTRATIVE CONSIDERATIONS**

**Appendix 3 : Patient information forms in English and French**

(English version)

**Study title :** « Assessment of patient satisfaction with oral health care offers at the Biyem-Asi District Hospital»

**Research team :**

**Investigateur :** FONYUY Michael Wolani, 7th year dental medicine student at the Faculty of Medicine and Biomedical sciences, University of Yaoundé I. Tel : 681098958/693086998 ; Email : [Michael.fonyuy@fmsb-uy1.cm](mailto:Michael.fonyuy@fmsb-uy1.cm)

**Director :** Pr ESSI Marie-José

**Co-director :** MBEDE NGA MVONDO Rose

**Study interests:** Patient satisfaction is an important concept both for the health facility and for the patients benefiting from the services provided by the health facility. This study will help in the provision of scientific information that might help the government and stake holders take decisions that would help improve patient.

**Cost:** apart from the time used in answering the questionnaire, this study will cost you nothing more be it financially or materially.

**Procédure :** If willing to take part in this study, you will complete a questionnaire on patient satisfaction with oral healthcare. This might take 17 minutes of your time.

**~~si vous acceptez de participer à cette étude, vous répondrez à un questionnaire en rapport avec la satisfaction des patients à l'offre des soins bucco-dentaires. La réponse aux questions prendra environ 17 minutes.~~**

**~~Ethics and confidentiality~~Éthique et confidentialité ; you information will be kept confidential tous les renseignements obtenus resteront strictement confidentiels. The questionnaire will be anonymously labelled to preserve participants integrity. Nos questionnaires seront anonymes afin de préserver l'intégrité du répondant. You are free to either take part in the study or not to without any effects or consequences on the your treatment. Furthermore, you are free to leave the study when ever you deem it necessary.**

**In case you need more information, you might want to contact our research directors:**

**Director:** Pr ESSI Marie-José Email : [mariejose.essi@fmsb-uy1.cm](mailto:mariejose.essi@fmsb-uy1.cm)

**Co-director :** Dr MBEDE NGA MVONDO Rose Email : [rose.mbede@yahoo.fr](mailto:rose.mbede@yahoo.fr)

a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

a mis en forme : Taquets de tabulation : Pas à 8 cm

a mis en forme : Centré

a mis en forme : Police : 12 pt, Non Italique, Couleur de police : Texte 1, Anglais (Royaume-Uni)

a mis en forme : Police : Non Italique, Couleur de police : Automatique, Anglais (Royaume-Uni)

a mis en forme : Légende, Centré, Interligne : simple

a mis en forme : Police : 12 pt, Non Gras, Anglais (Royaume-Uni)

Code de champ modifié

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Police : Gras, Anglais (Royaume-Uni)

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Anglais (Royaume-Uni)

Appendixes

XXVI

**Researcher:** FONYUY Michael WOLANI, 7<sup>th</sup> year dental medicine student at the FMBS. Tel: 693086998; Email: [fmichaelwolani@gmail.com](mailto:fmichaelwolani@gmail.com)

**a mis en forme :** Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

**a mis en forme :** Taquets de tabulation : Pas à 8 cm

**a mis en forme :** Exposant

(French version)

**Titre de l'étude : « Evaluation de la satisfaction a l'offre des soins a l'Hopital Central de Yaounde»**

**Intérêt de l'étude :** La satisfaction des patients est un concept important à la fois pour l'établissement de santé et pour les patients bénéficiant des services fournis par l'établissement de santé. Cette étude aidera à fournir des informations scientifiques qui pourraient aider le gouvernement et les décideurs à améliorer les services de santé bucco-dentaire.

**Cout :** a l'exception du temps utilisée pour remplir le questionnaire, cette étude ne vous coûtera rien d'autre, que se soit financier ou matériel

**Procédure :** si vous acceptez de participer à cette étude, vous répondrez à un questionnaire en rapport avec les thérapeutiques buccodentaires. La réponse aux questions prendra environ 10 minutes.

**Éthique et confidentialité :** tous les renseignements obtenus resteront strictement confidentiels. Nos questionnaires seront anonymes afin de préserver l'intégrité du répondant. Vous avez la liberté de choisir ou non de participer à l'étude, sans aucun risque préjudiciable sur votre travail, vous êtes libres de quitter cette étude à tout moment lorsque vous l'aurez décidé.

Veillez contacter nos encadreurs en cas de besoins d'information via :

**Directeur :** Pr Essi Marie-José Email : [mariejose.essi@fmsb-uy1.cm](mailto:mariejose.essi@fmsb-uy1.cm)

**Co-directeur :** Dr MBEDE NGA MVONDO Rose Email : [rose.mbede@yahoo.fr](mailto:rose.mbede@yahoo.fr)

**Enqueteur :** FONYUY Michael WOLANI, étudiant en 7ème année, Médecine Buccodentaire a la FMSB. Tel : 693086998 ; Email : [fmichaelwolani@gmail.com](mailto:fmichaelwolani@gmail.com)

~~Vous avez la liberté de choisir ou non de participer à l'étude, sans aucun risque préjudiciable sur votre travail, vous êtes libres de quitter cette étude à tout moment lorsque vous l'aurez décidé.~~

a mis en forme : Anglais (Royaume-Uni)

Appendix 4 : Patient consent forms in English and in French

INFORMED PATIENT CONSENTMENT FORM (English version)

I the undersigned, Mr, Mrs ..... freely and voluntarily accept to take part in the study titled: “ Assessment of patient satisfaction with oral healthcare offers at the Biyem-Assi District Hospital”, given that:

- The researcher has informed and answered all my questions;
- The researcher has precised that my participation if free, and that I am free to leave the study at any moment;
- The results of the study will be kept secret by the team implicated in the study;
- I accept that the data collected during this study be used for the public thesis defensea-public-defense.

I will exercise my rights of opposition by this investigator

Done on the / / ,2022 at Yaoundé

• Researcher’s signature Participant’s signature

**FICHE DE CONSENTEMENT ECLAIRE**

Je soussigné, Mr, Mme, Mlle \_\_\_\_\_ accepte librement et volontairement de participer à l’étude médicale intitulée : « Evaluation de la satisfaction des patients a l’offre de soins a l’hopital regional de Yaounde»

Étant entendu que :

- L’investigateur m’a informé et a répondu à toutes mes questions ;
- L’investigateur m’a précisé que ma participation est libre, et que mon droit de retrait de cette recherche peut s’effectuer à tout moment ;
- Les résultats obtenus seront gardés secrets par toute l’équipe impliquée dans cette étude ;
- J’accepte que les données enregistrées à l’occasion de cette étude puissent faire l’objet d’une thèse soutenue publiquement. Je pourrai exercer mon droit de rectification et d’opposition auprès de ce même investigateur.

Fais-le \_\_\_\_ / \_\_\_\_ / 2021 à Yaounde.

**Je vous remercie.**

Signature de l’investigateur

Signature du participant

a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

a mis en forme : Taquets de tabulation : Pas à 8 cm

a mis en forme : Police : 12 pt

a mis en forme : Police : Non Gras

a mis en forme : Centré

a mis en forme : Police : 12 pt, Anglais (États-Unis)

a mis en forme : Soulignement

a mis en forme : Non souligné

a mis en forme : Non souligné

a mis en forme : Non souligné, Anglais (Royaume-Uni)

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Normal, Sans numérotation ni puces

a mis en forme : Non souligné

a mis en forme : Soulignement

a mis en forme : Normal, Gauche, Sans numérotation ni puces

a mis en forme : Police : (Par défaut) Times New Roman

a mis en forme : Gauche

a mis en forme : Anglais (Royaume-Uni)

a mis en forme : Centré

a mis en forme : Police : 12 pt

Appendix 5 : Research questionnaire

Demande 1 : clairance éthique au comité institutionnel d'éthique et de la recherche de la FMSB



REPUBLIC OF CAMEROON  
Peace-Work-Fatherland  
\*\*\*\*\*  
THE UNIVERSITY OF YAOUNDE I  
\*\*\*\*\*  
FACULTY OF MEDICINE AND  
BIOMEDICAL SCIENCES  
Yaoundé le 10 décembre 2021

A  
Madame la Présidente du Comité  
d' Ethique de la Faculté de  
Médecine et

Objet: Clairance éthique.

Madame,

J'ai l'honneur de venir auprès de votre haute bienveillance solliciter une clairance éthique. En effet, je suis étudiant en 7<sup>ème</sup> année d'études médicales filière odontostomatologie à la Faculté de Médecine et des Sciences Biomédicales de l'Université de Yaoundé I. J'effectue un travail de thèse en vue d'obtention du grade de Docteur en Médecine générale intitulé : « Evaluation de la satisfaction a offre des soins a l'Hopital Centrale de Yaounde » dirigé par Pr ESSI Marie-José.

Le but de ce travail est de connaitre les schémas thérapeutiques, les déterminants et les résultats des soins buccodentaires et j'ai besoin de ce document pour pouvoir y mener.

Je joins à ma demande

—une copie du résumé du protocole de recherche

—une photocopie de mon reçu de paiement des droits universitaires.

— Dans l'attente d'une suite favorable, veuillez agréer Monsieur l'expression de mon profond respect.

Investigator: .....

Date: .....

FONYUY Michael Wolani

Research Questionnaire

I. Socio demographic data

1) Age:

1.  18- 28 years
2.  29- 39 years
3.  40- 50 years
4.  51- 61 years
5.  More than 62 years

2) Sex:

1.  Male
2.  Female

3) Profession: .....

a mis en forme : Police : (Par défaut) Times New Roman, 12 pt, Anglais (États-Unis)

a mis en forme : Taquets de tabulation : Pas à 8 cm

a mis en forme : Paragraphe de liste, Interligne : simple, Taquets de tabulation : Pas à 13,53 cm

a mis en forme : Paragraphe de liste, Interligne : simple

a mis en forme : Paragraphe de liste, Retrait : Première ligne : 0 cm, Interligne : simple

a mis en forme : Paragraphe de liste, Interligne : simple

a mis en forme : Paragraphe de liste, Retrait : Gauche : 0 cm, Interligne : simple

4) **Marital status:**

1.  Single
2.  Married
3.  Divorced
4.  Widowed

5) **Level of education:**

1.  Primary
2.  Secondary
3.  High school
4.  Tertiary(university/college)

6) **Cultural area:**

1.  Coast
2.  Forest
3.  Sahel
4.  Savannah
5.  Grassfields

**II. Accessibility**

1) Which transport means do you take from home to the hospital?

1.  Taxi
2.  Bike
3.  Personal vehicle
4.  On foot

2) How long does it take from your house to the hospital?

1.  Less than 15 minutes
2.  16 – 30 minutes
3.  31 – 46 minutes
4.  47 – 1 hour
5.  More than an hour

3) How would you rate consultation cost here?

1.  Low
2.  Average
3.  High
4.  Too high
5.  I don't know

4) How would you evaluate treatment cost here?

1.  Low
2.  Moderate
3.  High
4.  Too high
5.  I don't know

5) What is the cost of prescribed medication?

1.  Low
2.  Moderate
3.  High
4.  Too high

- 5.  I don't know
- 6) Do you treated differently from other patients?
  - 1.  Yes
  - 2.  No
  - 3.  I don't know
  - 4.  I don't care
- 7) Do your believes influence the way you are treated?
  - 1.  Yes
  - 2.  No
  - 3.  I don't know
  - 4.  I don't care
- 8) In case of any disability, how are you treated?
  - 1.  I am well treated
  - 2.  I am poorly treated
  - 3.  I am always poorly treated in general
  - 4.  I don't know
- 9) From a scale of 1 to 10, how would you rate your accessibility?  
.....

**III. Environment**

- 10) Is the reception identifiable?
  - 1.  Yes
  - 2.  No
- 11) Is the reception accessible to everyone during working hours?
  - 1.  Yes
  - 2.  No
- 12) How do you rate the waiting room at the Biyemassi District Hospital?
  - 1.  Comfortable
  - 2.  Uncomfortable
- 13) What can you say about the tidiness of the environment?
  - 1.  Not good
  - 2.  Good
  - 3.  Very tidy
  - 4.  I don't know
- 14) Is there enough distraction to keep you occupied while waiting for your appointment?
  - 1.  TV
  - 2.  News papers
  - 3.  Toys
  - 4.  Games
  - 5.  There are no distractions at all
  - 6. Other(s) .....
- 15) Is the environment convenient for you?
  - 1.  Yes
  - 2.  No
- 16) If no, explain
  - 1.  Too crowded



- 2.  No chairs
  - 3.  Too noisy
  - 4.  Not decorated
  - 5.  No toilets
  - 6. Other(s) .....
- 17) How long is the waiting time?
- 1.  Less than 15 minutes
  - 2.  16-30 minutes
  - 3.  31minutes- 1hour
  - 4.  1- 2 hours
  - 5.  More than 2 hours
- 18) If case of any data entry, what is the speed of data entry?
- 1.  Slow
  - 2.  Average
  - 3.  Fast
  - 4.  I don't know
- 19) From a scale of 1-10, How would you rate your environment?  
.....

**IV. Service quality**

- 20) Are services offered in line with my needs?
- 1.  Yes
  - 2.  No
  - 3.  I don't know
- 21) Can you depend on the staff for solutions to my problems?
- 1.  Always
  - 2.  Often
  - 3.  Sometimes
  - 4.  Never
  - 5.  I don't know
- 22) Do the treatments received remedy my situation?
- 1.  Strongly agree
  - 2.  Agree
  - 3.  Undecided
  - 4.  Disagree
  - 5.  Strongly agree
- 23) Are services provided on time?
- 1.  Strongly agree
  - 2.  Agree
  - 3.  Undecided
  - 4.  Disagree
  - 5.  Strongly disagree
- 24) Do you have any records?
- 1.  Yes
  - 2.  No
- 25) Are your records error free?

1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly disagree
- 26) Time of service provision
1.  Short
  2.  Average
  3.  Long
  4.  Too long
- 27) Are you well informed about treatment procedures and outcomes
1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly agree
- 28) Is the staff willing to help when you have a problem?
1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly disagree
- 29) I have confidence in those who provide services
1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly disagree
- 30) Do you feel safe during my treatment
1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly disagree
- 31) The staff is courteous
1.  Strongly agree
  2.  Agree
  3.  Undecided
  4.  Disagree
  5.  Strongly agree
- 32) Are your questions clearly answered when you ask them?
1.  Strongly agree
  2.  Agree
  3.  Undecided

- 4.  Disagree
- 5.  Strongly agree
- 33) The staff is attentive to my needs
  - 1.  Strongly agree
  - 2.  Agree
  - 3.  Undecided
  - 4.  Disagree
  - 5.  Strongly Disagree
- 34) Do you feel cared for?
  - 1.  Strongly agree
  - 2.  Agree
  - 3.  Undecided
  - 4.  Disagree
  - 5.  Strongly disagree
- 35) Working hours are convenient
  - 1.  Strongly agree
  - 2.  Agree
  - 3.  Undecided
  - 4.  Disagree
  - 5.  Strongly disagree
- 36) On a scale from 1 to 10, how would you rate your satisfaction with respect to care quality at the Biyemassi District Hospital?  
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- 37) What are your recommendations?