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Assessment of patient satisfaction with oral healthcare in two District Hospitals

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Abstract

Objectives: This study aimed to assess patient satisfaction with oral healthcare based on accessibility, care environment and care quality.

Methods: To meet the above objective, a descriptive cross-sectional study was conducted among patients visiting the Biyem-Assi (BA) and Cité Verte District Hospitals in Yaoundé, Cameroon, from 2021 to 2022. Satisfaction levels were assessed using an administered questionnaire derived from the Dental Satisfaction questionnaire (DSQ) and the Service Quality Questionnaire (SERVQUAL). Data were analysed using the Statistical Package for Social Sciences (SPSS) version 25. The mean was used for quantitative data, and the Likert scale was used to assess qualitative data. Results with p-values less than 5 were considered statistically significant.

Results: Two hundred participants were included in this study. The age range from 29 to 39 years was the most represented (40%), and most participants were from the grassfields (41.5%). The literacy rate was high, 73.1% of participants had a tertiary level of education. Satisfaction with access to oral health in the study hospitals was 67.5%. Fifty-seven per cent of participants reported satisfaction with the hospital environment. Almost all participants (98%) were satisfied with the quality of care received. A global satisfaction of 71% was recorded. The reasons for patient dissatisfaction included high treatment costs (41%), lack of patient intimacy (60%), and long waiting hours (60-300 minutes).

Conclusion: Patient satisfaction with oral healthcare was high. Major complaints included the non-respect of patient privacy, long waiting hours and high cost of treatment.

Keywords: Patient Satisfaction; Oral Healthcare; Environment; Care Quality; Access

1. Introduction

Patients for one reason or the other are prompted to meet a dentist or a dental health assistant due to the high prevalence of dental pathologies. Depending on patient expectations, the interaction between patients and dental health personnel can either be satisfying or not. Patient satisfaction with healthcare has in the recent years gained widespread recognition as the measure of quality, due to the need to involve patients in decisions concerning healthcare. There is a direct link between patient satisfaction and compliance in areas such as appointment keeping, intentions to comply with recommended treatment, and medication use (1). This study aimed at providing evidence on patient satisfaction with accessibility, hospital environment and quality of administered care in two hospitals.

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2. Materials and methods

A cross-sectional descriptive study was carried out at the Biyem-Assi and Cite Verte District Hospitals for a period of nine months going from September 2021 to May 2022. Consenting patients aged 18 years and above were included. Patients visiting for the first time, as well as patients with uncompleted questionnaires were excluded. The data collection tool employed was a pretested administered questionnaire assessing socio-demographic data, accessibility of oral healthcare, hospital environment, and service quality. Before the study, ethical clearance was obtained from the Institutional Ethical Review Board of the Faculty of Medicine and Biomedical Sciences, and from the Yaoundé Regional Delegation of Public Health. Data was analyzed and restituted as frequencies, means, and standard deviations. The Likert scale was used to assess subjective data; Chi-square test was used with a confidence interval level of 95% and a p-value of 0.05.

3. Results

A total of 200 patients were recruited in this study as shown in figure 1 below.

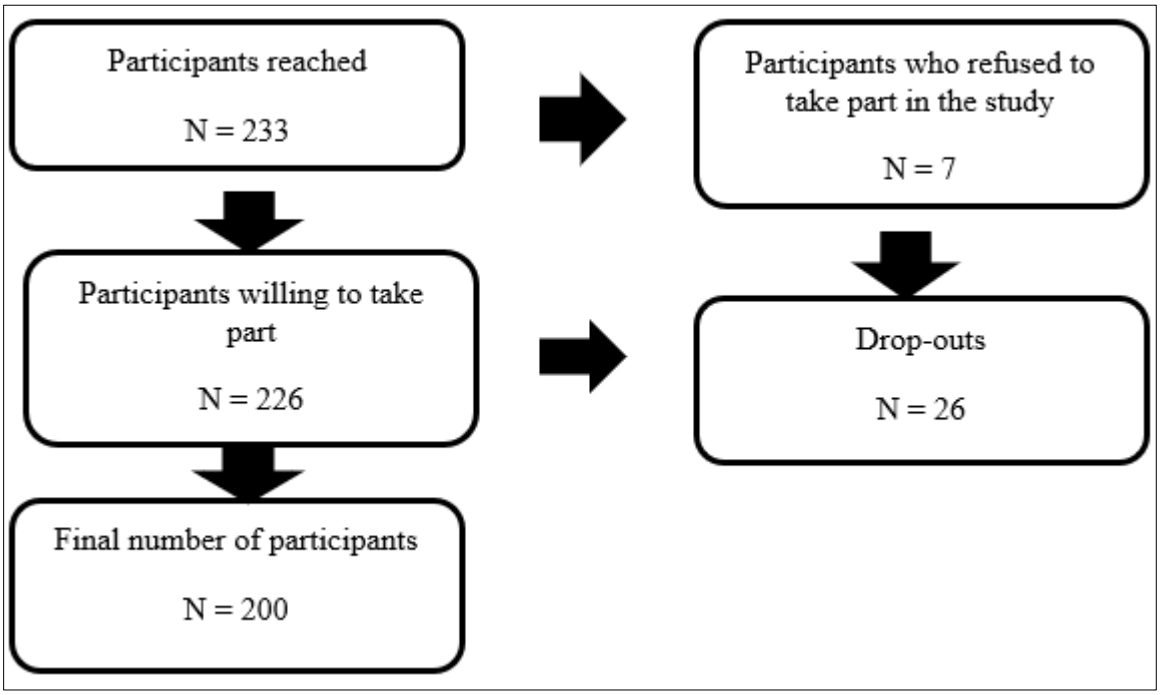

Figure 1 Participant recruitment

A sex ratio of 1:2 was recorded in this study with a mean age of 27 + 9 years as shown in table I below.

Table 1 Socio-demographic 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)	9 (4.5)
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)

Most participants were less than 40 years. Four percent of those working in the public sector were from the medical field, implying an easy access to oral healthcare services as shown below.

Table 2 Oral Healthcare Access

Variable	Modality	Biyem-Assi n (%)	Cite Verte n (%)	Total n (%)
Transport means	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)
Transport time (minutes)	< 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)
Consultation cost	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)
Treatment cost	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)
Medication cost	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)

Most participants (71%) spent 46 minutes of transport time to access these hospitals. Equitable treatment of patients was reported in both hospitals (93% and 100% for Biyem-Assi and Cité Verte respectively). Discrepancies between perceive and estimated satisfaction ratings are shown in figure 5 below.

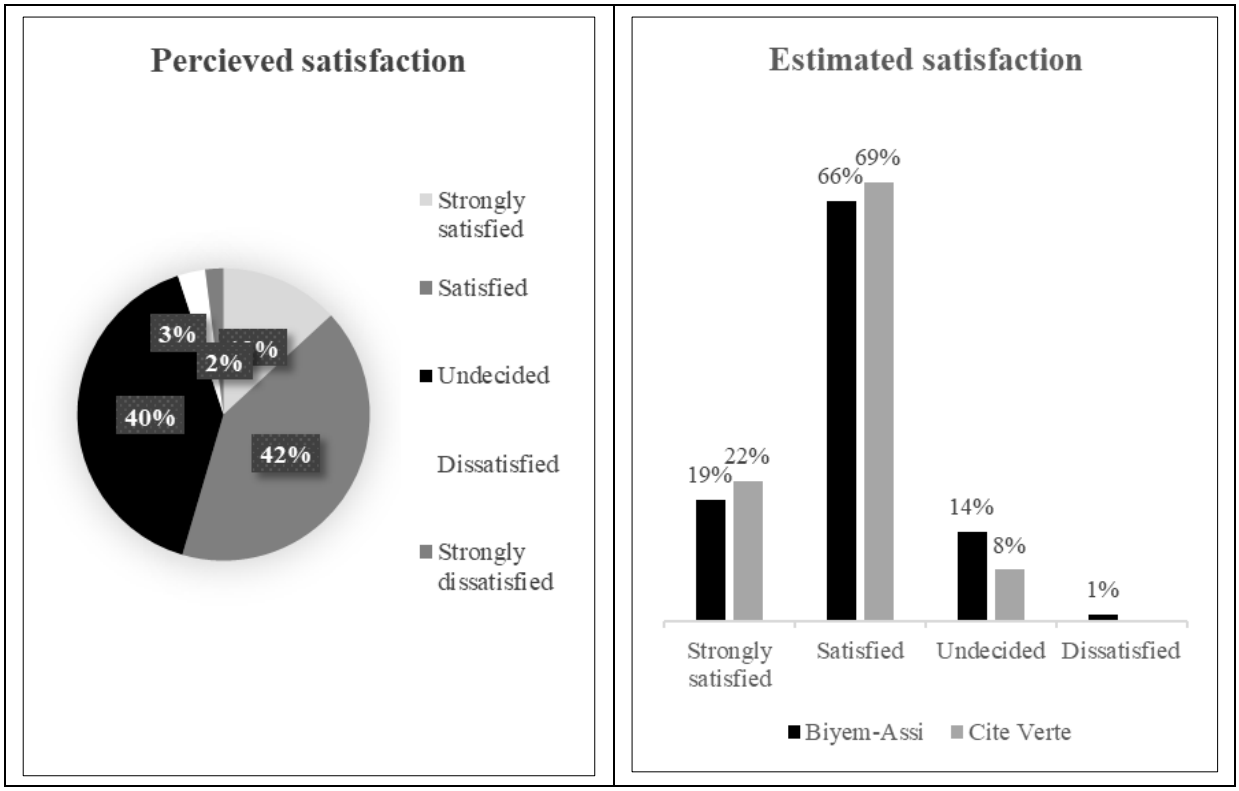

Figure 2 Accessibility ratings

The different domains assessed in the hospital environment are shown in table III below.

Table 3 Environment setting

Variable	Modality	Biyem-Assi n (%)	Cite Verte n (%)	Total n (%)
Accessible reception	Yes	95 (95)	97 (97)	192 (96)
Waiting room	Comfortable	85 (85)	61 (61)	146 (73)
Tidiness	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)
Convenience	Yes	79 (79)	69 (69)	148 (74)
Explanation if no	Too crowded	7 (7)	8 (8)	15 (7.5)
	No chair	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)
Waiting time (minutes)	< 15	4 (4)	3 (3)	7 (3.5)
	16-30	30 (30)	17 (17)	47 (23.5)
	31 – 45	31 (31)	22 (22)	53 (26.5)
	>60	33 (33)	55 (55)	88 (44)

	I don't know	2 (2)	3 (3)	5 (2.5)
Data entry speed	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 area is one of the most important compartments for both the patients and the hospital. Majority of participants (86%) reported that the reception area was easily identifiable, waiting times ranging from 60 minutes to 300 minutes were reported by 44% of patients. Few participants (27%) thought of the waiting room as being uncomfortable and another 26% were inconvenienced by the environment. Global satisfaction ratings are presented in figure 3 below.

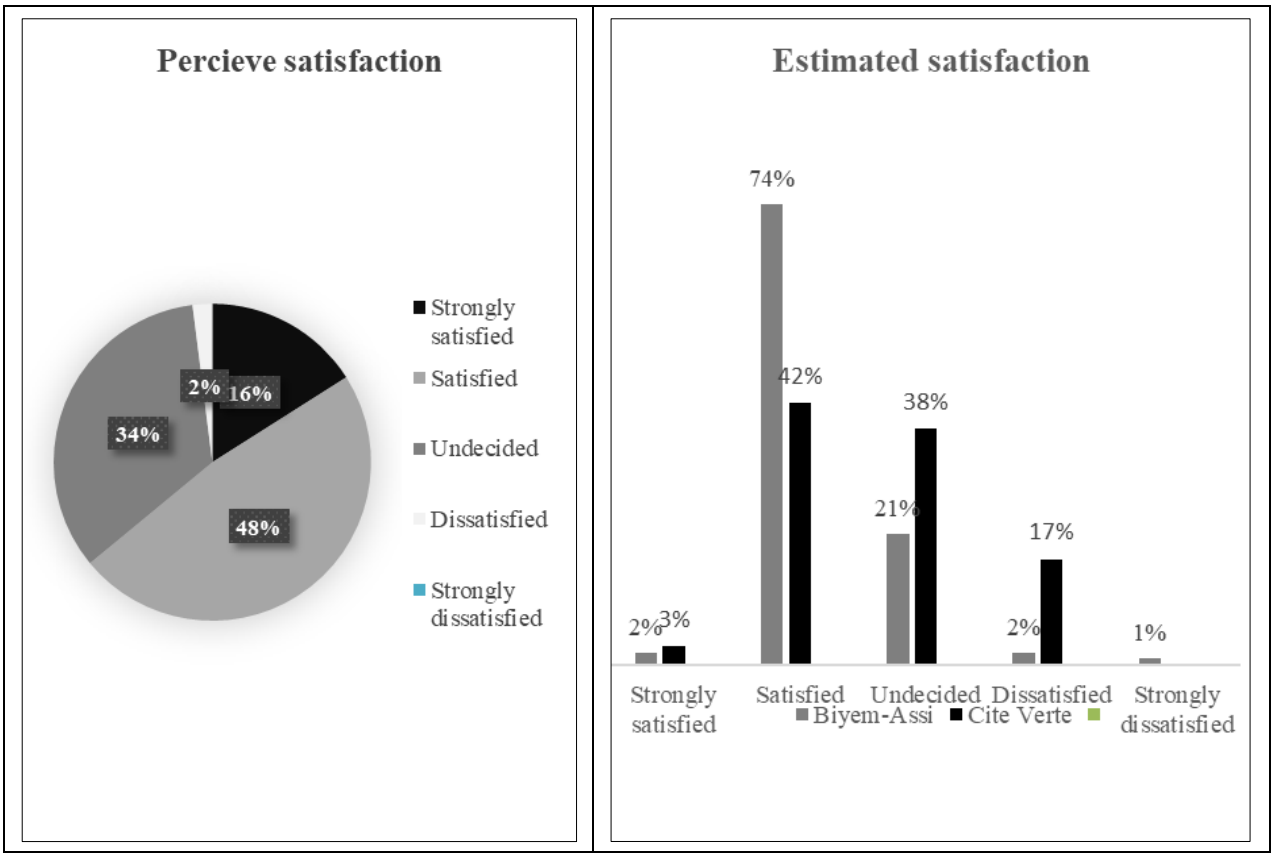

Figure 3 Patient satisfaction ratings with hospital environment

Data on patient satisfaction is shown in table IV below.

Table 4 Patient satisfaction with care quality

Variable	Modality	Biyem-Assi n (%)	Cite Verte n (%)	Total n (%)
Service in line with needs	Yes	96 (96)	83 (83)	179 (89.5)
Dependable staff	Undecided	5 (5)	11 (11)	16 (8)
	Agree	7 (7)	6 (6)	13 (6.5)
	Strongly agree	81 (81)	83 (83)	164 (82)
Effectiveness of treatment	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)
Error-free record	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)
Time of service provision	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)
Treatment information	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)
Willingness to help	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 in figure 4 below.

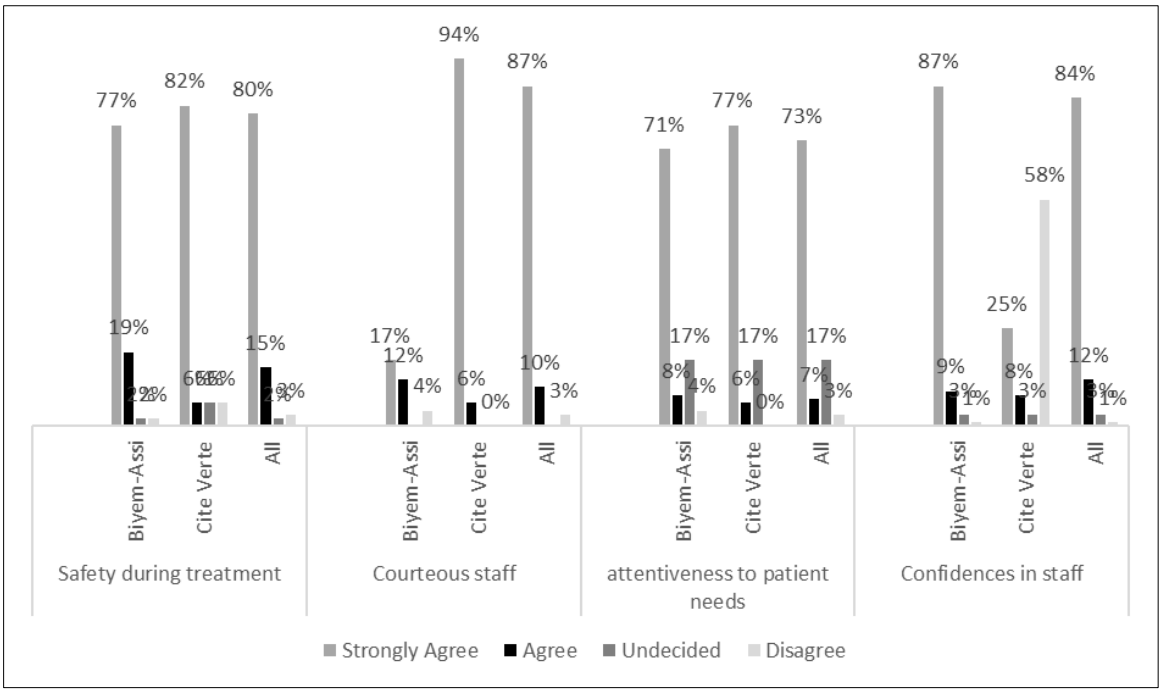

Figure 4 Care quality

A majority of participants (78%) were of the opinion that working hours were convenient and 55% thought that facilities were appealing. Estimated satisfaction ratings varied from perceived satisfaction ratings as shown below.

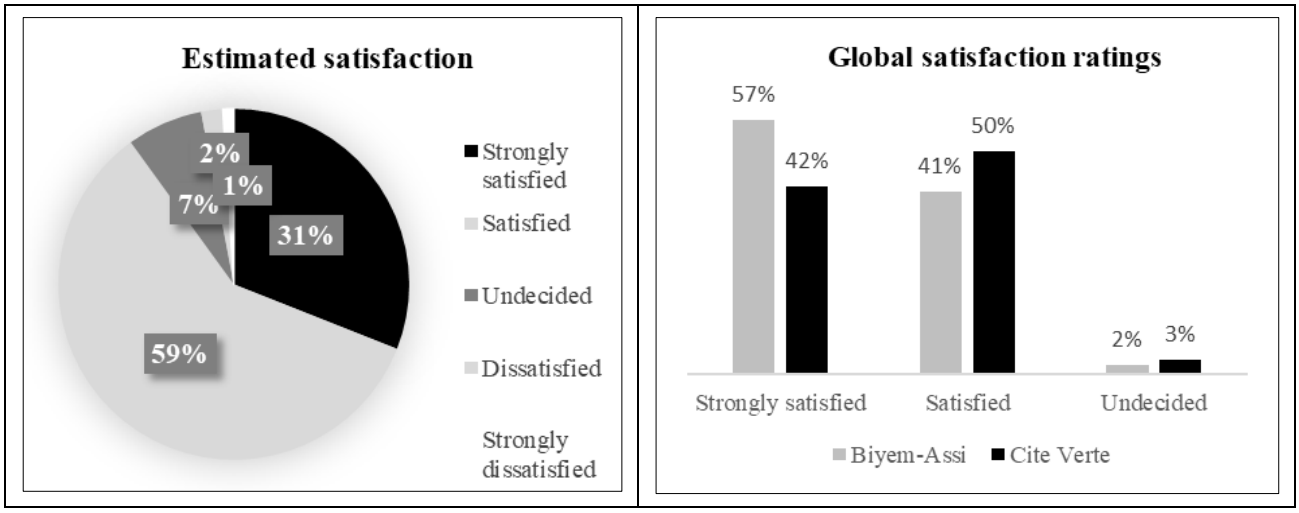

Figure 5 Perceived and estimated satisfaction ratings

Most participants perceived the quality of care received as satisfying and where estimated care quality ratings of 98% and 92% were observed in Biyem-Assi and Cite Verte respectively. All the above data was analyzed for global satisfaction ratings. The link between satisfaction ratings and socio-demographic data are shown in table v below.

Table 5 Link between patient satisfaction and socio-demographic data

Variable	Modality	SS	Global satisfaction n (%) S	NSND	P-value
Age (years)	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	
Cultural area	Coast	2 (1)	6 (3)	0	0.903
	Forest	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	
Education	Illiterate	0	0	1 (0.5)	0.000
	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)	
Profession	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	
Sex	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

All the above data was analyzed for global satisfaction ratings. The results are shown the figure below.

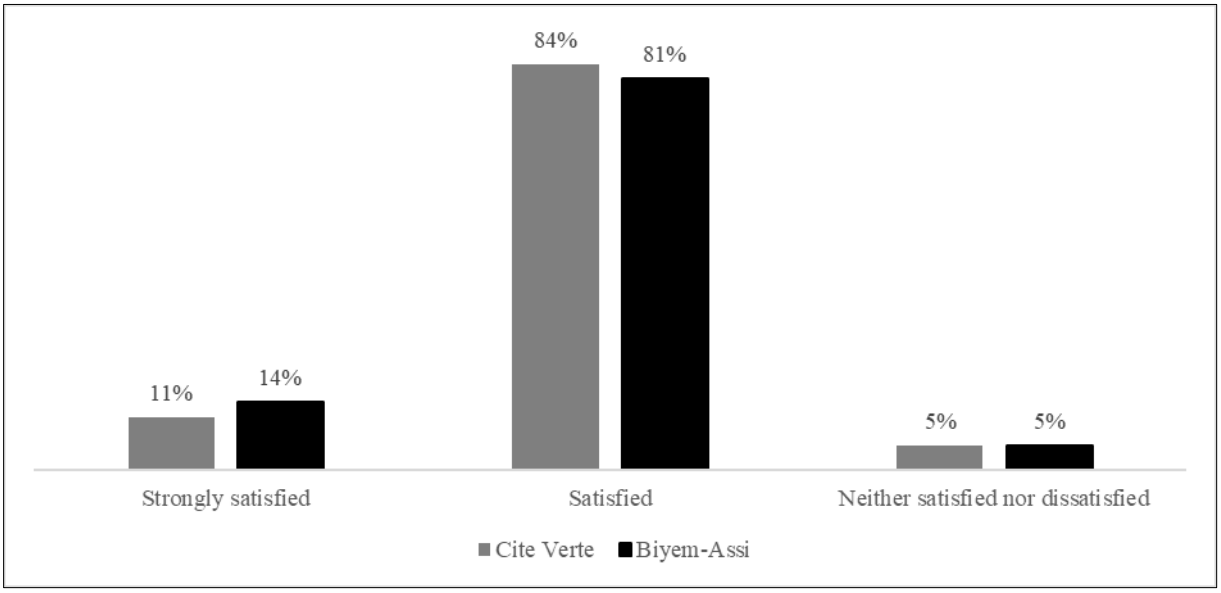

Figure 6 Global satisfaction ratings per study site

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

4. Discussion

This study was limited for the following reasons:

- Data collection was based on patient declarations.
- The study was carried out in two District hospitals in Yaoundé. The results obtained are not generalizable to the entire population of Yaoundé.
- Patients visiting for the first time, as well as patients under the age of 18 years were not involved in this study.
- The sample size was not attained for this study.

Unsurprisingly, most participants were women. It is known that women are more conscious of their health, appearance and esthetics than men, who are always busy with their activities. In Cameroon, men wait for the last moment, when dental pain is unbearable and non-responsive to self-medication to seek help (2). Women are generally more satisfied with oral healthcare services than men (3), and this might explain the high satisfaction ratings recorded in this study. The high participation rate of students and private sector workers in this study demonstrated a good oral health promotion among these groups of participants. The fact that most participants could access these hospitals using the most common transportation means, demonstrate a good overall access to oral healthcare in these hospitals. This is further reinforced by the fact transport times ranging from 15 minutes to 30 minutes and just few participants recording transport times above 30 minutes. Consultation and treatment costs were considered either moderate or high. This is intriguing, as costs in public hospitals are often considered less costly, and makes Cameroon comparable to Tanzania, Burkina Faso and Nigeria (4). Dental treatment often warrants the use of costly dental materials and consumables. The perceived high treatment costs might have resulted from participants' lack of knowledge on the stakes held by dental treatment. In fact, dental treatment is considered the "fourth most expensive treatment in most industrialized countries" (5). While treatment was considered costly, drug costs were considered moderate. Patients in these hospitals were not obliged to purchase their medication from these hospitals' pharmacies. As a result they cannot directly link medication cost to the hospital. Furthermore, drugs frequently prescribed in dentistry involve antibiotics, anti-

inflammatory drugs and paracetamol, most of which are essential and over-the-counter drugs in Cameroon, and are relatively less costly. High equity was registered amongst participants. This might have directly impacted on the level of patient satisfaction recorded.

Although patient circulation was challenging due to difficulties identifying the dental department in one of the study sites, participants complained more about the lack of intimacy in these study sites. Participants often found themselves in the same treatment room with people other than the staff. Furthermore, constant visits from medical delegates during working hours might have contributed to this complaint. The absence of privacy due to sharing the same dental office environment with others can be a source of embarrassment and feelings of dissatisfaction due to breach of confidentiality, shame in showing one's mouth to others or insecurity (6). This may partly explain the reason for the overall high satisfaction ratings in Biyem-Assi compared to Cité Verte. Contrary to countries like Tanzania, participants in this study rated the environment as tidy (7) easing comfort for both patients and medical staff. The hospital or clinic's environment is critical to the quality of services provided and a major determinant of patient satisfaction (8). Waiting hours received the highest number of complaints; some patients spent about five hours of waiting time. This was more pronounced at CVDH and may be linked to the lack of the technical platform needed to treat several patients at the same time. In Biyem-Assi, this could be the result of the long queue often seen at the dental department. While long waiting hours might indirectly reveal a high satisfaction with treatment results, it was observed that patient satisfaction with the environment decreased as waiting hours exceeded one hour. Patients perceive long waiting hours as a barrier to obtaining services due to anxiety and boredom. For this reason, it is recommended that at least ninety percent of patients be seen within 30 minutes of their scheduled appointment time. This is generally not the case in developing countries where patients spend 2-4 hours in the outpatient departments before seeing a doctor (9). Participants who rated data entry speeds as fast also rated the environment as satisfying and those who rated data entry slow, were undecided about their ratings. This might be hinting at a close link between the speed of administrative procedures and patient satisfaction with the services rendered.

Service quality received the greatest satisfaction ratings compared to other areas in this study. Most participants considered the staff in these structures as dependable. This was explained by the fact that no participant was referred to another clinic for proper treatment. Treatments received were strongly perceived as effective in both hospitals of study and only few complaints were registered on either the persistence of symptoms or relapse after treatment. Intriguingly, these complaints did not seem to alter participant satisfaction ratings. A similar result was stated in a study conducted in Yaoundé in 2018 (3). Other components that might have positively affect patient satisfaction in these hospitals was personnel responsiveness, courteousness, attentiveness, readable and well explained prescriptions, all being a reflection of a good patient-doctor relationship. In fact, studies have shown that physician-patient relationship is a powerful tool to improve the satisfaction, compliance and adherence of patients to a care plan (10). Furthermore, patients value being treated by caring dentists who respect and listen to their concerns without "blaming" them for their dental concerns. This leads to compliance with supported preventive care options because "they were being treated as individuals, not as patients" (11). Studies equally reveal that interpersonal factors like friendliness, care and sympathy are the most reported determinants associated with satisfaction with healthcare (12). Though treatment time was reported as long by participants, it ironically had a positive effect on participant satisfaction levels. This might have been because participants linked the time spent treating them to a high quality of care and attention. In fact, the time spent by doctors in solving dental problems affects patient satisfaction (12).

5. Conclusion

Patient satisfaction levels in Biyem-Assi and Cité Verte are strongly influenced by accessibility (financial accessibility), environment (waiting time and patient intimacy), and care quality (patient-practitioner relationship, treatment information, and symptom evolution). The levels of patient satisfaction experienced in these dimensions were average, high and high respectively. Improvements are needed in aspects such as costs, waiting time and patient intimacy.

Compliance with ethical standards

Acknowledgments

The authors gratefully acknowledge the contributors of the Faculty of Medicine and Biomedical Sciences, whose support and expertise enhanced the quality of this research. No external funding was received for this study.

Disclosure of Conflict of Interest

The Authors declare that there are no conflicts of interest related to this research.

Statement of Ethical Approval

This study was conducted in accordance with the principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethical Review Board of the Faculty of Medicine and Biomedical Sciences, and from the Regional Delegation of Public Health in Yaoundé, Cameroon.

Statement of Informed Consent

Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed of the study's objectives, procedures, and their right to withdraw at any time without consequence.

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