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Satisfacción de los usuarios del Servicio de Odontología,
Universidad de Costa Rica

Natalia Gutierrez-Marín DDS, Mag¹; Andrea López-Soto DDS, MSc²

1. Faculty of Dentistry, Universidad de Costa Rica, San José, Costa Rica.

<https://orcid.org/0000-0002-1801-9856>

2. Faculty of Dentistry, Universidad Latinoamericana de Ciencia y Tecnología, San José, Costa Rica.

<https://orcid.org/0000-0003-2707-9671>

Correspondence to: Dra. Natalia Gutiérrez-Marín - natalia.gutierrez@ucr.ac.cr

ABSTRACT: The objective of this research was to use the Dental Satisfaction Questionnaire to determine the level of patient's satisfaction who come to the School of Dentistry of the University of Costa Rica. The research was conducted with the entire population of patients who received dental care in the Undergraduate Student Clinics of the School of Dentistry between April and September 2021. A digital survey was generated with the questions of the DSQ and sociodemographic variables, which was sent by email. Descriptive statistics were performed to establish the absolute and relative frequency, as well as measures of central tendency and variability, according to the nature of the variables. The Kolmogorov-Smirnov test was used in the conformity assessment of the data for the normal distribution. The relationships between the scores obtained from the Dental Satisfaction Questionnaire and the sociodemographic variables were analyzed using the Mann-Whitney U Test and the Kruskal-Wallis Test. A response rate of 36% was obtained. 98.5% of the subjects were satisfied with the services received. There was a statistically significant difference between the frequency of visits and the dental satisfaction scale ($p=0.001$). The scoring by type of clinic with regards to access, pain management, cost and availability were statistically significant ($p=0.001$, $p=0.014$, $p=0.001$, $p=0.001$, respectively). The differences in the relationship between the age groups and access was significant ($p=0.014$); in addition to that between education level and cost ($p=0.001$). A large majority of patients who come to the services of the School of Dentistry UCR are satisfied with the service received.

KEYWORDS: Patient satisfaction; Questionnaire; Reliability; Dentistry; Health care quality; Access and evaluation.

RESUMEN: El objetivo de esta investigación fue utilizar el cuestionario DSQ para determinar el nivel de satisfacción de los pacientes que acuden a la Facultad de Odontología de la UCR. La investigación se realizó con toda la población de pacientes que recibieron atención dental en las Clínicas de pregrado y grado de la Facultad de Odontología UCR entre abril y setiembre del 2021. Se generó una encuesta digital con las preguntas del cuestionario DSQ y variables sociodemográficas, la cual se envió por medio del correo electrónico. Se realizó estadística descriptiva estableciendo la frecuencia absoluta y relativa, así como medidas de tendencia central y variabilidad, según la naturaleza de las variables. La prueba de Kolmogorov-Smirnov fue utilizada en la evaluación de la conformidad de los datos para la distribución normal. Las relaciones entre las puntuaciones obtenidas del Cuestionario de Satisfacción Dental y las variables sociodemográficas se analizaron mediante las pruebas de Prueba U de Mann-Whitney y la Prueba de Kruskal-Wallis. Se obtuvo un índice de respuesta del 36%. El 98,5% de los sujetos estuvo satisfecho con los servicios recibidos. Hubo diferencia estadísticamente significativa entre la frecuencia de visitas y la escala de satisfacción dental ($p=0,001$). También hubo diferencia estadísticamente significativa entre las diferentes clínicas y el acceso, manejo del dolor, costo y disponibilidad ($p=0,001$, $p=0,014$, $p=0,001$, $p=0,001$, respectivamente). De igual forma, hubo diferencia significativa en los grupos de edad y el acceso ($p=0,014$) y entre el nivel educativo y el costo ($p=0,001$). Una gran mayoría de los pacientes que acuden a los servicios de la Facultad de Odontología UCR están satisfechos con el servicio recibido.

PALABRAS CLAVE: Satisfacción de los pacientes; Cuestionario; Odontología; Calidad; Acceso y evaluación de la atención de la salud.

INTRODUCTION

The quality of service offered consists of doing a good, efficient and optimal job with pre-established standards (1). Health services must be evaluated regularly to maintain or improve their quality levels and one of the ways to assess the quality of care provided is to measure user satisfaction (2).

User satisfaction in a health system is defined as the way the person perceived the service and its judgments about the care received. It is a multidimensional concept that evaluates patient-professional interactions, the physical

environment, and internal management processes (2,3). Patient satisfaction is one of the best quality indicators (4), and at the dental level, it has been reported that the more satisfied patients are with their dental treatments, the more likely they are to comply with professional recommendations and return for future care (5).

At the university level, dental school clinics play a prominent role in promoting oral health care (4). They try to achieve a balance between satisfying the needs of the patient and those of the students, always bearing in mind that patients and their satisfaction are fundamental to students education (6).

Several instruments are used to measure the satisfaction of users when receiving dental treatments, one of the most used is the "Dental Satisfaction Questionnaire" (DSQ) (6). This questionnaire was developed by the Rand Corporation based on data from the U.S. population. It consists of five dimensions: quality, accessibility, availability/convenience, pain management, and costs (7).

The DSQ has been applied to study the patient satisfaction in schools of Dentistry. For example, at the School of Dentistry of the University of Toronto and at the University of the Western Cape, the DSQ has used with good results (8,9). Also, the questionnaire has been translated into Spanish, the University of Valencia has validated it (10). In Costa Rica, this questionnaire has never been applied, so the objective of this research was to use the DSQ to determine the level of patient's satisfaction who attend all Undergraduate Student Clinics of the School of Dentistry of the University of Costa Rica (UCR) during the year 2021.

METHODOLOGY

PARTICIPANTS

The research was conducted with the entire population of patients who received dental care in the Undergraduate Student Clinics of the School of Dentistry UCR between April and September 2021. The calculation of the sample was based on a hypothesis of the prevalence of satisfaction of the protocols of 50%, an accuracy of 5%, a confidence interval of 95%, a test power of 80%, and expecting a 30% response. The inclusion criteria were patients of legal age and children's parents treated in the different clinics of the School of Dentistry UCR and who had agreed to be part of the research. The exclusion criterion was a patient with limited cognitive abilities who could not complete the survey.

ETHICAL CONSIDERATIONS

This study was approved by the Vice-Rectorate for Research of the University of Costa Rica and the Scientific Ethics Committee under code CEC-658-2019. In the header of the survey sent to the patients of the School of Dentistry UCR, the project, the confidentiality and, anonymization of the same, as well as the time it would take to complete it and the consent to participate in the study were explained.

DATA COLLECTION

A digital survey was generated with the questions of the DSQ questionnaire and sociodemographic variables. The survey was previously validated. Using the emails obtained from the dental software of the university clinic (Smile Software®) the survey was sent to all patients using the SurveyMonkey® platform. The survey was forwarded three times to get the most responses. The confidentiality and anonymization of the collected data were ensured.

Regarding the DSQ, the version translated into Spanish by López-Garvía (2014) (11) was used, modifications were made to adapt it to the School of Dentistry UCR. The questionnaire was composed of 19 items, where aspects of satisfaction in general, quality (questions 2,6,11,14,16,17 and 18; maximum value 35 points), cost (questions 3 and 10; maximum value 10 points), pain management (questions 4,8, and 19; maximum value 15 points), access (questions 5, 13 and 15; maximum value 15 points) and availability (questions 7 and 9; maximum value 10 points). The instrument used the Likert scale to assess the response in 5 categories (1 strongly agree, 2 agree, 3 not sure, 4 disagree, and 5 strongly disagree). For the analysis of the data, the response values (5=completely disagree; 1=completely disagree) of questions

2,6,7,9,10,12,14,15,16,18, and 19 were reversed to add in the same direction when interpreting the results. The minimum possible score is 19 points, and the maximum is 95. The sum of all the answers allowed to determine the Dental Satisfaction Questionnaire on a scale of 4 categories: very dissatisfied (scores from 19 to 37), dissatisfied (scores from 38 to 56), satisfied (scores from 57 to 75), and very satisfied (scores from 76 to 95).

The sociodemographic variables evaluated were: sex (male, female), age range (between 20 and 29 years, between 30 and 39 years, between 40 and 49 years, between 50 and 59 years, between 60 and 60 years, and more than 70 years), approved educational level (none, school, high school, university) and the province of origin (San José, Alajuela, Cartago, Heredia, Guanacaste, Puntarenas, and Limón), frequency of visits to the dentist, (none, 1 time a year, more than 1 time a year), and clinic in which he receives the service (pediatric dentistry, periodontics, endodontics, diagnosis, restorative, surgery or preclinic).

In the bivariate analysis, the variable “province of origin” was categorized as coming from the Greater Metropolitan Area (GMA) (San José, Cartago, Heredia, and Alajuela) or outside the GMA (Limón, Puntarenas, and Guanacaste). Age was reduced to 3 ranges (20-39 years; 40 to 59 years and over 60 years).

STATISTICAL ANALYSIS

The data were entered in an Excel spreadsheet (Microsoft, Inc., Redmond, WA, USA). Inconsistencies were entered and corrected. The data were analyzed using the SPSS version 25.0 program (IBM, New York, USA). Descriptive statistics were performed to establish the absolute and relative frequency, as well as measures of central

tendency and variability, according to the nature of the variables. The Kolmogorov-Smirnov test was used in the conformity assessment of the data for the normal distribution.

The relationships between the scores obtained from the Dental Satisfaction Questionnaire and the sociodemographic variables were analyzed using the Mann-Whitney U Test tests and the Kruskal-Wallis Test. A p-value <0.05, 95% CI, was considered significant. In a positive case, the Bonferrani post-hoc test was used.

RESULTS

A survey was sent to 2166 patients, 780 completed the questionnaire (response rate was 36%). Most participants were female (66.8%), 52.8% were in an age range between 20 and 39 years, 41.8% had university studies, 64.0% reside in the province of San José and 47.6% reported attending the dentist more than 1 time a year. Finally, a greater number of responses were obtained from people who received care in the Restorative Clinic (28.5%) and in the Pediatric Dentistry Clinic (16.7%) (Table 1).

According to the Dental Satisfaction Questionnaire, 33.1% of the surveyed population indicates that they are very satisfied with the service, 65.4% satisfied and only 1.5% dissatisfied. The average of the DSQ was 72.5 (7.0 SD) points (Table 2).

The questions with the best rating were 6 (mean 4.9; SD 0.4), 2 (mean 4.8; SD 0.6), and 12 (mean 4.8; SD 0.4), referring to quality aspects in the first two and continuity in the last. Those who obtained the lowest scores were 13 (mean 2.4; SD 0.7) referring to access and 1 (mean 2.7; SD 1.2) for satisfaction in general (Table 3).

Table 1. Distribution of sociodemographic variables (N=780).

Variables	N	%
Sex		
Male	259	33.2
Female	521	66.8
Age range		
Between 20 - 29 years	264	33.8
Between 30 - 39 years	148	19.0
Between 40 - 49 years	133	17.1
Between 50 - 59 years	138	17.7
Between 60 - 69 years	74	9.5
More than 70 years	23	2.9
Approved educational level		
None	4	0.5
Primary	132	16.9
High school	318	40.8
University	326	41.8
Province of origin		
San Jose	499	64.0
Cartago	120	15.4
Heredia	73	9.4
Alajuela	68	8.7
Puntarenas	9	1.2
Limón	7	0.9
Guanacaste	4	0.5
Clinic		
Restorative	222	28.5
Pediatric dentistry	130	16.7
Surgery	117	15.0
Preclínica	96	12.3
Endodontics	81	10.4
Periodontology	70	9.0
Diagnosis	64	8.2
Frequency of visit to the dentist		
None	54	6.9
Once a year	355	45.5
More than once a year	371	47.6

Table 2. Means and standard deviation for the overall DSQ and its domains.

DSDomains	# Question	Mean	SD	Maximum value	Minimum value
Access (15-3)*	3, 13, 15	9.8	1.9	14	3
Pain management (15-3) *	4, 8, 19	10.4	2.8	15	3
Cost (10-2) *	3, 10	8.2	1.3	10	2
Quality (35-7) *	2, 6, 11, 14, 16, 17, 18	29.6	2.9	35	14
Availability (10-2)*	7, 9	7.1	1.5	10	3
DSQ (95-19) *	All	72.5	7.0	91	52

*Maximum and minimum value possible according to the Likert scale.

Table 3. Average and standard deviation of the DSQ, aspects and questions of the questionnair.

Questions, total DSQ and aspects	Media	SD
1. Are there aspects of dental treatment that I receive that could be improved? ¿Hay algunos aspectos que podrían mejorarse?	2,7	1,2
2. Dental students show special care when examining their patients? ¿Los estudiantes de odontología muestran un cuidado especial cuando examinan a sus pacientes?	4,8	0,6
3. Are prices charged by the School of Dentistry UCR too high? ¿La Facultad de Odontología UCR cobran precios demasiado elevados?	3,8	1,0
4. Sometimes I avoid going to the dentist because it is very painful? ¿Algunas veces evito ir al dentista porque es muy doloroso?	3,3	1,4
5. Patients must wait a long time in the waiting room? ¿Normalmente los pacientes tienen que esperar mucho tiempo en la sala de espera?	3,6	1,1
6. Dental students always treat their patients with respect? ¿Los estudiantes de odontología siempre tratan a sus pacientes con respeto?	4,9	0,4
7. There are enough dentists in my area? ¿Hay suficientes dentistas en mi zona?	3,4	0,7
8. Dental Students need to do more to reduce pain? ¿Los estudiantes de odontología deben hacer más para reducir el dolor?	3,4	1,1
9. The School of Dentistry UCR is an easy access place? ¿La Facultad de Odontología está en un lugar fácil para llegar?	3,6	1,3
10. Dental students always avoid unnecessary expenses for their patients? ¿Los estudiantes de odontología siempre evitan a sus pacientes gastos innecesarios?	4,4	0,7
11. Dental students are not as thorough in examining their patients as they should? ¿Los estudiantes de odontología no son tan exhaustivos a la hora de examinar a sus pacientes como deberían?	3,6	0,7
12. I was treated by by the same dental student almost every time I need dental treatment? ¿Me atiende el mismo estudiante de odontología casi siempre que necesito tratamiento dental?	4,8	0,4
13. It is difficult to get a consultation with the dental student immediately? ¿Es difícil conseguir una consulta con el estudiante de odontología de forma inmediata?	2,4	0,7
14. Dental students are able to alleviate or cure most dental problems that patients may have? ¿Los estudiantes de odontología son capaces de aliviar o curar la mayoría de los problemas dentales que los pacientes puedan presentar?	4,2	0,8

Questions, total DSQ and aspects	Media	SD
15. The hours of operation of dental students are convenient for most people? ¿El horario de atención de los estudiantes de odontología es conveniente para la mayoría de las personas?	3,8	1,1
16. Dental students usually explain what the treatment will consist of and its cost before starting it? ¿Los estudiantes de odontología suelen explicar en qué consistirá el tratamiento y su costo antes de iniciarlo?	4,5	0,8
17. Dental students should do more to prevent people from having dental problems? ¿Los estudiantes de odontología deberían hacer más para evitar que las personas tengan problemas dentales?	3,3	1,1
18. The offices of the School of Dentistry UCR are modern and have the latest technologies? ¿Los consultorios de la Facultad de la UCR son modernos y disponen de las últimas tecnologías?	4,4	0,8
19. I'm not afraid to feel pain when I go to the dentist. ¿No tengo miedo a sentir dolor cuando voy al dentista?	3,7	1,3

When performing the bivariate analysis between the DSQ and each of the sociodemographic variables, it was found that there was a statistically significant difference between the frequency of visits and the dental satisfaction scale ($p=0.001$). If the variables are compared with each of the aspects or domains (access, pain management, cost, quality, and availability) measured by the questionnaire, the results were: in the access domain, there was a statistical difference in the means of age ($p=0.014$) and between the clinics there was also a statistical difference ($p=0.001$) (Table 4).

Regarding pain management, there was a statistically significant difference in the means of satisfaction of the clinics ($p= 0.014$), as well as the frequency of visits to the dentist ($p= 0.001$). In the cost, the difference was found in the clinical variables of care ($p=0.001$), educational level ($p=0.001$), and frequency of visits to the dentist ($p=0.001$). In the quality domain, there were differences in the variables of sex ($p=0.003$) and frequency of visits to the dentist ($p=0.009$). Finally, in terms of availability, there was a difference between the clinics ($p=0.001$) (Table 4).

Table 4. Mean (an standard deviation) values for DSQ and domains according the sociodemographic conditions studied.

Sociodemographic Variables	DSQ			Access			Pain management			Cost			Quality			Availability		
	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Age Range*			0.998			0.014			0.995			0.173			0.301			0.346
18-39 years	72.6	6.6		9.6 ^a	1.9		10.4	2.7		8.2	1.3		29.5	2.8		7.1	1.5	
40-59 years	72.5	7.4		9.9 ^{ab}	1.9		10.4	2.9		8.0	1.3		29.8	2.9		7.1	1.4	
More than 60 years	72.3	7.3		10.2 ^b	1.7		10.3	3.0		8.2	1.3		29.3	3.2		6.9	1.6	
Clinics*			0.438			0.001			0.014			0.001			0.241			0.001
Pediatric dentistry	72.0	6.1		8.9 ^a	1.9		10.2 ^{ab}	2.5		7.8 ^a	1.2		30.2	2.5		7.6 ^a	1.4	
Periodontology	71.5	7.6		9.7 ^{abc}	2.0		9.7 ^a	3.1		7.9 ^{ab}	1.5		29.6	2.9		7.1 ^{ab}	1.6	
Endodontics	71.6	6.7		10.0 ^c	1.9		9.6 ^a	3.3		8.1 ^{ab}	1.2		29.7	2.7		6.9 ^b	1.4	
Diagnostic	72.3	7.2		10.2 ^{bc}	1.9		10.3 ^{ab}	2.7		8.3 ^{ab}	1.3		29.1	3.6		7.0 ^b	1.3	
Restorative	73.1	6.9		10.2 ^{bc}	1.8		10.5 ^{ab}	2.8		8.2 ^b	1.3		29.6	2.9		7.0 ^b	1.5	
Surgery	72.9	7.2		9.9 ^{bc}	1.7		10.6 ^{ab}	2.7		8.5 ^b	1.1		29.2	2.8		7.0 ^b	1.5	
Preclinic	73.1	7.6		9.5 ^{bc}	1.9		11.1 ^b	2.7		8.3 ^b	1.4		29.5	3.2		6.9 ^b	1.5	
Origin+			0.890			0.381			0.721			0.973			0.576			0.918
GMA	72.5	6.9		9.8	1.9		10.4	2.8		8.2	1.3		29.6	2.9		7.1	1.5	
Outside the GMA	72.1	8.2		9.5	1.6		10.2	2.4		8.0	1.8		29.4	2.9		7.1	1.3	
Sex+			0.051			0.958			0.059			0.818			0.003			0.898
Male	71.8	7.3		9.8	1.9		10.1	2.9		8.2	1.3		29.2	3.0		7.1	1.4	
Female	72.9	6.8		9.8	1.9		10.5	2.8		8.2	1.3		29.8	2.9		7.1	1.5	
Educational level*			0.103			0.815			0.209			0.001			0.457			0.058
None	72.5	5.1		9.5	2.5		11.0	1.4		8.0 ^{ab}	1.2		29.3	3.9		7.3	1.0	
School	71.3	6.3		9.8	1.7		10.0	2.4		7.7 ^a	1.4		29.3	2.9		7.3	1.4	
High school	72.6	6.8		9.7	1.8		10.4	2.8		8.1 ^a	1.3		29.7	2.8		7.1	1.5	
University	72.9	7.3		9.8	2.0		10.5	3.0		8.4 ^b	1.2		29.6	3.0		6.9	1.5	
Frequency of visits dentist*			0.001			0.132			0.001			0.001			0.009			0.200
None	71.1a	6.8		9.7	1.8		9.5 ^a	3.3		8.0 ^{bc}	1.3		29.4 ^c	2.6		7.3	1.5	
1 time	71.3a	6.7		9.7	1.9		9.9 ^a	2.8		8.0 ^{ab}	1.3		29.3 ^{ab}	2.8		7.0	1.4	
More than 1 time	73.6b	7.0		9.9	1.9		11.0 ^b	2.7		8.3 ^c	1.3		29.9 ^c	3.0		7.1	1.5	

+Mann-Whitney U Test and the *Kruskal-Wallis Test, significant at the level p<0.05. Bonferroni correction, different lowercase letters indicate statistical difference; significant at the level p<0.1167, p<0.0125 and p<0.0071. SD: standard deviation.

DISCUSSION

The results obtained in this research show that most patients treated at the School of Dentistry of the UCR are satisfied with the service received. This is an adequate finding because patient's opinions play a significant role in the evaluation of the quality of care in a health service (12). Similar results were observed in studies carried out using the DSQ in other Schools of Dentistry such as the Dental Clinic of the Teaching Hospital Lagos State University and the School of Dentistry of the University of Jordan established that the levels of satisfaction, in general, were high (13,14). However, there is also a report that this overall satisfaction may change depending on when the research is conducted: in 2014 at the School of Dentistry of the University of the West Indies, 76.14% of patients treated were satisfied with the treatments received. But in that same School, another research carried out in 2017 indicated that only a third of users were satisfied (15,16).

In this research, no statistical difference was found between satisfaction in general and the sex of the participants, this situation has also been reported in other studies (9,13,15). However, in this investigation, when the association was made with other sociodemographic variables, a statistically significant difference was found: patients with a higher level of education considered that prices were high. This positive association between the participants' educational level and satisfaction in general or with some specific domain of those assessed in the DSQ has not been reported in most studies (9,16,17), only in a research carried out in the School of Dentistry of the University of Ajman it is indicated that the educational level was associated with the satisfaction in general: the patients of higher educational level were less satisfied with the treatment received (18).

Regarding the age of the patients, there was a positive association: the older subjects valued

better the access to the School of Dentistry UCR. In other research from the School of Dentistry of Lagos University Teaching Hospital, age also presented a statistically significant difference when related to overall satisfaction: older individuals were more satisfied than younger patients (17). Additionally, at the University of the Western Cape, a study indicates that age presented a positive association with cost and quality domains: younger subjects were more satisfied (9).

In this study the question with the better score was: "Dental students always treat their patients with respect", a similar situation occurred in the School of Dentistry of the University of Jordan and in the Dental Clinic of the School of Medicine and Dentistry of the University of Valencia where patients agreed to be very satisfied with the respect with which they were treated by the students (11,14).

In contrast, the question that received a lower score was when it was consulted "It is difficult to get a consultation with the dental student immediately", the above may be because, according to the patient care protocol in the School of Dentistry UCR, students must quote their patients in advance and schedule them in the Smile electronic file, so an appointment immediately can only be attended when it is an emergency.

The care provided by the different clinics showed no difference between them in terms of general satisfaction, but in most of their domains: cost, access, pain management, and availability there were differences. Concerning the cost, the parents who took their children to receive treatment at the Pediatric Dentistry Clinic were the ones who gave a lower score to this domain which indicates that they do not consider the prices charged by the UCR School of Dentistry, were too high however, these same subjects considered that access to the School is not the most satisfactory, this may be because they must travel with their children who

may get tired or bored, or the cost of transportation may increase.

With respect to pain management, the patients who attend the Endodontic Clinic were the ones less satisfied, the above may be since the individuals who come to this clinic require nerve treatment, and in many cases, from the beginning, they already come with pain and postoperative pain after treatment has been reported to be a situation that occurs relatively frequently (19). The domain of availability received a low score from patients attending at preclinical (clinics where undergraduate dental students make their first treatments on patients), this may respond to the fact that, in these clinics, students only have one shift a week to attend patients.

In this research, a relationship between the frequency of visits to the dentist and general satisfaction was observed. Patients who come more than once a year to the dental office are more satisfied. A similar result was found in research carried out at the Dental Clinic of the School of Medicine and Dentistry of the University of Valencia (11), researchers attribute this to the fact that sometimes, patients have few expectations regarding oral care, they conceive the dentist as a provider of rehabilitation services and not prevention so they do not regularly go to the dentist; and if the expectation and visitation to the dentist are low, satisfaction will be low.

In the School of Dentistry UCR in 2009 (20) and 2016 (21), two satisfaction surveys were carried out in which patients were not very satisfied with the infrastructure of the clinics. This situation changed in this study because when it

was consulted, the answers showed a high level of satisfaction, may be since the School of Dentistry UCR moved to a new and modern building in 2017 (22).

The delay time in the waiting room is an aspect that was not very well rated in the previous surveys and this trend continues. This is a problem that can negatively influence patient satisfaction (23). This situation is difficult to solve due the nature of the clinic: a teaching center where the treatments must be supervised by the instructors, which can extend the appointment and generate delays.

One of the limitations of this research was that the survey was answered only by a small percentage of people over 60 years of age. This could be since the questionnaire was sent by email, which could limit the response of this group of subjects. The lower use of technological tools by the elders could be an explanation for this situation (24). On the other hand, one of the strengths is that the results obtained will allow the Academic Unit to take action to maintain the quality of the service provided and take action on those aspects that can be improved. In the future, it is planned to continue applying the DSQ to monitor the satisfaction of patients who constitute a required part of the teaching-learning process in a teaching clinic such as the School of Dentistry UCR.

CONCLUSION

The patients who use the dental service of the School of Dentistry UCR are satisfied with the care received, there were no significant differences in the sex of the participants.

AUTHOR CONTRIBUTION STATEMENT

Conceptualization and design: N.G.M.
 Literature review: N.G.M. and A.L.S.
 Methodology and validation: N.G.M.
 Formal analysis: N.G.M.
 Research and data collection: N.G.M.
 Resources: N.G.M.
 Data analysis and Interpretation: N.G.M. and A.L.S.
 Writing-preparation of the priginal draft: N.G.M. and A.L.S.
 Writing: review and editing: N.G.M. and A.L.S.
 Supervision: N.G.M.
 Project administration: N.G.M.
 Acquisition of funds: no aplica.

REFERENCES

1. Reyes-Fernández S., Paredes-Solís S., Legorreta-Soberanis J., Romero-Castro N.S., Flores Moreno M., Andersson N. Satisfacción de usuarios con los servicios de salud bucal y factores asociados en Acapulco, México. *Rev Cubana Estomatol.* 2015; 52 (3): 19-28.
2. Macarevich A., Pilotto L.M., Hilgert J.B., Celeste R.K. User satisfaction with public and private dental services for different age groups in Brazil. *Cad Saude Publica.* 2018; 34 (2): 1-10. DOI: 10.1590/0102-311x00110716
3. Torres-González G.C., León-Manco R.A. Nivel de satisfacción de los pacientes atendidos en el Servicio de Ortodoncia de una Clínica Dental Docente peruana. *Rev Estomatológica Hered.* 2015; 25 (2): 122. DOI: 10.20453/reh.2015.2458
4. Klaassen H., Dukes K., Marchini L. Patient satisfaction with dental treatment at a university dental clinic: A qualitative analysis. *J Dent Educ.* 2021; 85 (3): 311-21. DOI: 10.1002/jdd.12428
5. Coolidge T., Tangcharoensiri S., Chan D.C.N., Phillips S.L. Dental School Patient Preferences for Receiving and Returning Patient Satisfaction Surveys. *J Dent Educ.* 2019; 83 (11): 1323-31. DOI: 10.21815/jde.019.129
6. Ahmady A., Pakkhesal M., Zafarmand H., Landon H. Patient Satisfaction Survey in Dental School Clinics: a review and Comparison. *J Dent Educ.* 2014; 79 (4): 388-94.
7. Davies A.R., Ware J.E. Development of a dental satisfaction questionnaire for the health insurance experiment. Santa Monica, CA: The Rand Corporation. Santa Monica, CA: The Rand Corporation. 1982. Available from: <http://www.rand.com>.
8. Khan P. Patient Satisfaction with Dental Services Provided by Dental Students. ProQuest Dissertations and Theses. 2019. Available from: <https://search.proquest.com/dissertations-theses/patient-satisfaction-with-dental-services/docview/2324923209/se-2?accountid=135034>
9. Sowole A. Patient satisfaction with care provided by a district dental clinic. 2007.
10. López López J., Terrades Oliver M., Rodríguez Poblador J., Roselió Llabrés X., EnriC Salas J., Chimenos Küstner E. Encuesta de satisfacción a pacientes que acuden al servicio de primeras visitas y de Integrada de Adultos de la Clinica Odontológica Universitaria de la Facultad de Odontología de la Universitat de Barcelona. *Av Odontoestomatol.* 2002; 18 (3): 144-51.
11. López-Garvi A.J., Montiel-Company J.M. A-SJM. Cross-cultural adaptation, validity and psychometric properties of the Spanish version of the dental satisfaction questionnaire. *Community Dent Health.* 2014; 31 (1): 44-9.
12. Nair R., Ishaque S., Spencer A.J., Luzzi L., Do L.G. Critical review of the validity of patient satisfaction questionnaires pertaining to oral health care. *Community Dent Oral Epidemiol.* 2018; 46 (4): 369-75. DOI: 10.1111/cdoe.12377
13. Adeniyi A.A., Adegbite K.O., Braimoh M.O., Ogunbanjo B.O. Factors affecting patient satisfaction at the Lagos State University

- Teaching Hospital Dental Clinic. *Afr J Med Med Sci.* 2013; 42 (1): 25-31.
14. Noor I., Alzer H., Algurini A., Alsawalhi D., Hait S., Alsoleihat F., et al. Patients Satisfaction With The Dental Treatment Provided At The University of Jordan Students Clinics. *Res Sq.* 2021; 1-10. DOI:10.21203/rs.3.rs-1153823/v1
 15. Balkaran R.L., Osoba T., Rafeek R. A cross-sectional study of patients' satisfaction with dental care facilities: A survey of adult treatment at the University of the West Indies, School of Dentistry. *West Indian Med J.* 2014; 63 (5): 490-8. DOI: 10.1111/cdoe.12377
 16. Rohit D., Rafeek R. Patient satisfaction with dental care treatment at a Health Facility in Trinidad. *Dent Clin North Am.* 2017; 4 (2): 266-78. DOI: 10.1016/s0011-8532(22)00311-1
 17. Orenuga O.O., Sofola O.O., Uti O.O. Patient satisfaction: a survey of dental outpatients at the Lagos University Teaching Hospital, Nigeria. *Nig Q J Hosp Med.* 2009; 19 (1): 47-52. DOI: 10.4314/nqjhm.v19i1.50208
 18. Hashim R. Patient satisfaction with dental services at Ajman University, United Arab Emirates. *East Mediterr Heal J.* 2005; 11 (5-6): 913-21.
 19. Alves-Silva E.G., Arruda-Vasconcelos R., Louzada L.M., De-Jesus-Soares A., Ferraz CCR, Almeida JFA, et al. The effect of photodynamic therapy on postoperative pain in teeth with primary endodontic infection. *Photodiagnosis Photodyn Ther.* 2022; 37 (November 2021): 2-7. DOI: 10.1016/j.pdpdt.2021.102700
 20. Camacho Y. Satisfacción del usuario del servicio odontológico de la Clínica de Periodoncia de la Facultad de Odontología de la Universidad de Costa Rica en el periodo de abril-mayo del 2016 [Internet]. Vol. 2. 2016. Available from: <https://www.oecd.org/dac/accountable-effective-institutions/Governance-Notebook-2.6-Smoke.pdf>
 21. Howard M., Jiménez M. La percepción de la población de pacientes sobre los servicios clínicos ofrecidos por la Facultad de Odontología de la Universidad de Costa Rica. *Odóvtos.* 2009; 2: 47-51.
 22. UCR. Facultad de Odontología, nuevo edificio, Fideicomiso UCR-BCR. Available from: <http://oepepi.ucr.ac.cr/2016/07/05/clinicas-odontologicas-de-fac-odontologia-fideicomiso/>
 23. Al-Mudaf B.A., Moussa M.A.A., Al-Terky M.A., Al-Dakhil G.D., El-Faragy A.E., Al-Ouzairi SS. Patient satisfaction with three dental speciality services: A centre-based study. *Med Princ Pract.* 2003; 12 (1): 39-43. DOI: 10.1159/000068160
 24. Cruz Díaz M., Román García S., Pavón Rabasco F. Del uso de las tecnologías de la comunicación a las destrezas en competencia mediática en las personas mayores. *Redes.com.* 2015; (12): 86-111. DOI: 10.15213/redes.n12.p86

