

Factors that Influence the Adequate Application of Patient Safety in Dental Surgery Clinic, Teaching-Service at A University Factors that Influence the Patient Safety in Dental Surgery

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Received Date: December 02, 2022 Accepted Date: January 02, 2023 Published Date: January 06, 2023

Citation: Quiroga Claudia (2023) Factors that Influence the Adequate Application of Patient Safety in Dental Surgery Clinic, Teaching-Service at A University Factors that Influence the Patient Safety in Dental Surgery. J Dent Oral Health 9: 1-9.

Abstract

Objective: To evaluate the factors that affect the proper application of patient safety in reference to a dental clinic of surgery, teaching-service, in a university of Cali-Valle.

Methods: A non-experimental, observational, descriptive research of a mixed nature was carried out with qualitative elements that categorizes the factors that affect patient safety in the described context, in turn the application and execution of the guidelines established in existing standards is quantitatively evaluated; the documents related to the legal norm, the application at the institutional level and the fulfillment of priority standards of biosecurity, protocols and patient safety were analyzed, where students, teachers and administrative staff participated. Variables were used to make visible the conditions of safe care by all those involved in the actions.

Results: These show with respect to the standard, the infrastructure fully complies with more than 2/3 parts of required elements, but there are 5 percentage points above 1/3 part that does not fully comply. In biosecurity and protocols, knowledge and actions are high; regarding patient safety, the results are in the middle range with respect to knowledge of administrative processes.

Conclusions: It is necessary to reinforce compliance with the regulations of the Ministry of Health and articulate the knowledge and actions of the personnel involved. Promote the culture of patient safety as an essential action at all stages of student training, to guarantee the quality of the provision of services carried out by students and professionals in the dental area.

Keywords: Patient Safety; Unsafe Action; Incident; Priority Standards; Biosafety; Infrastructure; Regulations

Introduction

Public or private health providers must ensure compliance with a regulatory obligation such as the development of policies to protect patient safety, this challenge becomes even more rigorous when it comes to dental care clinics, which provide service performed by students in training with the guidance of expert teachers

In oral surgery clinics, daily procedures are developed, which must be adjusted to sufficient protocols and health measures that consider multidimensional factors, to avoid inappropriate care or neglect in basic actions, such as exposure to infections, the application of intraoral anesthesia, among others, originated in external conditions or poorly practiced basic procedures. These situations can cause reversible or irreversible damage to the patient, which constitute adverse events that influence the balance of the health of individuals [1].

In Colombia, resolution 3100 of 2019, is currently considered the most important regulatory framework in terms of patient safety, considering that it was based on the guidelines of Regulatory legal source that compiled the existing standards on the health and social protection sector. In this resolution, the necessary standards that must be met by the Health Provider Institutions called IPS and the offices of health professionals among other issues are indicated, whose purpose is based on reducing the risk in the country in care and mitigating the risk of adverse procedures [2].

Patient Safety is considered as a constant concern in the health sector considering what is indicated by the WHO for the year 2019:

“The burden of injury and other harm to patients from adverse events is probably one of the top 10 causes of death and disability in the world, comparable to that of tuberculosis and malaria, and that the available evidence suggests that most of this burden falls on low- and middle-income countries, where 134 million healthcare-related adverse events occur annually in hospitals, due to unsafe care, contributing to 2.6 million deaths” [3].

This leads to the issue of Patient Safety becoming important in terms of scientific research that helps measure adverse events to have constant studies, which allow comparing the quality of health care, which has the main interference in the quality

of life of people, reflected in the obligation of the State, which through government entities, must deploy the normative range to address the problems that affect human rights and especially fundamental rights.

The development of the concept worldwide has been based on studies dating from the mid-twentieth century

a) United Kingdom (1952), because of the high rate of medical demand for negligence, so they developed research on maternal deaths to determine the cause of poor medical care, in addition to monitoring and controlling certain drugs used in patient treatment, factors or elements that are currently part of patient safety [4].

b) In the United States (1984) the Harvard University medical practice study was carried out, known as the patient safety research model [5].

(c) In (1992) the United States, Australia and the United Kingdom conducted studies that gave rise to the National Agency for Patient Safety.

d) In (1999) the study *Error es Humano* was carried out [6].

(e) WHO in 2004 launched the “Global Partnership for Patient Safety, Patient Safety Research, Greater Knowledge for Safe Care”, which promoted research to improve the quality of health care [7].

f) For the year (2004) Taylor-Adams and Vincent presented the London protocol constituting the roadmap for researchers to analyze, classify and prevent adverse events quickly, this protocol was based on the model of Swiss cheeses proposed by Reason by which it is determined that a failure in health care is composed of a set of failures that align and allow the filtration of a medical error that leads to harm in the patient [8].

g) In the year (2005), the ENEAS Study was carried out in Spain, through the Ministry of Health and Consumer Affairs with the support of the Miguel Hernández University, advanced the model of the National Study on adverse effects linked to hospitalization. ENEAS 2005, which takes as a reference the one developed in the IDEA Project: Identification of Adverse Effects” [9].

h) In (2009) WHO made a conceptual definition so that there is a conceptualization of the general terms on patient safety [10].

i) In (2009) in Latin America, the IBEAS study was carried out by the World Health Organization, the Pan American Health Organization, the Ministry of Health and Social Policy of Spain, and the Ministries of Health and institutions of Argentina, Colombia, Costa Rica, Mexico, and Peru”, the IBEAS project: beyond an epidemiological study of adverse events which aimed to “measure the adverse events that occur as a result of medical care in hospitals.” [11].

In Colombia, patient safety has been developed in accordance with the provisions of paragraph 1 of Article 4 of Decree 1011 of 2006 [12], Ministry of Social Protection, now the Ministry of Health and Social Protection, which seeks to determine the standards that guarantee a good quality in the provision of health service, subsequently in 2013, resolution 1441 [13] “Defining the procedures and conditions that Health Service Providers must comply with to enable services and issuing other provisions” was issued, repealed by resolution 2003 of 2014 [14], that became the basis of quality care in health services, and then it was replaced by resolution 3100 of 2019.

The theme of patient safety in Teaching-Service in Colombia has as one of its close antecedents, the research addressed by the Faculty of Dentistry of the University of Antioquia, calls: “Characterization of unsafe care in dentistry in the Teaching-Service Institutions of the Colombian Association of Faculties of Dentistry in Colombia “ ACFO, this study had the support of various researchers and dental schools nationwide [15]. The application of patient safety from the science of dentistry is considered something relatively new, they must give this matter where, some that most professionals have. In this compilation of theoretical references, the authors indicated, that the concept of patient safety is derived from a quaternary prevention understanding that health care carries some type of risk that can sometimes trigger a negative result for the patient, in addition, on the other hand they proposed that patient safety is transversal to the quality of health care, considering that its own purpose is to prevent possible medical of dentistry errors [16].

For that reason, in accordance with the interest described the study was developed as mixed research with qualitative elements that categorizes the factors that affect patient safety in the context described, in turn quantitatively evaluating the application and execution of the guidelines established in existing standards. From an educational context, considering the principles of the university institution [17] analyzed, Quality, Ethics and Social Responsibility, are considered, among others, for the training of students who contribute to society. The devel-

opment of studies that are carried out to strengthen patient safety in teaching-service dental clinics, favor the training of students who contribute to society. This is how this research sought to show the strengths or possible shortcomings that were presented in terms of infrastructure of the dental clinic, compliance with protocols and biosecurity standards for safe care, by teachers, students and the causes that affect the processes carried out by the cleaning staff dependent on the administrative area of the clinic. Which led to the formulation of the research question: What are the factors that indicate the proper application of patient safety in a dental clinic of surgery Teaching-Service in a university in Cali in the period 2020b?

This article aims to show the results of the analysis about the factors that affect the safe care of patients, based on current regulations, including items corresponding to infrastructure and compliance with priority standards including biosecurity, care protocols and patient safety, which have an impact on adequate care by health service providers; This work was developed in a teaching clinic service area of surgery of a University that meets the educational standards of a country in Latin America.

Objectives

The general objective of the study was to evaluate the factors that affect the adequate application of patient safety in dental surgery clinic, teaching-service at a university in Cali-Valle for the period 2020b and the specific objectives were:

- Characterize socio-demographically those involved responsible for patient safety (administrators, teachers, and students). In the clinic teaching-surgery service.
- Classify the compliance of the space in terms of infrastructure of the dental clinic under study with respect to patient safety.
- Determine in accordance with current national regulations compliance with priority standards, biosecurity, protocols, and patient safety in the clinic in question.

Materials and Method

The research was endorsed by the ethics committee of the Faculty of Health of the Institution, that was developed had a basic non-experimental character, through the type of descriptive observational study of mixed; that is, qualitative and quantitative, applied to the different variables, which made it possible

to make visible whether measures have been taken in the teaching clinic to counteract the adverse events that students may face day by day.

By means of a survey carried out in a sample of 60 people belonging to a population of 110 people, corresponding to 4 teachers, 4 biosecurity personnel, 4 administrative staff, 36 students belonging to surgery clinic I and 62 students assigned to surgery II, so a sample was taken corresponding to 54% of the total population.

Therefore, the survey served for the characterization of the population and to determine compliance with priority standards. Through the 13-item checklist, it was determined whether the infrastructure of the dental clinic under study complied with what was proposed by Resolution 3100 of 2019, which began to take effect from 2020, but whose application was real with the return of total face-to-face attendance at the end of 2021.

Results

Relevant findings are presented that contextualize the results of the study that allow us to understand and articulate what was found in the research.

Of the total number of participants in the study, most were male, made up of students, followed by an equal percentage of teaching staff and administrative dependents, including those in the biosecurity area. The highest percentage in the age range was between 18 and 28 years old, related to the participating students, who attended the clinical practice of Surgery I and II. Teachers and other administrative staff constituted 10%.

There is total or partial compliance according to the results shown in the table.

The following analysis grid specifies the items corresponding to the compliance classification, and the articles of the standard

Table 1: Socio-demographic characterization of the personnel under study

CONCEPT		%	Total %
GENDER	Male / female	71,67% - 28,33%	100
PEOPLE	Students; teachers; administrative staff; biosecurity personnel	90,00%; 3,33%; 3,33%; 3,33%	100
AGE RANGE	18-28; 29-39; +40 años	85,00%; 8,33%; 6,67%	100
TYPE OF CLINICAL PRACTICE	Surgery practice I. Surgery practice II. Person in relation to the 2 clinical practices	43,33%; 46,67%; 10%	100

Source: Research fellow

Table 2: Percentage distribution of Number of Items and compliance in the category of infrastructure according to the regulations

INFRASTRUCTURE		
In relation to Resolution 3100	%	ITEMS
Fully compliant	61,54%	8
Complies with observations	38,46%	5
Total	100%	13

Source: Research fellow

Grid 1: Compliance with items according to resolution 3100

Patient Safety in Accordance with the Resolution				
Observation item	Indicator	Results		Observation
	Manual of Registration of providers and habilitation of health service	Comply	Does not comply	observation
FACTOR: INFRASTRUCTURE (cleaning and disinfection)				
Mixed-use building	Art. 11.1.2.#1	X		
The block where the Dental Clinic is located has an elevator or ramp for disabled access	Art.11.1.2 # 8	X		Does not exist ramp to access the dental clinic
The stairs that lead to the clinic, are made of non-slip material	Art.11.1.2 # 12	X		
The clinic has a power electric plant	Art.11.1.2 #14.	X		Although it has an electric plant when the electric energy goes away, the service is suspended.
The cubicles have good artificial or natural lighting	Art.11.1.2 # 18	X		The clinic has 72 independent practices. (5) fully enclosed, there are 10 cubicles have difficult light access
The area of the clinic is free of obstacles, which allows the movement of students and teachers	Art.11.1.2 #19.	X		
The Dental Clinic has its respective signage	Art.11.1.2. # 21- 22.	X		
The cubicles of the dental clinic allow the installation and mobilization of necessary equipment	Art.11.1.2. #20.	X		
Cubicles comply with regulations	Art.11.1.2 # 28.4.	X		The clinic is classified by the Ministry of Health as a Provider with a Different Social Purpose, has a sink per office and work desk. They do not appear as exactly described in the resolution.
The bathrooms of the Dental Clinic comply with the regulations	Art.11.1.2 36.	X		It has basic elements of sanitary battery and washing, it does not have the rest of the elements.
The place complies with cleaning and disinfection	Art.11.1.2 #41.	X		
Ceilings and walls are waterproof	Art. 11.1.2 #43	X		
The dental clinic has half a cane in its edges	Art.1.1.2 #44	X		

Source: Research fellow

Table 3: Percentage distribution of the questionnaire on priority standards according to the regulations

PRIORITY STANDARDS									
About Patient Safety									
QUESTION	Always		Almost Always		Ever		Never		TOTAL
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
Q1 knowledge of adverse events, administrative procedure and actions	30	50 %	17	28,33 %	12	20 %	1	1,67 %	100
Q4 presence of the adverse event	2	3,3%	3	50%	10	16,67%	45	75%	100
QUESTION	Total, Conocimiento		Mediano conocimiento		Poco Conocimiento		No Tengo Conocimiento		TOTAL
	Frecuencia	%	Frecuencia	%	Frecuencia	%	Frecuencia	%	
P2 existencia del comité de Seguridad del Paciente.	17	28,30%	31	51,67%	10	16,67%	2	3,33%	100
P3 Análisis de las causas que produjeron la acción insegura	24	40 %	21	35 %	12	20 %	3	5 %	100
Bioseguridad y Protocolos									
PREGUNTA	Siempre		Casi Siempre		Alguna Vez		Nunca		TOTAL
	Frecuencia	%	Frecuencia	%	Frecuencia	%	Frecuencia	%	
P5 Protocolo lavado de manos	50	83,33%	9	15 %	1	1,67%	0	0	100
P6 Elementos de Bioseguridad	57	95%	3	5%	0	0	0	0	100
P7 Elementos de bioseguridad en el Cubículo	28	46,67%	18	30%	9	15%	5	8,33%	100
P8 Promoción de la Bioseguridad	43	71,67%	14	23,33%	2	3,33%	1	1,67%	100
P9 Uso de bata	58	96,67%	2	3,33%	0	0	0	0	100
P10 obligatoriedad del tapabocas	1	1,67%	2	3,33%	4	6,67%	53	88,33%	100
P11 Prevención y mitigación Covid-19	Bueno		Excelente		Regular		Malo		TOTAL %
	31	51,67%	19	31,67%	8	13,33%	2	3,33%	

Regarding patient safety, assessed in adverse events (AEs), 75% of the population manifests in the survey, not having been the protagonist, nor observer of these facts

Discussion

From the scope of application of Resolution 3100 of 2019 in its article 2 numeral 2.4, the USC in the Dental clinic must comply with the infrastructure standards contained in the resolution, some administrative, teaching and students, due to ignorance of resolution 2003 of 2014 (different corporate purpose) may consider that this type of health care is excepted.

Although in the Dental clinic for the period 2020B, no adverse events were reported, it was found that more than 20% of the population under study does not know what to deal with an adverse event, more than 13.63% has no knowledge of the Patient Safety Policy devised by the University and 20% do not know if the University performs any type of analysis of adverse events, so it is necessary for the Institution to promote more the culture of Patient Safety for all areas of clinical care, figures that are alarming before the provision of a health service.

Conclusions

It is concluded that the regulatory guidelines regarding the physical infrastructure of dental service providers have had minimal regulatory changes; as for the infrastructure standards contained in resolution 2003 of 2014 compared to the current regulations, it does not make significant changes, in order not to generate major modifications. The Dental Clinic of the Santiago de Cali University since it was built and opened, has adjusted seeking to ensure the well-being of students, patients, teachers and administrative staff.

Regarding the culture of patient safety emphasized in resolution 3100 of 2019, it is evident that the clinic under study lacks to address issues of access to public information, because the patient safety manual is on a platform called DARUMA, which requires permits for access. In this aspect, to strengthen the culture of Patient Safety, there are academic and administrative processes that allow teachers and students the basic knowledge to act in a situation of adverse event.

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