



REVIEW ARTICLE

Bibliographical review of behavioral management techniques in pediatric patients during dental care

Técnicas de manejo de la conducta de pacientes pediátricos durante la atención odontológica

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ABSTRACT

Introduction: the reduction or disappearance of children's fear of dental treatment is the main purpose to achieve a successful visit to the consultation.

Objective: to describe behavioral management techniques in pediatric patients during dental care by collecting information to provide comprehensive care.

Methods: the article compiles information from 30 documents that were selected according to the inclusion and exclusion criteria. Those that presented scientific content from reliable sources (articles, magazines, texts, publications, books) with information regarding techniques for managing the behavior of pediatric patients during dental care, published in the last five years, since the 2017 until 2021, in Spanish and English.

Development: Within communication, the appropriate use of pediatric language adapted to the age of the patient is necessary, in addition to prior preparation being another key, these steps are part of one of the techniques most used by dental professionals, "Tell-Show-Do" that can be accompanied by "Positive Reinforcement" to reward favorable behaviors of the pediatric patient, desensitizing them for future treatments. The dental professional must take into account that the presence of parents positively or negatively affects the behavior of children.

Conclusions: Behavior management techniques are grouped into two large groups that correspond to pharmacological and non-pharmacological techniques, referring to the use or not of drugs.

Keywords: Pediatric Dentistry; Behavior; Anxiety; Fear.

RESUMEN

Introducción: la disminución o desaparición del miedo en niños al tratamiento odontológico es la principal finalidad, para conseguir una visita exitosa a la consulta.

Objetivo: describir las técnicas del manejo de conducta en pacientes pediátricos durante la atención odontológica mediante la recopilación de información para brindar una atención integral.

Métodos: el artículo recopila información de 30 documentos que fueron seleccionados de acuerdo con los criterios de inclusión y exclusión. Fueron incluidos los que presentaban contenido científico de fuentes confiables (artículos, revistas, textos, publicaciones, libros) con información referente a las técnicas del manejo de la conducta de los pacientes pediátricos durante la atención odontológica, publicados en los últimos cinco años, desde el 2017 hasta 2021, en idioma español e inglés.

Desarrollo: dentro de la comunicación es necesario el uso adecuado de un lenguaje pediátrico adaptado a la edad del paciente, además que la preparación previa es otra de las claves, estos pasos hacen parte de una de las técnicas más usadas por los profesionales Odontólogos, "Decir-Mostrar- Hacer" que se puede acompañar del "Refuerzo Positivo" para premiar conductas favorables del paciente pediátrico desensibilizándolo para futuros tratamientos. El profesional odontólogo debe tener en cuenta que la presencia de los padres afecta de manera positiva o negativa en la conducta de los niños.

Conclusiones: las técnicas de manejo de conducta están agrupadas en dos grandes grupos que corresponden a técnicas farmacológicas y no farmacológicas, haciendo referencia al uso o no de fármacos.

Palabras clave: Odontología Pediátrica; Conducta; Ansiedad; Miedo.

INTRODUCTION

Reducing children's fear of dental treatment is the main purpose to achieve a successful consultation. The American Academy of Dentistry recommends that the first dental appointment should be carried out at six months of age, at least up to twelve months so that the child can get used to the office, which is why the office must have an environment suitable for children, and thus in future appointments the patient does not arrive with fear or anxiety, on the contrary, he arrives at the office with a positive demeanor.⁽¹⁾

The dental professional must recognize anxiety in children to change their behavior. The effectiveness of behavioral change is inversely proportional to age. Furthermore, recognizing anxiety and fear allows for the application of appropriate behavioral techniques to develop dental care in children and prevent it from turning into a phobia of the dentist.⁽²⁾

Children's fear of a dental visit is caused by: traumatic experiences, excessive protection of parents, environmental factors, cultural factors, fear of the unknown, age, sex. The child's first dental appointment can be traumatic due to being exposed to new olfactory, visual and auditory stimuli (sounds, smells), which can cause stress, anxiety, so the first dental appointment must be harmonious, trust must be generated by applying age-appropriate behavior management techniques.⁽³⁾

Every professional has the obligation to inform the tutor of the techniques to be used before applying them, due to the legal scope, to achieve approval from the tutor, improving the professional - patient - tutor relationship. In the legal field, the approval of procedures and techniques is called informed consent, it requires knowledge of risks, in addition to the benefits and approval of this, it is subscribed to in the reforms of the penal code, they can be causes of license elimination up to penalties. exclusive for the professional.⁽⁴⁾

The objective of this review was to establish behavioral management techniques in pediatric patients during dental care.

METHODS

The article compiles information from 30 documents that were selected according to the inclusion and exclusion criteria, 20 documents were discarded because they did not meet the established criteria. Those that presented scientific content from reliable sources (Articles, magazines, texts, publications, books) with information regarding techniques for managing the behavior of pediatric patients during dental care, published in the last five years, since the 2017 until 2021, in Spanish and English. Those whose source was unreliable, and lacked the necessary information for the contribution of this research, in a language other than those selected and articles published before 2017, were excluded.

DEVELOPMENT

Within the research it can be deduced that the techniques for managing the behavior of pediatric patients available to dentists during dental care are:

Non-pharmacological techniques.⁽⁵⁾

They aim to deal with fear, trepidation and anxiety without the use of drugs, they are the first alternative for pediatric patients who do not accept dental treatment.

Tell-Show-Do.⁽⁶⁾

Technique inserted by Addelston in 1959, composed of three steps, in the first step "tell" the patient and guardian is informed of all dental procedures, in the second step "show" all the instruments are made known to the patient, for the third In the "do" step, the dental procedure is carried out as reported, the appropriate vocabulary must be used according to the age. In pediatric patients with a higher level of fear and anxiety, the dental procedure can be demonstrated on a doll or on the parents.

Distraction.⁽⁷⁾

It is one of the most used techniques during dental care, it diverts children's attention, avoids unpleasant sounds and images, the main distractors are:

Use of electronic devices, movies, series, videos, music therapy, hypnosis, relaxation, children's stories, toys and mirrors, have given positive results during dental care, which is why it has become one of the techniques of choice by the professional. dentist.⁽⁸⁾

Modeling.⁽⁹⁾

It is a technique that allows children to be educated through observation, using other children who have positive access to dental treatment.

Positive Reinforcement.⁽¹⁰⁾

It is the technique used during and at the end of the dental procedure, it consists of praising appropriate behavior, with phrases such as "Very good", "How strong", "What beautiful teeth", in addition to rewarding with objects such as: toys, balloons, etc.

Voice Control.⁽¹¹⁾

Indicated for children aged three years and older, with this technique the child's attention is achieved, by increasing the tone of voice one takes control, directing or influencing behavior, it is suitable for communicative children and is contraindicated for children with emotional immaturity or little ability to understand.

Protective Stabilization.⁽¹²⁾

Like pharmacological techniques, by their nature, these require informed consent with greater importance. It consists of partially or totally restricting the patient's movement. This can be done with the help of parents, ontological assistants, and a pediatric package and a mouth opener can also be used.

Pharmacological Techniques

These are the techniques used as the last treatment option, after having used all non-pharmacological techniques, using medications to relieve anxiety, cause drowsiness, loss of consciousness and cope with stressful moments.

Sedation

It is recommended in:

1. Patients with fear and anxiety, in whom basic behavioral techniques did not work.
2. Patients who do not have psychological maturity or mental or physical incapacity.

Conscious Sedation.⁽¹³⁾

It can be done by inhalation of Nitrous Oxide (N₂O), Oxygen (O₂), this is an alternative for pediatric patients who have a high level of stress and anxiety, phobia of the dentist, this allows the child to maintain verbal contact, follow instructions and cooperate throughout the dental procedure, it also helps prevent spontaneous movements, providing favorable results, the child is relaxed, calm, one of the advantages is that it is a safe technique for the patient in addition to maintaining the airway patent.

Deep sedation.⁽¹⁴⁾

The application of intravenous medications is used, the most commonly used are Midazolam, Methohexital, Ketamine, the child has a loss of consciousness, it is not easy to wake him up, but he has a response to painful or repeated stimuli, his airway is not patent, A professional anesthesiologist will monitor the patient's vital signs during the dental procedure.

General Anesthesia.⁽¹⁵⁾

It is recommended for children with special abilities, it gives us security and control in dental treatment, even though it is considered the last option in dental treatment, it causes the child to lose consciousness, it is not easy to wake him up since he has no response to painful stimuli, the airway is not patent and this procedure is performed at a hospital level.

The Frank scale is the scale that allows us to evaluate the patient's behavior during dental care, classifying patients according to their behavior. Dentists will be able to apply appropriate behavior management techniques according to the classification obtained in the patient.

Table 1. Frank Behavior Scale.⁽¹⁶⁾

FRANK BEHAVIOR SCALE	
Category	Description
Definitely Negative	Refuses treatment Intense crying Strong limb movements No verbal communication possible Aggressive behavior
Slightly Negative	Refuse treatment Mild limb movements Shy behavior Block communication Accepts and obeys some orders Monotonous crying
Slightly Positive	Accept treatment cautiously Sporadic crying It's reserved Verbal communication can be established Easily fluctuates between slightly negative and slightly positive
Definitely Positive	Cooperation Good communication Motivation and interest in treatment Relaxation and control of the extremities.

With the classification according to behavior, it is determined which is the ideal behavior management technique for the pediatric patient during dental care.

Table 2. Effectiveness of Techniques according to the Frank Scale, particular approach.⁽¹⁶⁾

Effectiveness of Techniques according to the Frank Scale		
Definitely Negative	General Anesthesia	
	Deep sedation	
	Conscious Sedation	
	Protective Stabilization	
Slightly Positive	Voice Control	Slightly Negative
	Modeling	
	Distraction	
	Tell-Show-Do	
	Positive Reinforcement	Definitely Positive

According to Townsend et al.,⁽¹⁾ the dental professional must know that the factors that influence the child's behavior are: Demographics, Environment, Fear, Pain, Anxiety and parental influence, so it is necessary to prepare the stage for an orientation. Successful behavior directly influences the office, planning, the dental team and, to a greater extent, the dental professional.

Emphasis is placed on the need to obtain informed consent from parents or legal representatives, it is necessary that the children's legal representatives understand and trust the management techniques and the treatment plan for the child, Allen ensures that the The best way is oral communication, however it is vital to obtain the signature. It must be kept in mind that informed consent can be revoked at any time. In this situation, the dentist must complete the treatment as soon as possible.

According to Calvo,⁽¹⁶⁾ within communication, the appropriate use of pediatric language adapted to the age of the patient is necessary, in addition to prior preparation being another of the keys, these steps are part of one of the techniques most used by professionals. Dentists, "Tell-Show-Do" that can be accompanied by "Positive Reinforcement" to reward favorable behaviors of the pediatric patient, desensitizing them for future treatments. The dental professional must take into account that the presence of parents positively or negatively affects the behavior of children. At this point, the experience of the professional is put into play in addition to the knowledge or adapted instruction to select the appropriate path for behavior management according to Otazu.⁽¹¹⁾

According to Carrillo et al.,⁽⁶⁾ distraction reduces the level of anxiety, the most used distractor element is audiovisual, it efficiently absorbs the attention of pediatric patients as long as virtual glasses are used, music is another distractor that promotes a comfortable environment for children.

According to the book *Advances in Pediatric Dentistry*,⁽¹⁷⁾ modeling is a technique that consists of showing the correct behavior in another patient. A video is suggested because it provides versatility for the dental professional. Positive reinforcement is another technique that maintains or increases behaviors with the use of rewards and praise for appropriate behaviors. For the voice control technique, it is advisable not to shout, increasing the tone of voice is the key to gaining the attention of the pediatric patient.

Physical restraint prevents accidents caused by sudden movements, it can be active if an individual intervenes by holding the hands or knees, it can be passive through the application of devices such as the pediatric bag and mouth opener.⁽¹⁸⁾

According to González et al.,⁽¹²⁾ conscious sedation is mild, uses drugs, does not limit verbal response, can decrease coordination and cognitive function, or conscious sedation is moderate where the patient responds to certain commands, stimuli, and is not required. Pay attention to neither cardiovascular nor respiratory function.

Deep sedation is highly risky even if applied by a professional, the patient must be carefully selected and prepared with a dietary regimen, it requires strict control, it subsequently requires documenting the level of consciousness and oxygen saturation of pediatric patients, However, it must be taken into account that deep sedation can cause serious damage such as respiratory depression to laryngospasm, brain damage and death.⁽¹⁹⁾

According to Yung Pan Chen et al.,⁽²⁰⁾ dental professionals are not willing to invest a large amount of time in children who are strongly opposed to treatment and are looking for a more effective path such as general anesthesia, which in recent years has been widely accepted in countries such as Taiwan, European countries and North America, however, there are few studies and information on this treatment method.⁽²¹⁾

CONCLUSIONS

The dental professional must be trained to observe the behavior of pediatric patients, the Frank scale is a tool that directs the professional towards the appropriate behavior management method, other uniqueness of the patients can be adopted to select the dental management method. behavior such as eye movement, putting your hands to your mouth itself, your body language.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

Author contributions

All authors participated in conceptualization, data curation, formal analysis, research, methodology, supervision, writing-original draft, writing-review and editing.

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