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Behavioral management techniques in pediatric dentistry: A review

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Abstract

Introduction: Pediatric dentistry currently faces a great challenge regarding the management of child behavior during the consultation in an effective manner and the perception that parents have regarding the techniques that can be used.

Objective: To analyze the literature on behavior management techniques in pediatric dentistry at present, reviewing parental acceptance of techniques such as tell-show-do, protective stabilization, sedation, visual distraction and other techniques.

Methodology: The search was performed in Pubmed, Scopus and Google Scholar databases. The terms "pediatric dentistry", "tell-show-do", "protective stabilization", "sedation" and "audiovisual distraction" were used.

Results: The tell-show-do technique has shown greater efficacy in reducing anxiety and encouraging patient cooperation compared to other techniques, the main advantage being its acceptance. On the other hand, protective stabilization is considered the least accepted technique by parents and patients. Analyzing the studies, it was determined that the main advantage of sedation is that it is the advanced behavior management technique most accepted by today's parents. Visual distraction was shown to considerably reduce anxiety in children when used and it is referenced that the presence/absence technique is also another one of the most accepted by children and parents.

Conclusion: The efficacy of the "tell-show-do" technique stands out as the most accepted behavior management technique. Also referring to the least accepted technique by parents we find the "Protective Stabilization" technique.

Keywords: Behavioral management, pediatric dentistry, tell-show-do, protective stabilization, parents acceptance

1. Introduction

Pediatric dentistry is currently facing a great challenge with regard to the effective management of child behavior during the consultation and the perception that parents have of the techniques that can be used, thanks to the significant changes that have occurred over time [1]. Uncooperative behavior of the child may impede the efficient delivery of dental care. Despite the excessive availability of behavioral management techniques, there is a need to search for a psychological behavioral management technique that effectively reduces fear and anxiety during dental treatment [2]. The tell-show-do technique is characterized as aiding in the reduction of anxiety in patients, helping to improve their cooperation during their consultation [2]. Protective stabilization is defined as the technique used in dentistry to help limit a patient's physical movement during the dental consultation [3]. Currently, parental acceptance of the nitrous oxide sedation technique has changed, and it is the most widely accepted advanced behavioral management technique [4]. The aim is to address the evolution of behavioral management techniques in pediatric dentistry at present, highlighting the main indications, contraindications and parental acceptance of their application. In this work we analyze the literature on current parental perspectives on different behavior management techniques in

pediatric dentistry, particularly tell-show-do, protective stabilization, sedation, audiovisual distraction, and other techniques.

2. Materials and methods

An electronic search was carried out through PubMed, Google Scholar and Scopus, using the terms: "pediatric dentistry", "behavior management techniques", "tell-show-do", "protective stabilization", "sedation", "audiovisual distraction", using Boolean operators "AND" and "OR". The quality of the articles was evaluated using the PRISMA guidelines tool [5]. As inclusion criteria, only articles from high impact journals were collected, including systematic reviews, literature reviews or clinical studies that treated in behavior management techniques. Likewise, the search was delimited in terms of publication date, taking only recent articles, published mainly within the last 5 years. The selection of articles was made according to the relevance of the title and/or abstract to the topic to be analyzed. After the selection of relevant studies, their references were searched for possible additional relevant studies that met the inclusion criteria.

3. Results & Discussion

3.1 Tell-Show-Do

3.1.1 Characteristics

The tell-show-do technique is characterized as aiding in the reduction of anxiety in patients, helping to improve their cooperation during their consultation [2]. Importantly, it is worthwhile to be used especially in very young patients with negative behavior [6]. Several studies have shown that the use of the technique decreased the alterations in the heart rate of patients [7]. It has been shown that there is a significant relationship between the age of the mothers and the degree of acceptance of the technique [8].

3.1.2 Advantages

Among its advantages is that it is one of the most popular techniques used in pediatric dentistry over the years [9]. Another advantage is that it helps to reduce the level of anxiety in patients, especially those who are afraid of visiting the dentist [6], it helps to reduce anxiety in post-use appointments and follow-up appointments [10] and the main advantage is that it is the most accepted technique by parents [2].

3.1.3 Disadvantages

One of the disadvantages of the technique is that it has been surpassed by new techniques that are much more elaborate and require the use of electronic devices in order to be performed, such as the use of virtual reality devices [11].

The tell-show-do technique showed a main advantage which is to reduce the anxiety of the patients by helping them to cooperate. According to several studies the age of the mothers influences the level of acceptance of this technique. Although there are new behavior management techniques, the tell-show-do technique is still the favorite of today's parents. While its main disadvantage is that it is a technique that has been overtaken by electronic devices.

3.2 Protective stabilization

3.2.1 Characteristics

Protective stabilization is defined as the technique used in dentistry to help limit the physical movement of a patient during the dental consultation, using equipment, materials,

devices or even more people to be able to perform it and ensure that this practice is carried out safely [3]. Over time, the use of protective stabilization has decreased due to new specialized behavioral management techniques such as sedation [12].

3.2.2 Advantages

One of its main advantages is that it helps to perform surgical treatments and where sharp instruments are used close to the face to be performed without the need for the patient to take risks during its use, even if he/she does not cooperate during the consultation [13]. It is a behavioral management technique generally used in patients with special requirements of all ages and although it can generate emotional discomfort in patients, it is a technique well accepted by parents and psychologists [14]. Furthermore, its use has helped to considerably decrease the use of pharmacological management in patients with such needs [15].

3.2.3 Disadvantages

The main disadvantage of protective stabilization is that although a large percentage of parents approve of it, there are many others who are against its use, in addition to the fact that factors such as the sex of the dentist, the environment of the practice, and the region where they are located can influence the acceptance of the technique by parents and patients [16]. Another disadvantage that this technique may have is that even using it does not guarantee the patient's cooperation [17]. The use of this technique depends entirely on the consent of the parents for it to be used and even of the patient [18].

According to the studies that have been carried out over time protective stabilization has as its main advantage that it has helped to considerably decrease pharmacological use in patients with special needs and as its main disadvantage we find that it has generated discomfort in parents and that it does not guarantee the patient's cooperation.

3.3 Sedation

3.3.1 Characteristics

Currently, parental acceptance of the nitrous oxide sedation technique has changed, it is the most widely accepted advanced behavioral management technique [4]. Its acceptance has been improving especially after parents experience it with their children [19]. As long as the parents are present while it is being performed, and they consider it more acceptable for the child to sleep during treatment as opposed to other techniques [20].

3.3.2 Advantages

One of its advantages is the level of parental acceptance especially in treatment and emergency situations [21]. The three sedative agents that can be used in the procedure help to control postoperative or intraoperative pain [22]. This procedure is recommended for use in treatments performed on patients with autism spectrum disorder [23].

3.3.3 Disadvantages

Sedation does not change the behavior of patients after the procedure is performed [24]. Another disadvantage that can be found in its use is that its choice must always be taken into account in order to seek to perform the treatment in the best way for the child and not for the parents, much less for the dentist performing the procedure [25].

Analyzing the studies, it was determined that the main

advantage of sedation is that it is the advanced behavior management technique most accepted by today's parents, and the main disadvantage is that it will not change the patient's behavior after it is performed.

3.4 Audiovisual distraction

3.4.1 Characteristics

Audiovisual distraction is a behavior management technique focused on seeking improvement in anxious children during the dental consultation using electronic devices such as tablets, smartphones and virtual reality glasses [26]. Audiovisual distraction effectively reduces anxiety depending on the type of technique employed during treatment [27].

3.4.2 Advantages

The main advantage of audiovisual distraction is that it significantly reduces anxiety in children [28]. And it provides a state of relaxation in patients [29]. Especially its use is recommended in patients have to undergo treatments that includes local anesthesia [30]. It is an effective method to control anxiety in children [31].

3.4.3 Disadvantages

There is not much scientific evidence to be able to determine with certainty that audiovisual distraction is effective in controlling anxiety and fear generated by dental appointments [32]. Another disadvantage of the audiovisual distraction technique is that it sometimes needs to be combined with another technique in order to increase its effectiveness [33]. In addition to the fact that it does not help to improve the patient's behavior as such [34].

Audiovisual distraction is a technique that seeks to improve the behavior of children using electronic devices, its main advantage is that it significantly reduces anxiety especially in patients who are anesthetized and its main disadvantage is that there is not much scientific evidence of this technique in addition to the fact that it does not improve the patient's behavior.

3.5 Other techniques

3.5.1 Characteristics

According to the observed research there is a variety of behavior management techniques which seek to adapt to the needs of parents and especially to the behavior of patients, statistically the confidence of the studies is limited due to their variability but it is established that parents prefer everyday behavior management techniques as opposed to advanced techniques [35].

3.5.2 Advantages

Among its advantages we find the most accepted techniques by parents which is presence/absence of parents within the consultation [5]. Said technique is recommended to be used to obtain greater emotional support especially used in young children or patients with different needs [36]. The technique of using recorded maternal voice to reduce anxiety was also found as a technique accepted by parents [37].

Cognitive behavioral play therapy has been found to be very effective in reducing preoperative anxiety compared to other techniques described [38].

3.5.3 Disadvantages

There is a variety within the acceptance of behavior management techniques depending on whether parents have had previous experiences visiting the dentist together with

their children [39].

According to research sedation still continues to follow a technique that causes conflict within parental acceptance when used [1]. Acceptance of behavior management techniques depends entirely on the influence parents have over them, favoring the use of very simple techniques such as not using white coats to avoid generating fear in doing so [40]. Among the most accepted techniques by parents is included the parental presence/absence technique that has as main advantage the reduction of anxiety and among the disadvantages of the other techniques is that there are not many studies comparing them.

4. Conclusion

The efficacy of the "tell-show-do" technique stands out as the most accepted behavior management technique. Also referring to the least accepted technique by parents, we find the "Protective Stabilization" technique.

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4.2 Author's Contribution

Not available.

4.3 Conflict of Interest

Not available.

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