



Root Canal Treatment in a Patient with Severe Dental Anxiety Using Behavioral Techniques: A Narrative Review

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Abstract

Dental anxiety is a significant barrier to oral healthcare and may lead to delayed treatment, poor oral health outcomes, and increased patient stress. Root canal treatment is commonly associated with fear and anxiety among dental patients. This case report describes the successful management of a patient with severe dental anxiety requiring nonsurgical root canal therapy using non-pharmacological behavioral techniques. Behavioral strategies including tell-show-do, positive reinforcement, relaxation communication, distraction methods, and gradual desensitization were implemented to improve patient cooperation and reduce anxiety during treatment. The patient successfully completed treatment without sedation or general anesthesia. This case highlights the importance of individualized behavioral management approaches in endodontic practice and demonstrates that effective communication and patient-centered care can significantly improve treatment acceptance and clinical outcomes.

I. Introduction

Dental anxiety is one of the most common psychological challenges encountered in dental practice. Patients with severe dental fear often avoid dental appointments, resulting in progression of oral disease and the need for more invasive procedures. Root canal treatment, in particular, is frequently perceived as painful and stressful despite advancements in modern anesthesia and endodontic techniques.

Behavioral management techniques are valuable tools that may help reduce anxiety and improve patient cooperation during dental treatment. Common techniques include tell-show-do, positive reinforcement, distraction, relaxation guidance, and gradual exposure to treatment procedures. Studies have shown that effective communication and supportive behavioral approaches can significantly reduce patient stress and improve treatment experiences.

This narrative review presents the management of a patient with severe dental anxiety

undergoing root canal treatment using behavioral techniques without pharmacological intervention.

II. Case Presentation

A patient presented to the dental clinic with severe spontaneous pain associated with the mandibular left first molar. The patient reported a long history of dental anxiety and stated that previous traumatic dental experiences caused avoidance of dental visits for several years.



Clinical examination revealed deep carious involvement of tooth #19 with sensitivity to percussion and prolonged response to cold testing. Radiographic examination demonstrated extensive caries approximating the pulp chamber with widening of the periodontal ligament space consistent with symptomatic irreversible pulpitis. The patient appeared visibly anxious during the initial consultation, exhibiting sweating, muscle tension, rapid speech, and fear regarding root canal therapy. After discussing treatment options, nonsurgical root canal therapy was recommended.

III. Behavioral Management Techniques

The following non-pharmacological behavioral techniques were utilized throughout treatment:

A. Tell-Show-Do Technique

The patient was gradually introduced to the instruments and procedures before treatment initiation. Instruments such as the mirror, suction tip, and endodontic handpiece were explained and demonstrated in a non-threatening manner.



B. Positive Reinforcement

Continuous encouragement and reassurance were provided during treatment. The patient was praised for cooperation and informed about treatment progress at each step.

C. Relaxation Communication

The dentist maintained calm verbal communication and encouraged slow breathing techniques before anesthesia administration and instrumentation.



D. Distraction Techniques



The patient listened to relaxing music using headphones during treatment to reduce procedural awareness and anxiety.



E. Gradual Desensitization

Treatment was performed with periodic pauses allowing the patient to regain comfort and confidence throughout the procedure.

IV. Endodontic Procedure

Local anesthesia was successfully administered using 2% lidocaine with epinephrine 1:100,000. Rubber dam isolation was placed after reassuring the patient and demonstrating the procedure beforehand.

Access cavity preparation was completed followed by working length determination using an electronic apex locator and radiographic confirmation. Cleaning and shaping were performed using rotary nickel-titanium instruments with sodium hypochlorite irrigation. Calcium hydroxide intracanal medicament was placed between appointments.





At the second visit, the patient demonstrated significantly reduced anxiety and improved cooperation. Obturation was completed using gutta-percha and bioceramic sealer followed by temporary restoration placement.



V. Discussion

Dental anxiety can significantly interfere with endodontic treatment and may result in treatment avoidance or incomplete therapy. Research has shown that root canal treatment is commonly associated with moderate to high anxiety levels among dental patients.

Behavioral management techniques represent conservative and effective approaches for anxious patients. Tell-show-do and positive reinforcement have demonstrated success in improving patient cooperation and reducing procedural fear. Effective communication and empathy are essential components in establishing trust between the dentist and patient.

In this case, gradual behavioral guidance allowed the patient to tolerate treatment successfully without sedation. The patient reported increased confidence and willingness to attend future dental appointments after completion of therapy.

Modern endodontic techniques, rotary instrumentation, and improved anesthesia protocols have contributed to more comfortable treatment experiences. However, willingness psychological factors remains equally important for successful clinical outcomes.

VI. Conclusion

This Narrative review demonstrates that root canal treatment in patients with severe dental anxiety can be successfully completed using non-pharmacological behavioral management techniques. Approaches such as tell-show-do, positive reinforcement, relaxation guidance, distraction, and gradual desensitization may significantly improve patient cooperation and reduce fear associated with endodontic procedures. Establishing trust and maintaining effective communication are essential for achieving

successful treatment outcomes in anxious dental patients.

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