CASE SERIES

Virtual Private Theatre System: A New Concept in Audiovisual Iatrosedation: Case Series

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ABSTRACT: Distraction is one of the most commonly used techniques for control of pain associated with pediatric dental practice. Audiovisual iatrosedation with the virtual private theatre system distraction method is a new concept in behavioral pediatric dentistry and a boon to both patient and the clinician. In this case series frankl's behavior rating scale is used for evaluating the patients. This case report explored the use of virtual private theatre system in behavior management in pediatric dentistry.

Keywords: *virtual private theatre system; frankl's behavior rating scale, Iatrosedation, Behavioral pedodontics, Distraction*

Management of children in the dental office is an intricate balancing act involving the triad of child, parents/caregiver and the pediatric dentist. One of the most significant aspects of child behavior guidance is the control of pain. Psychological techniques like cognitive reappraisal, distraction, behavior modification and shaping methods have been used to relieve anxiety in the pediatric patients.[1,2,3]

Distraction is the state of mind that draws the attention away from negative stimuli. Evidence on the efficacy of distraction includes reduction in the activation of brain areas associated with pain.[4] The beneficial effect of distraction has also been supported in a meta analysis [5] and systematic review. [6]

The virtual private theatre system (VPTS) is viewed with video glasses that integrate video storage, playing and display in one digital broadcast [Fig 1]. It features a 72-inch screen, along with it a clear screen and ear phones are provided for surround sound. It isolates the patient from anxiety provoking sounds and sight of the dental environment.

This case report explains the use of virtual private theatre system in behavior management in pediatric dentistry.

Case Series :

The four illustrated cases reported here highlight the beneficial effect of this novel distraction technique on the four pediatric patients, who were referred to the Department of Pediatric Dentistry, Indira Gandhi Institute of Dental Sciences,

Puducherry by outside treating dentists because of a combination of poor cooperativeness and the necessity for complex procedures.

Pre appointment experience:

At the initial visit each one of the four children were assessed based on the frankl's behavior rating scale and were scored as rating 1 as they manifested complete refusal of treatment and extreme negativism. Then the children were oriented towards the use of the video glasses. The child and the parent were told that they should feel free to interrupt viewing anytime and withdrawal would not affect the dental care, the child would receive.

The study procedure has been approved by the institutional ethical committee and informed consent was obtained from each child's parents / legal guardians.

Case 1: This 8 year old boy had previous dental history of complete negativism and refusal to treatment for extraction of a grossly destructed mandibular right first primary molar. Prior orientation and the use of VPTS eye glasses yielded positive result with an successful extraction procedure [Fig 2].

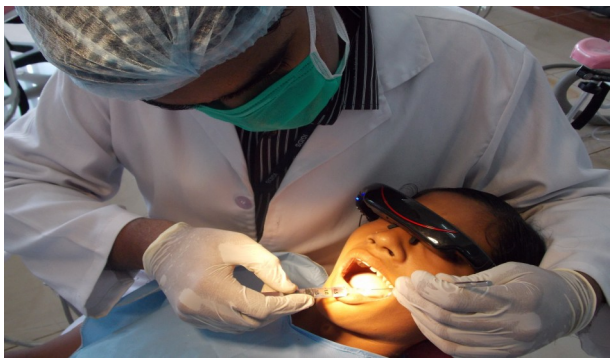
Case 2: A 11 year old boy with history of trauma one week back was referred to the department by a general dentist after two unsuccessful attempts to treat the child. The child accepted the VPTS

Fig– 1: Pictorial representation of Virtual Private Theatre System

Fig– 2: Extraction procedure being performed while using Audiovisual Iatrosedation

Fig– 3:Endodontic procedure for traumatized teeth being performed while using Audiovisual Iatrosedation

Fig– 4:Child's eye fixation in the Virtual world while endodontic treatment is being performed



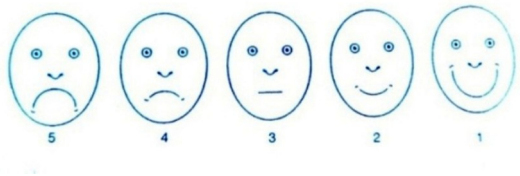
Fig– 5: Local anesthesia administration while using Audio-visual Iatrosedation

method employed. He sat willingly on the dental chair and cooperated without any untoward behavioral pattern [Fig 3].

Case 3: A 12 year old girl referred by a general dentist for endodontic therapy of the maxillary left first premolar after his unsuccessful attempts to do so. Child exhibited a very positive response with the distraction aid used. Child's eye fixation on her choice of movie during the dental procedure being rendered was clearly observed [Fig 4].

Case 4: A highly anxious 12 year old girl was referred for endodontic therapy of the left maxillary first permanent molar. Viewing her choice of movie (popular cartoons) in the audio visual iatrosedation used, helped the child to relax with no resistance during the treatment [Fig 5].

The facial image scale [7] with image scores [Fig 6] was chosen to receive a feedback from the patients. The facial image scale comprises of a row of five faces from "very happy to very unhappy". The scale was scored by giving a value of one to the most positive affect face and five to the most



Fig– 6: Facial Image Scale

negative affect face.

Three of thefour patients scored 1 and the fourth patient who had an extraction had scored 2.

DISCUSSION :

The cases in this report manifested a positive behavioral response during the dental procedures rendered while using the audiovisual iatrosedation technique.[8] This method encouraged us to proceed complete complex dental procedures in these children who had previous negative behavioral manifestations.

When compared to the audiovisual aids such as T.V screen,[9] the virtual private theatre system using video glasses detaches the child from the anxiety provoking dental environment and transports the child to a virtual environment thereby manifesting positive behavior in the child when the dental procedures were being performed.

CONCLUSION :

Fear and anxiety often inhibit children from seeking dental care. The need for methods to avoid sedation sessions with general analgesic agents is always preferred. Non-pharmacologic methods for

positive behavioral response in pediatric dental practice uses adjuncts such as parental presence, reassurance, positive verbal communications etc. Though effective, these methods do have their limitations.

Audiovisual iatrosedation with video glass distraction method offers a new concept in non pharmacological behavior management in pediatric dentistry. This promising distraction method diminishes the unpleasantness often associated with dental procedures in children.

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