OPEN ACCESS
Saudi Journal of Oral and Dental Research
Abbreviated Key Title: Saudi J Oral Dent Res
ISSN 2518-1300 (Print) |ISSN 2518-1297 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: http://scholarsmepub.com/sjodr/

Review Article

Evidence-Based Approach to Cope with Dental Anxiety and Fear amongst Children, Especially Those with Disabilities through Sensory Adaptive Dental Environment

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| **Received:** 27.12.2018 | **Accepted:** 06.01.2019 | **Published:** 17.01.2019
DOI:10.21276/sjodr.2019.4.1.2

Abstract

To provide satisfactory dental treatment in almost any child is not less than a challenge. Children with disabilities require more attention and care to achieve the desired outcome. To enhance the efficiency of dental treatment, measures are needed to be taken to minimize and ideally eliminate dental anxiety and/or fear among children. To the best of our knowledge, it is very evident in the available literature that sensory adaptive environment facilitates a great deal in decreasing dental anxiety, and enhances child cooperation towards treatment. Conversely, in context of Saudi Arabia, we noticed that in general population almost no one knows about it, as per our experience even majority of dentists were unfamiliar about sensory adaptation environment in the dental setting. Keeping an eye on severe difficulties in managing a child with disability, and evident efficiency of sensory adaption environment in reducing anxiety we recommend its use in government dental hospitals and clinics.

Keywords: dental treatment, Saudi Arabia. sensory adaptive environment.

INTRODUCTION

To provide satisfactory dental treatment in almost any child is not less than a challenge. Children with disabilities require more attention and care to achieve the desired outcome. To enhance the efficiency of dental treatment, measures are needed to be taken to minimize and ideally eliminate dental anxiety and/or fear among children. It is not easy, however, after assessment, it can be improved through some innovations rather interventions such as cognitive behavioral therapy (CBT) or sensory adaptive technique [1,2].

It is important for the dental practitioner to assess the dental anxiety in order to decide the right management or to refer the patient. There is more than one method to assess dental anxiety. The Modified Dental Anxiety Scale (MDAS) is considered the latest measure to assess dental anxiety. MDAS is a five elements scale that has cut-offs to determine the level of dental anxiety which is considered quite easy [1]. Another method to determine the level of anxiety is Corah's Dental Anxiety Scale (CDAS) which consists of four questions. Furthermore, CDAS is limited and does not involve the assessment of dental anxiety of local anesthesia [3]. Dental Fear Survey (DFS) is also one of the methods to measure the level of anxiety. DFS focuses on avoidance behavior, physiological fear, and fear of dental appointment [4]. However, none of the anxiety tools is considered a gold standard, since they have their own limitation.

Almost 9% of the patients including children and adolescent are affected by dental anxiety [5]. CBT has been used to treat various types of phobias [6]. CBT is a psychological treatment that combines psychoeducation, exposure, and home tasks [7]. This sensory adaptive technique reduces dental anxiety, enhances good behavior, and induces relaxation. The sensory adaptive technique has been developed according to the Snoezelen environment. Snoezelen environment consists of a dental clinic with certain lightning effect, vibrations, relaxing music, and aromas. Such an environment will reduce dental anxiety and fear, which in turn will improve the behavior [2].

Children with disabilities have less oral health care than normally- developing children [8]. More specifically, children with autism spectrum disorder show communication and social impairments, restricted interests, and repetitive behaviors [9]. Children with autism are hypersensitive to any touch and may withdraw particularly if the touch is near to the mouth [10]. Behavior management in such a case is usually challenging to the dentist, and difficult to manage without a specific procedure to follow. Usually, uncooperative children who cannot be controlled behaviorally are managed by pharmacological intervention, either by sedation or general anesthesia, which may carry some risks.

A cross-over trial in 2009 reported that sensory adaptive technique was very productive in dental treatment amongst children with neurological and developmental disorder compared to those children treated in a normal dental environment. Effect of sensory adaption showed substantial cooperation in children and they were reported to be found relaxed [11]. Another study in 2011 reported that children with disabilities faced difficulty in behavioral management especially those with Autism, however, the result showed that the sensory environment helped a lot to facilitate dental care [10]. Children with disabilities may easily be invoked by several factors such as loud voices, surrounding noises, such as dental drill and bright fluorescent light from the dental unit in the regular dental setting; however, sensory adaption is proved to be highly effective and can be considered as the best alternative for managing and treating children with disabilities [12]. Regarding the cost-effectiveness of the sensory adaptive technique, in 2015 a study found out that in sensory adoptive technique the time of the procedure was longer than in regular dental environment, but on the other hand, the need to hold back the child during the procedure was significantly decreased. Furthermore, even though a number of patients with autism were previously reported to be managed pharmacologically, there was no need for that while using the sensory adoptive technique [13].

To the best of our knowledge, it is very evident in the available literature that sensory adaptive environment facilitates a great deal in decreasing dental anxiety, and enhances child cooperation towards treatment. Conversely, in context of Saudi Arabia, we noticed that in general population almost no one knows about it, as per our experience even majority of dentists were unfamiliar about sensory adaptation environment in the dental setting. Keeping an eye on severe difficulties in managing a child with disability, and evident efficiency of sensory adaption environment in reducing anxiety we recommend its use in government dental hospitals and clinics. We recommend further research on increasing awareness about how a child with a disability can be managed with ease using a tailor-made environment.

Recommendations

- We suggest the use of sensory adoptive dental environment in dental practice especially whilst operating children.
- We recommend its use in public hospitals and university hospitals as it is a cost-effective measure to reduce dental anxiety specifically special need children.
- We recommend further research to explore different options how to get more benefits from this technique especially from the context of patients and professionals.

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