Oro-dental care of visually impaired child: A case report

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Abstract

Objective: The purpose of this paper is to describe the management of a visually impaired 12-year-old child by using ‘ATP technique’ and ‘Tell-Feel-Do technique’.

Material and Methods: A 12-year-old female child reported to the department of Pediatric and Preventive Dentistry, Army College of Dental Sciences, with the chief complaint of decay in lower left back tooth since 1 month.

Results: Most of the skills, technique, and activities carried out routinely are related to our vision. In people with visual impairment, there are limitations of moving around in different surroundings and performing basic activities due to which managing them becomes a challenging task for Pediatric dentists.

Conclusion: With the introduction of ATP (Audio-Tactile Performance) it has become easier for both dentist and the child to get along with each other and also the dentist can easily convey all the procedures to be done in child

Keywords: Audio-Tactile Performance, Tell-Feel-Do technique, Visually impaired

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Introduction

“Human happiness and well-being had always been centered in and around health”. The prevalence of childhood blindness is 0.3 per 1,000 children in industrialized countries, 1.2 per 1,000 children in developing countries and 0.17% in India. The visually impaired face difficulty in learning as they depend on speech and touch to orient themselves, making it challenging for the dentist to manage them.

‘Audio-tactile Performance technique’ (ATP) is a multisensory health education method, specially designed for training visually impaired children. ‘Tell-feel-do’ technique can be used instead of ‘tell-show-do’ to demonstrate the ongoing procedures to the patient. This case report emphasises successful treatment of a visually impaired child using these techniques.

Case Report

A 12-year-old female child reported to the department of Pediatric and Preventive Dentistry, Army College of Dental Sciences, with the chief complaint of decay in lower left back tooth since 1 month.

The patient was completely blind since birth. Learning was achieved using Braille and other non-visual media. The height of the child was 141.6 cms, weight 25 kgs and Body Mass Index was 22.6(normal 18.5-24.9).

The dental office was well lit and sharp-edged furniture were removed. Slow and direct, clear and concise instructions were given. The child was informed before moving from one place to another and guided using clock-wise directions. The child’s attention was gained by lightly touching on her shoulder. A thorough description of the chair position was given. Child’s hands were kept on the back of the chair to guide her in seating. Then, all the parts of the chair were described to her.

Depressed nasal bridge, flared nasion and squinting of both eyes were observed. Facial profile was convex and lips were potentially competent.

The child was given a mouth mirror to hold and feel. Bilateral Angle’s class I molar relation with mild protrusion of maxillary anterior teeth and dental caries in 36 were observed.

Weekly diet chart of the child was recorded and modified to reduce the sugar intake. The impact of diet on oral and general health was explained.

‘Audio-Tactile-Performance Technique’ was used to counsel the child about the teeth, its importance, methods to maintain good oral hygiene and consequences of non-maintenance. The frequency, timing, brushing technique (Modified Bass and Fone’s), type of toothbrush to be used, quantity and type of toothpaste and its importance was explained

The child was diagnosed with dental caries in 36 and generalized gingivitis. Treatment required was explained to the parents and the child. All the instruments and materials to be used during the procedure was demonstrated by verbal and
tactile method. Proper COVID-19 infection control guidelines were followed. Treatment was carried out in two appointments using 'Tell-Feel-Do technique'.

In the first appointment, Full mouth ultrasonic scaling and polishing was done. Pit and fissure sealant was applied on 16, 17, 26, 27, 37, 46, 47. Sudden jerky movements were avoided and a continued conversation was maintained in order to ensure that the child is not surprised by any unexpected feelings or sound. Scaler tip and polishing rubber cup were used on child’s finger nails to make her feel the sound and vibrations.

In the second appointment, the child was explained about the sound caused by airotor, burning smell and sensitivity occurring during the procedure. Child was made to touch and smell the composite material. Composite restoration was done in 36 Figure 4. Currently, Patient is on follow-up.

Discussion
Management of a visually impaired child is different from a normal child. The dentist should communicate freely, encourage them to maintain oral hygiene and explain the significance of daily home care measures. Dietary analysis should be performed and nutritional guidance given to the parents. The dentist should explain sequence of the procedure to the child. ATP and Tell-Feel-Do Techniques were used to counsel the visually impaired child.

ATP was designed by M Hebbal et al. to educate the visually impaired children regarding oral hygiene maintenance. Three main components namely, Audio, Tactile, and Performance are incorporated in ATP technique.

First the children are verbally informed about the importance of teeth, proper brushing technique
and procedure to be carried out during treatment (AUDIO component). A large sized model is used to facilitate children feel the teeth and perform the procedure detailed on it (TACTILE component). The children are asked to feel their teeth with their tongue to identify the presence of any hard deposits or irregularities and brush their teeth in the prescribed manner, under adequate supervision (PERFORMANCE).²

A study done by Chrishanta Joybell et al disclosed significant improvement in plaque scores with both Fone’s and modified bass method following training of ATP.³ Other studies by Hebbal et al.² and Shariffard et al.⁴ reported that ATP technique increased the frequency of tooth brushing and most children entered into the good oral hygiene category. Hence, it was used in this case.

Studies by Mohan et al.⁵ stated that frequent consumption of sweets and snacking in between meals decreased the ability of the blind children in maintaining oral hygiene and resulted in increased gingivitis and dental caries. In these children, lack of dental consultation and understanding of the importance of oral hygiene results in progression of dental and periodontal diseases.⁵

Also, the maintenance of oral hygiene after dental treatment is challenging, necessitating regular dental visits, education and motivation regarding proper oral hygiene measures and its impact on oral and general health.⁶⁻⁸

Self-modelling (models, audiotapes, raised label markers, Braille and bold scripts, etc.) must be used to provide effective oral health education by considering the level of impairment.⁹⁻¹⁰

Conclusion

The key to successfully manage a visually impaired child lies in implementation of techniques like ATP and Tell-feel-do to enlighten the child and caregiver about oral hygiene maintenance and encourage the child to accomplish these tasks independently.

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Conflict of Interest

The authors report no conflict of interest.

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