

Basic Behaviour Guidance Factors and Techniques for Effective Child Management in Dental Clinic- An Update Review

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ABSTRACT

The greatest challenge faced by a dentist while treating a pediatric patient is uncooperative behaviour due to anxiety or fear. A practitioner must consider not only the nature and severity of dental disease, but also the interactions between the child, his or her parents, and him or herself as the clinician. Determinants that influence the development of a behavioral strategy for a child include disease status, the child's physical and mental development, parental characteristics, and provider personality and capabilities. Effective strategies like modelling, tell-show-do, ask-tell-ask, systematic desensitization, distraction and other techniques must be matched to the characteristics of each child and his family culture and situation. Not all techniques are equally effective in each children. Parents are increasingly opposing techniques like HOME and protective stabilization and even voice control is gradually losing favour in this new era of parenting. Hence there is need for more use of advance behaviour guidance techniques like conscious sedation and general anaesthesia. However, their use is limited due to high cost of treatment. Further research is required to develop new techniques and methods to cater to the needs of the ever increasing pediatric population as children are the future of tomorrow.

KEYWORDS: Disease status, Child's Development, Parental Characteristics, Dentist's Personality & Capabilities

INTRODUCTION

The greatest challenge faced by a dentist while treating a pediatric patient is uncooperative behaviour due to anxiety or fear. A practitioner must consider not only the nature and severity of dental disease, but also the interactions between the child, his or her parents, and him or herself as the clinician. This review summarizes some of the determinants that influence assessment of the pediatric dental patient as well as some classic and new strategies for managing the child in the dental setting.

Basic behaviour guidance is dependent on four factors:

- Status of dental disease
- Mental and physical development of child
- Parenteral characteristics
- Dentist's personality and capabilities.

Status of dental disease: It is imperative to find the severity of the dental condition and the necessity of treatment. It is to be considered whether the treatment required is preventitive or restorative in nature. Preventive treatments like dental prophylaxis, fluoride application, pit and sealants can be postponed until the child attains maturity.¹ Also, in a child with caries, it is imperative to know whether caries is incipient or in active state as

incipient lesions can often be left for remineralization. Extent of dental disease is another consideration. Involvement of multiple teeth creates more urgency than involvement of a single tooth, unless irreversible processes have been initiated.¹ Pulpal involvement or infections make treatment more imperative, although conservative management with analgesics and antibiotics could be done until the child becomes cooperative.

Mental and physical development of child: As children develop from infancy to adolescence, their cooperative abilities likewise change. Along with the chronological age of a child patient, the dentist must assess his or her physical development, level of socialization, ability to function independently, intellectual development, and linguistic ability.¹

Behavior has classically been separated into three stages: pre-cooperative, cooperative, and uncooperative.²

The pre-cooperative stage extends from infancy to age 2 - 3 in a healthy child. When an infant or toddler presents for treatment, he or she can generally be assumed to be pre-cooperative unless assessment proves otherwise.³ This stage is characterized by an actual lack of

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cooperative ability. Communication skills and comprehension have not developed to a point where the child is capable of participating in treatment. Children with mental deficits and developmental delays can remain in this category indefinitely.

Factors indicating that a child is moving into the cooperative stage can be identified through observation of child even before initiating any dental procedures. Levels of socialization and linguistic abilities can be assessed by gauging the child's response when brought into the treatment area or while obtaining or updating the medical and dental history with the parents. Children who have moved out of the pre-cooperative category are capable of carrying on conversations and following directions.^{4,5}

The uncooperative child can be more positively labelled as being "potentially cooperative." For nearly all uncooperative children, the central issue in behaviour boils down to fear and/or wilfulness. These characteristics can occur either as a function of an individual's innate personality/ temperament or as a result of some previous experience.⁶⁻⁹ Fearfulness is much easier to deal with. If the child is afraid of the unknown, the dentist can focus on making things known. If the child is afraid because of a previous violation of trust, the clinician can work toward the establishment of trust. Wilfulness is more difficult, because it may require a breaking or redirecting of the will and the establishment of authority. Thus, patient education is paramount for the potentially cooperative child, particularly if the origin of the fearful or wilful behaviour is a previous experience. Fear or wilfulness that is simply part of the child's personality or temperament is harder to address.

Parental response also plays an external role in the modification of cooperative ability. Parents who are fearful often project this anxiety onto their children. The unique family dynamics of each child also affects the response to authority figures and willingness to submit to authority.⁹ Not all 3 year olds respond the same way, nor do all 8 year olds respond the same. Personality and temperament play an important role in cooperation that cannot fully be related to chronological age.

Parenteral characteristics: They are dependent on the following factors:

Culture: Different cultures have different dietary and feeding habits. It also affects the amount of sugar consumed by a child. People of Middle Eastern and Latin countries suck lime that has deleterious effects on teeth. Some communities encourage prolonged breastfeeding and night time feeding.

Socio-economic state: Children of low socio-economic state have higher caries rate due to poor oral hygiene and lack of professional care either due to financial constraints or neglect. Hence these children need more invasive procedures and multiple appointments. This leads to increase in negative behaviour.

Parenteral personality: Parents can be of following types:^{1,10}

-Appropriate: These parents have right kind of attitude towards dental treatment and towards their child. They facilitate the interaction between the dentist and the child. Such children are easily managed and treated.

-Compensatory: Parents act as super mom or super dad. They have the right intentions for the child and treatment but they ask too many questions and have a high need for approval of their parenting. These parents should be approached with affirmation of what they are doing for their children and given assurance that they need not live in guilt over the presence of dental disease.

-Overprotective: This may be due to either single parent, late pregnancy, only child, a threatening event to the child's health or life. These parents are often dependent on the child's dependency. These parents should be approached with a gentle discussion of the child's actual behavioural ability and the need for the development of independence.

-Manipulative: They are demanding, with underlying issues of control and power. They try to direct the course of treatment. They should be dealt strictly in dental office.

-Neglectful: These parents may be overly busy, careless, or unappreciative of good dental care. They must be educated about the importance of dental health. They must also be made aware of the impact of their attitudes on the well-being of their children.

-Overindulgent: They state concerns about damaging the self-esteem of their children. These parents place few limits and allow their children to make significant choices. They are quite difficult to partner with in the management of their children because they are often convinced that their "yes" is more in the child's best interests than the dentist's "no."

-Hostile: The hostile parent may have had a previous poor experience or harbour generally negative attitudes toward health professionals. They may feel insecure in a foreign environment or may simply have misconceptions about dentistry. Hallmarks of this attitude are noncompliant behavior, failure to make eye contact, or a constant questioning of the need for treatment.

Dentist's personality and capabilities: Dentist and his team should have a friendly attitude towards the child patient. They should greet the child with a warm smile or a gentle pat and make him comfortable in the dental office. Dentist should be technically skilled to perform the treatment in the most amenable way so that the child has a pleasant dental experience. A child should not have pain or discomfort during the procedure. A child who returns from the dental office in tears is considered a treatment failure. The literature outlines four dentist-related behavioral dimensions that predict success in managing children.¹¹

Guidance dimension: In the guidance dimension, dentists who give clear directions and reinforcement achieve the least fear-related behaviors. On the contrary, negative

guidance- such as coercion, coaxing, or putdowns-is not as successful.

Empathy dimension: Questioning the child for feeling during difficult procedures tends to have a positive effect on the child as does reassurance.

Physical contact dimension: The physical contact dimension indicates the frequency of the dentist's contact with the child. Positive contact- patting on the shoulders or stroking, has a positive effect.

Verbalization dimension: In the verbalization dimension, it is seen that constant conversation is not always beneficial. Mixing up the targets of verbal communication (i.e., to the assistant, parent, and child) may prevent the child from being inundated with auditory input.

DIFFERENT BEHAVIOUR GUIDANCE TECHNIQUES

Information sent to parents prior to the child visit: Leaflets containing information about dental treatment and its necessity, and importance of first dental visit before 12 months of age, is sent to the parents so that they become familiar with the proceedings beforehand; their anxiety and fear is alleviated and they can pass on the information to their kids about the dental visit in a normal manner just like informing about new things or activities.

Dental Operatory design: The waiting area and the dental operatory should be designed with bright colours and have toys and cartoons and if possible a play room. The place should be neat and clean.

Attire of dentist: Generally a child is fearful of the white coat or a facemask as they correlate it with a doctor or injection. Hence a dentist should try to avoid the white coat and facemask in presence of children.

Appointment timings and duration: Children should be given a morning appointment as most of them take an afternoon nap. They should not be made to wait too long as it makes them restless and irritable. The duration of each appointment should not be more than 30 min, after which they start becoming restless.

Team Effort: As soon as the child enters the dental clinic, he should be greeted warmly by the receptionist & other staff members. This helps to soothe the nerves of the child.

Positive pre-visit imagery¹²: Before the child enters the operatory he is given photographs of dentistry and dental treatment in the waiting area so that the child becomes comfortable and relaxed and is prepared to enter the operatory.

Functional questionnaire: The parents are asked 4 questions- :

a) How did the child behave during past dental or medical treatment?

b) What is the anxiety level of the parent? (as anxiety in parents is directly reflected in child behaviour)

c) Did the child tell there is something wrong in his tooth ?

d) How does the parent think the child will behave in the operatory?

Answers to these questions will help in understanding the level of cooperation to be expected from the child and helps to prepare the dentist and his team.

Gathering information about the child from the parent: Knowing about the child's siblings and friends including their names, school, hobbies, likings & dislikings, favourite cartoons/games helps the dentist to interact in a familiar manner with the child. Discussion with the child's about his favourite games or activities helps immensely in gaining the child's confidence and allaying his fear and anxiety.

Positive approach: The dentist and his team should always think positive that they can mould the child. Positive thinking leads to positive vibes from the treatment provider, which more often than not brings out a positive acceptable behaviour from the child.

Parent- Child separation: It is recommended that in pre-cooperative and fearful children, parents be allowed to be with the child. This prevents separation anxiety in children. They feel more secure and relaxed, while the parent themselves feel better. Studies indicate that younger dentists are more prone to allow parents to enter the treatment area than older dentists.¹²

Some parents voluntarily exclude themselves, believing that their children will respond better. How helpful parental presence is depends on the parental personality and the child. An appropriate parent can ease the development of the relationship between the dentist and child. A compensatory, overprotective, or overindulgent parent can actually worsen the situation. Separation of the parent and child is most useful for a willfully uncooperative child, particularly if the parent is one of the just mentioned three types.

Modelling/ Direct Observation: It is based on the "observational learning theory" by Bandura given in 1969. Here the child is allowed to see either the live treatment of another child (*live modelling*)¹⁴ or is shown an audio-visual of child treatment. This helps in removing the fear of dental treatment that is the most common cause for child non-cooperation and treatment refusal.

Non verbal communication: It is also called Multisensory Communication. When the child enters the operatory, he should be greeted with a smile, handshake and or a gentle pat. Even during the treatment, occasional patting or smiling relaxes the child and makes him more obedient.

Verbal communication: Greeting the child and interacting with him to familiarize each other is an

important step in building a rapport. The child should be told about the procedure in a clear manner using words that are appropriate to the child's age, so that there is no communication gap between the sender (dentist) and the receiver (child). Euphemisms should be used as much as possible such as:

- Xray: photo
- Xray machine: camera
- Rubber dam: rain coat
- Air rotor: whistle
- 3way syringe: air water gun
- Suction: vacuum cleaner.

During treatment, the child should be praised for cooperation by telling specific words "You are opening your mouth very well, thank you for not moving" etc.

There are 3 components of verbal communication:

- *Active listening*: dentist should listen carefully to the child. This helps in understanding of child's fear or problems. Secondly this makes the child feel that he is being given importance, thus increasing the child's cooperation.
- *Appropriate responses*: The dentist should respond to the child in a manner appropriate to the situation. Eg- in the first sitting the dentist should not express displeasure over the misbehaviour of child. When the child has undergone treatment a few times and is still not cooperating, then the dentist can express his displeasure.
- *Problem ownership*: Dentist should not say negative things or blame the child if he is unable to cooperate, like not saying "You are not opening your mouth". Instead he should take the problem ownership on himself and say "I will not be able to work if you do not open your mouth".

Ask tell ask¹³: First the child is asked about how he is feeling; whether anxious or scared. Then he is reassured that the treatment would not be painful or discomforting. After reassurance child is again asked if he is feeling better and relaxed now.

Successive Approximation/Tell show do: "Tell show do" technique was given by Addleson in 1959. This is one of the most effective techniques of behaviour modification. The child is told about the procedure in a language and words understandable to the child. Then the child is shown the instruments and the materials and the way of performing the treatment (approximation). When the child becomes assured and relaxed, the treatment is completed.

Truthfulness: The dental team should always try to speak the truth to the child. If he needs an injection, he needs to be told that an injection or a medicine needs to be given to make the tooth fall asleep and it would cause just a little bit pain like a prick or an insect bite. This prepares the child beforehand rather than lying that a medicine would be given that is not painful at all. The moment the child feels the pain, he would instantly either react or move violently. This would not only lead to risk

of injury but also would shatter the confidence the child had in the dentist. In majority of cases, the child would not allow the dentist to continue the treatment.

Tolerance: Dentist must be patient and tolerant even if the child is misbehaving. They should not vent out their anger in front of the child.

Retraining/Desensitization: Children who had a bad previous medical or dental experience are very difficult to handle. They might not allow any painful procedure to be undertaken like giving an injection. For such patients the goal is to unlink negative associations and disassociate negative behaviours.

The child must come to an understanding that some events are in fact quite simple. The provider must reacclimatize interventions in a stepwise fashion. Communication and Successive approximations are most useful for this purpose. In addition, following methods are also very effective:

- *Avoidance*: traumatic or more invasive treatments like pulpotomy or pulpectomy are avoided and the less invasive procedures are done like restorations, indirect pulp capping etc.
- *Substitution*: if some material or instruments are not liked by the child, they are substituted. Eg hand excavation is done in place of air rotor, normal saline used in place of sodium hypochlorite.
- *Distraction*: In very young or uncooperative children, distraction technique is often very helpful. The child is distracted by showing audio-visuals in a monitor or mobile phones. The child becomes busy watching and the dentist is able to proceed with the treatment. For 4 - 6 year old children, storytelling or singing may be effective ways of diverting attention.

Contingent Distraction¹⁴: Uncooperative children are told that if they behave appropriately, they would be allowed to watch audio-visuals or games during the treatment.

Contingent Escape¹⁴: When the child is not fully obeying the instructions during treatment, he is told that if he brings the desired behaviour, he would be given breaks or stoppages in between treatment.

Voice control: In children who are not very cooperative, voice modulation is required. The pitch of voice is slightly raised and with a firm voice, the child is given clear instructions. This technique is very effective in getting the desired behaviour from the wilful or resistant child, rather than the fearful child. Even in late infancy and the early toddler years, a sharp, loud, shouted command can be incredibly effective at gaining the child's attention.¹⁶ However, the child should not be hurt, shamed or belittled. When the child obeys the instructions, he should be praised each time.

Contingency Management: It is based on "Operant Conditioning theory" by Skinner. It is of 4 types:

- *Positive reinforcement*: Presentation of a pleasant stimulus to bring about the desired behaviour. Here

the child is rewarded for presenting the desired behaviour. Reward can be something materialistic like toy, toothpastes, toothbrushes etc, social like praise, or a gentle pat and activity like allowing the child to play in the play room. Reward is given after the presentation of desired behaviour, while bribe is given before the presentation of the desired behaviour.

- **Negative reinforcement:** Removal of unpleasant stimulus that brings about the desired behaviour. Eg- sight of white apron, facemask, injection or sharp instruments scares the child, so they are removed from the child's view.
- **Omission:** Removal of pleasant stimulus to bring out the desired behaviour. Eg- if a child is not cooperating in the presence of his parent, then he is told that the parent would be sent outside and he would stay alone in the operatory if he does not cooperate. Clinically this technique has shown to be highly effective.
- **Punishment:** Presentation of unpleasant stimulus like hand over mouth technique (HOME) and Protective stabilization.

HOME technique was introduced by Evangeline Jordan. Here child's mouth is covered with hand until the desired behaviour is presented. On presentation of appropriate behaviour, he is praised. When negative responses re-emerge, the technique is repeated. Protective stabilization is used for pre-cooperative child requiring urgent treatment and in wilfully uncooperative child. The child is immobilized either by assistant or parent (active immobilization) or with help of papoose board and pedi wraps (passive immobilization). This technique is not punitive but is intended for the safety of child and the dental team. However these techniques are generally not accepted by the parents and are gradually becoming obsolete.^{16,17}

Flexibility: The dentist should be flexible enough to change his treatment strategy depending on the child patient. If a child is not cooperating even after application of the common techniques, he should be given a re-appointment. Treatment should not be forced on a child without his willingness as that would seriously affect his psyche and chances of him returning for another visit would decrease drastically.

Systematic Desensitization: Introduced by Joseph Wolpe in 1952. Here the child is introduced to the dental treatment in a step wise manner. In the first sitting only a check-up and if required X-rays are taken. This is followed by less invasive procedures like restorations done in the next sitting and then the invasive treatments like pulpotomy, pulpectomy are done if required. This process gradually acclimatizes the child to the dental set-up.

CONCLUSION

Effective child management requires not only the application of different behaviour techniques, but also the

assessment of developmental stage of child as well as the influence of parents on the child. Moreover not all techniques are equally effective in each child. Parents are increasingly opposing techniques like HOME and protective stabilization and even voice control is gradually losing favour in this new era of parenting. Hence there is need for more use of advance behaviour guidance techniques like conscious sedation and general anaesthesia. However, their use is limited due to high cost of treatment.

Further research is required to develop new techniques and methods to cater to the needs of the ever increasing pediatric population as children are the future of tomorrow.

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