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BEHAVIOR SHAPING

Behavior shaping is a common nonpharmacological technique. It is a form of behavior modification; hence, it is based on the established principles of social learning. By definition, it is that procedure which very slowly develops behavior by reinforcing successive approximations of the desired behavior until the desired behavior occurs. Proponents of the theory hold that most behavior is learned and that learning is the establishment of a connection between a stimulus and a response. For this reason, it is sometimes called stimulus-response (S-R) theory.

When shaping behavior, the dental assistant or dentist is teaching a child how to behave. Young children are led through these procedures step by step. Patients have to be communicative and cooperative to absorb information that may be complex for them.

The following is an outline for a behavior-shaping model:

1. State the general goal or task to the child at the outset.

2. Explain the necessity for the procedure. A child who understands the reason is more likely to cooperate.

3. Divide the explanation for the procedure. Children cannot always grasp the overall procedure with a single explanation; consequently, they have to be led through the procedure slowly.

4. Give all explanations at a child's level of understanding. Use euphemisms appropriately.

5. Use successive approximations. Tell-show-do technique has remained a cornerstone of behavior guidance. It is a series of successive approximations, and it should be used routinely by all members of the dental team who work with children. Dental assistants, dental hygienists, and dentists should demonstrate various instruments step by step before their application by telling, showing, and doing. When the dentist works intraorally, a pediatric patient should be shown as much of the procedure as possible.

6. Reinforce appropriate behavior. Be as specific as possible because specific reinforcement is more effective than a generalized approach. Immediate and specific reinforcements can reduce children's fear-related behaviors.

7. Disregard minor inappropriate behavior. Ignored minor misbehavior tends to extinguish itself when not reinforced.

Behavior shaping is regarded as a learning model. The most efficient learning models are those that follow the learning theory model most closely. Deviations from the model create less efficiency in terms of learning. One way to improve consistency in this area is for the dental team to record various clinical sessions with pediatric patients and

then to review the recordings, keeping in mind the basics of the behavior-shaping learning model. Although tell-show-do is similar to behavior shaping, the two differ. In addition to demanding the reinforcement of cooperative behavior, behavior shaping also includes the need for steps to be retraced if misbehavior occurs.

Behavior shaping may include:

- **Desensitization**
- **Tell-Show-DO**
- **Modelling**
- **Contingency**
- **Distraction**

Desensitization

It is also called as reciprocal inhibition. It is a training procedure or steps taken to reduce the sensitivity of the patient to a particular anxiety producing situation or object. Each situation or object is then introduced progressively starting from least fear producing to more threatening stimuli.

The Technique Involves 3 Stages

1. Training the patient to relax
2. Constructing a hierarchy of fear producing stimuli related to the patient's principal fear.
3. Introducing each stimulus in the hierarchy in turn to the relaxed patient, starting with the stimulus that causes least fear and progressing to the next only when the patient no longer fear that stimulus.

INDICATIONS:

1) First Visit
2) Subsequent visits when introducing new dental procedure
3) Fearful Child
4) Apprehensive Child because of information received from parents.

Tell-Show-Do (TSD)

It is a component of behavior shaping that should be routinely used by all members of the dental team who work with children. Specifically, the dentist tells the child what is going to be done in words the child can understand. Second, the dentist

demonstrates to the child exactly how the procedure will be conducted. Finally, the practitioner performs the procedure exactly as it was described and demonstrated.

Objectives

1. To teach the patient aspects of dental visit and to familiarize him with the dental setting.
2. To shape patients response to various procedures through desensitization and well-described expectations.

Note: With Tell-Show-Do we don't ask permission (Example: after we show the child and tell him about low speed hand piece we tell him to open his mouth and we start work, because mostly if we ask for his permission his answer would be **NO**).

Modeling (What is modeling?)

The child learns a certain behavior by observing the behavior of other children whom receiving the same treatment by a mean of modeling. It involves allowing the patient to observe one or more model who demonstrate appropriate behavior in a particular situation. Modeling will encourage the appropriate behavior when the patient see the dentist is happy with other child, so this will give them a desire to mimic the other child's behavior as well, so it is better to bring somebody to be a model for them.

Types of modeling

1. Audio-visual
2. Live modeling by sibling or parent

Advantages

1. Obtain the patient attention.
2. Designed behavior is modelled.
3. Physical guidance of the desired behavior.
4. Reinforcement of the guided behavior.

Objectives

1. Stimulate acquisition of new behavior.
2. Facilitating the behavior already in the patients in a more appropriate manner.
3. Elimination of avoidance behavior.
4. Extinction of fear.

Q: Is modeling technique always considered positive and effective?

No, because sometimes if one of the children in the clinic starts crying so others will do the same thing, which means it is not always positive.

Note:

For best effects, modeling should be at the same age of the target child, otherwise it would not be relevant (The model child is aged similarly to the targeted child)

Contingency

Contingency management is the term used for presentation or withdrawal of reinforcers in behavior management. Reinforcers can be:

I. **Positive reinforcers**- presentation of which increases the frequency of desired behavior.

II. **Negative reinforcers**- withdrawal of which increases the frequency of desired behavior. Example :-

(Exclusion of the parents once the child shows an inappropriate reaction at the dental clinic) يعني حرمانهم من شيء عزيز الى ان يقوموا بتحسين سلوكهم

Therefore, we are shaping the child behavior by removal of a stimulus (parents) and this action (the exclusion of parents) is what considered unpleasant to the child [Negative reinforcement]

Reinforcers can of the following types:

1. Materials reinforcers - In the form of gifts like toothbrush kits, drawing kits, favorite cartoon stickers or toys appropriate for their age.

2. Social reinforcers (the most effective) - In the form of a pat on the back of shoulder, shaking hands, hugging the child or verbal praise in the presence of their parent for which the child will be happy.

3. Activity reinforcers- In the form of allowing, the child to perform his/her choice of activity (like watching a favorite TV show or movie or playing his favorite instrument for some time or games of interest, e.g. giving the child privilege of participating in a preferred activity). This is only after performing a less preferred behavior i.e. first you work, then you may play.

Note:

Externalization: It is a process by which the child's attention is focused away from the sensation associated with dental treatment by involving in verbal or dental activity.

Objectives:

- To decrease perception of unpleasantness.
- To interest and involve children.

DISTRACTION (What do we mean by distraction?)

Distraction is stealing the attention of the child either from the whole dental clinic like make them feel somewhere else (in different environment) or from stealing their attention from something specific unpleasant the dentist want to do at the clinic such as giving local anesthesia . Therefore, dentist will shift their attention. (This is a newer method of behavior management in which the patient is distracted from the sounds and / or sight of dental treatment thereby reducing the anxiety.)

What is the aim of distraction?

The aim is to decrease the perception of unpleasantness experienced by the target patient, which will then facilitate our clinical work.

Examples: When giving anesthesia try pulling the patient lips so the child won't know what to concentrate on is it the needle going there or the sensation of pulling (he will be confused) ,, so it is a distraction for them.

Talking also another example of distraction, we must talk with them all the time especially when giving local anesthesia.

Another example when taking an impression let the patient raise their legs to stop them gagging.

Types of Distraction:

I. Audio Distraction

Patient listens to audio presentation through headphones throughout the course of the treatment. **(This is useful for adults mostly and shows low success for children.)**

II. Audio-visual distraction

Patient is shown audio-visual presentation through television during the entire treatment.(Here we show children (cartoons) while working and that will reduce any unwanted behavior and also let the child know that it will be switched off if they not behave appropriately)

III. A combination of both visual and auditory:-

Recently, an (audio-visual glasses) has been used which offer an effective way of distraction and reduces unpleasantness and distress throughout the restorative procedures

** Using combination of both visual and auditory is much better than using a single mean alone

Objectives:

To relax the patient and to reduce anxiety during treatment.

RETRAINING

A technique similar to behavior shaping, designed to fabricate positive values and to replace the negative behavior. Children who require retraining approach the dental office displaying considerable apprehension or negative behavior. The demonstrated behavior may be the result of a previous dental visit or the effect of improper parental or peer orientation. Determining the source of the problem is helpful because the undesirable behavior can then be avoided through another technique or deemphasized, or a distraction can be used. These ploys begin the retraining program, which eventually leads to behavior shaping.

When encountering negative behavior, the dentist should always remember that an objective is to build a new series of associations in the child's mind. If a child's expectation of being hurt is not reinforced, a new set of expectations is learned. The dentist can be trusted! The child develops a new perception of the dental office and a new relationship to dentistry. Unacceptable behavior previously learned extinguishes. It is critical to remember that the stimulus must be altered to elicit a change in the response.

Individuals respond to stimuli to which they have been preconditioned. If the original stimulus and the new one are very similar, then the response will be similar. This is known as stimulus generalization. If a child has had an unpleasant experience in the dental office and then is taken to a different office where there is a different dentist and an entirely different staff and surroundings, the child still tends to generalize that an unpleasant event will occur in this new dental office. There are enough similar stimuli to produce this response. To offset the generalization, the dental team must demonstrate a "difference." This is one of the reasons why the use of nitrous oxide–oxygen sedation often works when retraining children. It offers a difference.

Indications

- Child who had a previous bad experience.
- Child who exhibits negativism due to improper parental and peer influence.

Approaches

- Avoidance
- De-emphasis and substitution
- Distraction.

AVERSIVE CONDITIONING

There are three modes of aversive conditioning.

1. **Hand over mouth technique**
2. **Physical, restraining**
3. **Voice control.**

Hand Over Mouth (HOME)

The behavior modification method of aversive conditioning is also known as hand-over-mouth exercise (HOME). Its purpose is to gain the attention of a highly oppositional child so that communication can be established and cooperation obtained for a safe course of treatment. The technique fits the rules of learning theory: maladaptive acts (screaming, kicking) are linked to restraint (hand over mouth), and cooperative behavior is related to removal of the restriction and the use of positive reinforcement (praise). It is important to stress that aversive conditioning should not be used routinely but as a method of last resort, usually with children from three to six years of age who have appropriate communicative abilities.

Aversive conditioning can be a safe and effective method of managing a child with an extremely difficult behavior problem.

The purpose of HOME is to gain the attention of a child so that communication can be achieved.

THE TECHNIQUE:

Informed consent by the parents and explanation of the indication for the use of HOM should be done at first. After determining the child's behavior, the dentist firmly places his hand over the child's mouth and behavioral expectation are calmly explained close to child's ear. When the child's verbal outburst is stopped and child indicates his willingness to co-operate, the dentist removes his hand. Once the child cooperates he

should be complimented for being quiet and praised for good behavior. The whole procedure should not last for more than 20-30sec.

INDICATION:

- A healthy child who can understand but who exhibits hysterical behavior during treatment
- 3 to 6 yrs. old child
- Children displaying uncontrollable behavior

CONTRAINDICATION:

- Child under 3yrs of age Frightened child
- Physical, mental and emotional handicap
- It should not be set as routine procedure, inform the parent about the procedure

RESTRAINTS

Restraints are devices, wraps or other individuals assisting in dental operatory that are designed to prevent patients from causing harm to themselves and to the dental personnel.

Partial or complete immobilization of the patient sometimes, is necessary to protect the patient and/or the dental staff from injury while providing dental care. Recently the term Protective stabilization' is used instead of Immobilization. Restraints can be performed by the dentist, staff or parent, with or without the aid of a restraining device. The parents must be informed and the consent must be documented, before immobilization is used, they should have a clear understanding of the type of immobilization to be used, the rationale, and duration of use.

Indications for Using Immobilization

• A patient who requires diagnosis or treatment and cannot cooperate because of lack of maturity.

• A patient who requires diagnosis or treatment and cannot cooperate because of mental or physical disabilities.

• A patient who requires diagnosis or treatment and does not cooperate after other behavior manage¬ment techniques have failed.

• When the safety of the patient or practitioner would be at risk without the protective use of immo¬bilization.

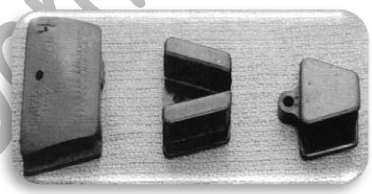
Contraindications

- A cooperative patient
- A patient who cannot be safely immobilized because of underlying medical or systemic conditions.
- As punishment
- Should not be used solely for the convenience of the staff.

The restraints are of the following types:

1. Oral

- Mouth props
- Padded wrapped tongue blades
- Rubber bite blocks
- Finger guards



2. Body

- Papoose board
- Triangular sheet
- Pedi-wrap
- Bean bag dental chair insert
- Safety belt
- Extra assistant

3. Extremities

- Posey straps
- Velcro straps
- Towel and tape
- Extra assistant

4. Head

- Forearm body support
- Head positioner
- Plastic bowl
- Extra assistant

Parents and their influence on dental treatment

From the moment of their children's birth, parents shape children's behaviors by selective encouragement and discouragement of particular behaviors, by their disciplinary techniques and by the amount of freedom they allow. Children learn the basic aspects of everyday life from their parents. This process is termed socialization, and is ongoing and gradual. By the age of 4 years children know many of the conventions current in their culture, such as male and female roles. The process of transmitting cultural information early in life is called primary socialization. In industrialized countries, obtaining information on many aspects of life is gained formally in schools and colleges rather than from the family. This is termed secondary socialization.

In early years, at least historically, it is mainly from parents that children learn what they are supposed to do and what behavior is forbidden. Unfortunately societal changes in recent years have created dynamics that can indirectly affect the behavior of children in dental offices.

When providing dental care for children, it is important that dentists understand parents' expectancies. As with any health issue the social class background of the respondent's influences attitudes and beliefs. For example, parents of high socioeconomic status are more interested in professional competence and gaining information, whereas parents from poorer areas want a dentist to reassure and be friendly to their child.

Note: PARENTAL PRESENCE OR ABSENCE

Objective

1) To gain patient's attention and compliance
2) To avert avoidance behavior
3) To establish authority

Advantages of Parental Presence

1) Supporting and communicating with the child
2) Very young patients

Advantages of Parental Absence

1) Overcoming parental conditioning
2) Avoiding communication interference
3) Avoiding parental interference

Parent-Child Separation

In the past, parents did not expect to enter the operatory. Today's parents actively participate in health care services through the process of informed consent, and increasingly want to accompany their children during their health care experiences. Having parents stay with their child can streamline informed consent and communication into the normal office flow.

In addition to increasing communication efficiency, parental presence can reassure both the child and the parent. Parents can witness the dentist's compassionate approach and hear the educational instructions provided to the children. At the same time, the dentist obtains rapid feedback on parental attitudes and beliefs.

A parent can be a major asset in supporting and communicating with a child who has a disability, often providing important information and interpretation. Because of the close symbiotic relationship that very young children (those who have not reached the age of understanding and full verbal communication) have with their parents, they often remain together. Excluding the parent from the operatory could be justified for many reasons, including parental interference and limitations on dentist-child interactions. With older children, an independent experience may contribute toward development of confidence and appropriate coping mechanisms and, ultimately, a positive attitude on the part of the child. Another reason for advocating a separation policy is that the dentist may be more relaxed and comfortable when the parent remains in the reception area, so as not to be perceived as "performing." As a consequence of this more relaxed manner, the dentist's actions are likely to have a more positive effect on the child's behavior.

The separation procedure warrants serious consideration. The dentist must develop an office policy, inform the office staff, and assume responsibility to train office personnel in reception room strategies. In this age of accountability, the dentist may also have to explain the policy to a parent. Establishment of the policy should therefore be based on a rationale that takes into account the benefits and drawbacks resulting from separation, the benefits to the individual child, and the dental team's personal comfort level. Because some dentists become tense when parents are present and others enjoy having parents in the operatory, an office policy becomes, to some extent, an individual decision.

Parent-child relationship

It is "one-tailed" relationship where parent is an independent variable and child is the dependent one.

(I) Effects of parental attitudes (types of parents)

Parental attitudes can be of the following nature:

1. Overprotection i.e. exaggeration of love and affection. Overprotective parents take excessive care of their children .They do not allow the children to take any risks. They 'infantize' their children. Factors responsible for overprotection can be:

a) History of previous miscarriage or a period of sterility before the child's birth.

b) Death of a sibling or if the mother cannot bear more children.
c) Family's financial status.
d) Absence of either parent
e) Illness or physical handicap in the child.

2. Overindulgence

Parents give children whatever they want without any restraint. The child becomes spoilt and is accustomed to getting his own way. The child's emotional development is impaired. In the dental clinic, the children may show temper tantrums when they cannot control situations.

3. Underaffection: It may manifest as:

i) Mild detachment
ii) Indifference
iii) Neglect

This can be due to the parents having little time and concern for the children; or if child is unwanted due to some reason. The children are usually well-behaved; shy and indecisive. They cry easily, but respond well when treated with a little affection.

4. Rejection: These children lack the feeling of belonging. They are anxious, aggressive, overactive, disobedient and 'attention seekers'. The causes of rejection are:

i) Unwanted child
ii) Unhappy marriage
iii) Birth of the child not anticipated
iv) If child's presence interferes with parental careers or ambitions.
v) If the mother herself is immature or emotionally unstable.

5. Authoritarianism

Parents induce discipline in the form of physical punishment or verbal ridicule. They insist that the child should follow their set of norms and extend many efforts to train the child as per their expectations. The parents are non-love oriented. The children are submissive with heightened avoidance gradient. They delay response and exhibit evasive behavior.

6. Identification

Parents try to re-live their lives through their children. In doing so, they give children everything that had been denied to them. If the children do not respond favorably, parents display overt disappointment. The children carry a sense of guilt which is mirrored in shyness, retirement and unsurety. They are generally good dental patients but need to be handled with kindness and consideration.

(II) Effects of parent's presence in the operatory

It is better to let them wait in the waiting room and not to be in the clinic during the procedure, but this is not easy, anyway most researches suggested that children's behavior is not affected by the presence or the absence of their parents, unless they are very young less than 4 years (better to present). A new study showed that parents really like to be with their children in the clinic and primary reason for that is "comfort" to feel comfort about their child.

So many parents prefer to be there during the procedure, especially if the patient is too young or it's his first visit, but our main concern as dentists is that their presence may lead to inappropriate communication with the child, or they may exhibit anxiety themselves.

Parents always repeat orders and this creates annoyance for both child and dentist, and may break the rapport between the child and the dentist, and makes it harder to use the (voice control). -we will talk about it later on. What is essential? To explain the whole procedure and to talk about what is the best for the patient and for his parents. Dentists generally prefer to have parents outside the operating room because most children behave satisfactorily in the absence of parents. If the child is uncooperative, parent's presence may support his behavior and limit the range of behavior control techniques of the dentist.
However, in some cases, parent's presence may be desirable i.e.

i) Children of 1-3 years of age
ii) Children during their first dental visit.
iii) Handicapped children.

For obtaining desirable behavior from children; following instructions should be given to parents:

1. Do not express your fears in front of children.
2. Never use dentistry as a threat or punishment.
3. Familiarize the child with dentistry by taking him to a dentist to become accustomed to dental office.
4. Expressing occasional display of courage builds courage in the child's mind.
5. Advise and instruct your children about regular care.
6. Never scold the children to overcome the fear of dental treatment.
7. Never bribe your children to go to a dentist.
8. Never promise the children what the dentist is not going to do.
9. Carry the child to the dentist in a casual manner without being over-sympathetic.
10. Do not enter the operatory unless desired.