

Survey of the utilization of and rationale for Hand-over-Mouth (HOM) and restraint in postdoctoral pedodontic education

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Abstract

A questionnaire was sent to all postdoctoral pedodontic training programs in the United States to survey the teaching of certain behavior management techniques. The responses indicated widespread acceptance of both restraint and hand over mouth techniques. A behavioral-psychological explanation is offered which describes these techniques as "response prevention" oriented and as methods to be used in response to a child's "avoidance" behavior. The effects of the proper use of hand-over-mouth and restraint are described and explained as are potential deleterious effects of several alternative approaches. Recommendations are made as to the optimum approach for various difficult-to-manage children. The techniques are discussed from a contemporary behaviorist viewpoint.

When a young child displays highly disruptive, tantrum-like behavior in the dental office, the practitioner needs techniques for managing the child in a quick, effective, and positive manner. A variety of relevant behavior management techniques which meet this need have been described in the literature, among them restraint¹⁻³ and hand-over-mouth (HOM).^{4,5} This paper addresses two aspects of these techniques: (1) current teaching in advanced pedodontic education, and (2) the behavioral-psychological tenets and effects of these techniques.

To establish the contemporary utilization of these behavior modification techniques, a brief questionnaire was distributed to the advanced pedodontic training programs in the United States. Of 62 questionnaires, 36 were returned (58%). The questions and responses are listed in Fig. 1. The three most frequent responses are listed where applicable, as is the percentage of respondents replying. Totals do not equal 100% where multiple responses are possible.

It appears from these responses that the techniques of restraint and HOM continue to be taught in almost

90% of the postdoctoral programs. Since no simple alternative management techniques are widely known, it may be inferred that these measures are resultantly in widespread use in the private practice of pedodontics. This is in keeping with the practitioner survey of management techniques conducted by the American Academy of Pedodontics in 1972.⁷ Further, it is probable that these techniques are employed in predoctoral pedodontic education as represented by the responding postdoctoral programs. Thus, they are implemented in the general practice of dentistry for children.

Questions two and three indicate that the HOM technique, as delineated subsequently, is generally structured after the guidelines of Craig⁴ and Levitas.⁵ **Question four** demonstrates that restraint is generally accepted in certain situations.

Questions five and six concern the anticipated psychological effects of these techniques and the preparation of the student to identify such effects. The responses to these two questions indicate general agreement that negative effects of restraint and HOM are nonexistent or minimal. Elucidation of the psychological mechanisms of these techniques is needed. Specifically, is the belief generally held that essentially only positive results occur, explainable via contemporary psychological theory? The discussion that follows attempts to provide such an explanation.

Most undesirable behavior in the dental environment can be classified as "avoidance" responses.⁸ The child may have learned this particular mode of response to selected experiences by several methods, two of which are most relevant for the dental setting. (1) The child arbitrarily does not want to comply with any behavioral requests. He is resorting to actions which in the past have succeeded in enabling him to avoid selected situations. This behavior is a generalized learned response elicited by similar environmental stimuli. (2) The child is responding fearfully to den-

Fig. 1.

| | % Positive responses |
|--|-------------------------|
| 1. What pedodontic textbooks are recommended for your postgraduates or residents? | |
| a. McDonald, R., and Avery, D.: <i>Dentistry for the Child and Adolescent</i> ² | 84 |
| b. Finn, S. B.: <i>Clinical Pedodontics</i> ⁶ | 75 |
| c. Wright, G. Z.: <i>Behavior Management in Dentistry for Children</i> ³ | 36 |
| (N.B. Restraint and HOM are discussed in all three of these texts.) | |
| 2. In which situations is it recommended (if at all) that the hand-over-mouth technique be employed? | |
| a. Hysterical, tantrum behavior | 83 |
| b. Never used | 11 |
| c. Other | 6 |
| (N.B. 89% of respondents teach restraint and HOM) | |
| 3. Please give a brief description of the technique as recommended. | |
| a. Cover the mouth only | 70 |
| b. Cover mouth and nose | 30 |
| c. Inform child of why hand is used and expected behavior | 67 |
| d. Give verbal directions only regarding expected behavior | 30 |
| e. Give no verbal directions regarding expected behavior | 3 |
| 4. In which situations are physical restraint techniques (specifically, the pediwrap and papoose board) recommended? | |
| a. Certain handicapped patients | 67 |
| b. Very young patients | 53 |
| c. Premedicated patients | 31 |
| d. Physically resistive patients | 28 |
| 5. What, if any, psychological problems do you feel may be induced by such techniques? | |
| a. None anticipated—high certainty | 61 |
| b. None anticipated—may, however, exist | 56 |
| c. Fear of dentistry | 8 |
| d. Other | 6 |
| 6. Please list the courses in psychology (general and/or child) taught to the postgraduates or residents. | |
| a. Child-developmental psychology—separate course | 44 |
| b. Child-development psychology—part of other course | 36 |
| c. None per se | 19 |

tistry as a result of knowledge acquired either directly by experience or indirectly through siblings, peers, etc. These fears may be of two types: (a) known, e.g., personally experienced, unpleasant incidents; and (b) unknown, e.g., the alien environment of the dental operatory.⁹

Both sources of the avoidance response will produce the same scenario. The child may flail about, kick,

scream, and in general display tantrum-like behavior. The questions to be considered are as follows. (1) What can the practitioner do? What are the optimum management techniques? (2) What are the consequences, if any, of the dentist's action or inaction?

Should the dentist not act, thereby allowing the child to avoid the dental experience, the dentist actually will be reinforcing these maladaptive concepts and behavior patterns.⁹ Initially, he validates for the child the fearfulness of the situation. The child perceives a realistic basis for his fear since his display of anxiety is being recognized and legitimized. Second, the child may generalize this inappropriate behavior to a physician's office or the school setting. It would be difficult to argue that tantrum behavior is the most efficient and socially functional response for dealing with anxiety-producing situations.

These maladaptive behavior patterns are reinforced and strengthened whenever the child imagines that the practitioner is concerned about causing unpleasant experiences. This ultimately reinforces the child's concept that the dental situation is best avoided.

In seeking an alternative approach, the dentist may attempt to cajole the child or speak softly to quiet him. This positive attention given to the inappropriate behavior will undesiredly strengthen it. Adult attention is a strong positive reinforcement for children. These indirect attempts by the dentist can be perceived again as validating the child's behavior. The child also succeeds in delaying the dental examination. Each moment in which the child is able to feel he controls the experience increases the strength of the problem response.⁹

Another approach, that of using premedication as the total response to managing the difficult child, has limitations. The utilization of pharmacologic agents has the potential for inconsistent results and difficulties due to idiosyncratic reactions. Second, should the dentist decide to rely solely on premedicating the child, he may teach the child undesired concepts about the use of drugs. For the fearful child, the use of intensive medication may teach him that (1) "The situation is as bad (dangerous?) as I perceive it to be, otherwise he would not give me this special medicine"; (2) "The best way to deal with such unpleasant situations is to take medicines which lessen my awareness of the experience."

Both of these cognitions are antecedents to possible future difficulty. The first validates the child's fear of dentistry, and the second establishes a dangerous rationale for potential drug abuse.

Should the dentist choose to restrain the child without appropriate verbal communication, he would be dealing ineffectively with the avoidance behavior. The child may learn the futility of behaving in this manner in this situation, but he is not developing

appropriate alternative responses. A rational, maturing experience is more beneficial.⁹

Chambers in 1970¹⁰ stated four relevant principles for managing the child patient. Briefly summarized, these are: to develop favorable expectations on the part of the child; to present a positive modeling experience; to provide for new, supportive associations with the dental experience; and to reinforce only appropriate behavior.

The usually accepted HOM technique is analyzable in behavioral terms. It is employed when a child is displaying disruptive avoidance behavior. The actual HOM technique with individual variations consists of the dentist's hand being placed firmly over the child's mouth.^{4, 5} The dentist speaks softly into the child's ear and reiterates, "When you are quiet, I'll take my hand away." The child usually ends his avoidance response. The dentist in turn removes his hand. If the child remains calm, the dentist immediately reinforces this behavior by saying, "That's better; now you are being good." Throughout the treatment, the dentist should reinforce the child's appropriate behavior by making statements like: "I'm proud of you; you are being very good and helping me, etc."

The child dental patient population on whom these techniques are employed is characterized as approximately between three and six years of age and having cooperative abilities.

Avoidance responses dealt with ineffectively are persistent.¹¹ Additionally, reality testing is not part of avoidance actions. The child who has not had the opportunity to experience literally a situation will not know if his response is appropriate. The dentist's hand over the child's mouth is an example of a behavioral technique known as "flooding"^{8, 12} or "response prevention."^{8, 9} Specifically, the individual is exposed to anxiety-provoking stimuli while being prevented from utilizing avoidance responses.⁸ The child who is managed with HOM learns that (1) the disruptive avoidance response will not succeed and is inappropriate; (2) the anxiety-provoking stimuli are actually far less noxious than imagined. Reality is tested.

Occasionally, a child will not respond to the first application of the HOM exercise. The child's avoidance response has probably been positively reinforced many times. It is a habit which is well-learned and has been practiced frequently. Expecting the child to respond immediately is expecting one-trial learning, which occurs occasionally, but should not be expected. The child may require several presentations of HOM before he learns the acceptable behavior pattern.

An important aspect of this technique is continuing verbalizations throughout the treatment. A young child does not abstract well. He predicates his behavior upon the consequences of preceding behavior. Words themselves have little meaning unless they are repeat-

edly paired with a specific object or a behavioral consequence.⁹

Therefore, pairing a smile and the statement, "I'm proud of you for you are being still," will teach the child what these abstractions mean. The tone of voice can convey meaning. "Voice control"³ is a most useful technique. By utilizing voice control, tell-show-do, and HOM appropriately, the dentist prepares the child to discover that the subsequent treatment is not the negative experience previously anticipated. As a result, the strength of the avoidance response will be further diminished. The experience of dentistry will become associated with neutral, if not pleasant, sensations. The use of positive associations will reinforce the newly learned behavior. The original avoidance response was probably based upon an imagined scenario. The new "learning set" is usually more powerful because it is based upon reality testing.

In dental literature, HOM is described as an "aversive" procedure. Wolpe¹² provides a brief definition of aversive therapy by stating, "The essence of aversion therapy is the presentation in the presence of the stimulus to the undesired response of a strong aversive stimulus such as strong electrical stimulation of a limb." Wolpe details several popular types of stimuli used in aversive therapy, including drugs, shock, and noxious imaginary scenes. The reluctance of dentists to employ severe, truly aversive techniques is understandable. Proper application of an aversive stimulus requires specialized skill and can be an uncomfortable task for any health professional. Aversive procedures do have their place in modern psychology as an effective treatment for a variety of clinical problems. However, it is clear from this brief definition that HOM lacks the extreme nature of true aversive conditioning. Therefore, any negative aspects of true aversive conditioning should not ensue.

It is more appropriate to state that HOM will result in the extinction of the avoidance response and the development of new learned responses. The child develops more adaptive and appropriate responses to the dental experience. It is possible to infer a variety of insightful cognitions on the child's part. However, lacking clearly observable and measurable data, one can consider these positive maturing consequences only as reasonable expectations.

Caution must be exercised in claiming HOM as a panacea to pedodontic misbehavior. Should a child be exposed continually at home or elsewhere to fear-invoking associations to dentistry or be taught through parental mismanagement to display tantrum behavior, he may misbehave on occasion even after HOM has succeeded. For this and possible legal¹³ reasons, a brief discussion with the child's parents is advisable. Simple terminology explaining both what may be done and the reasons for utilizing the techniques is adequate.

Parents may even be cautioned to avoid teaching inappropriate behavior to their children regarding dentistry. To help achieve this goal, praising the child's appropriate behavior to the parents is helpful. Above all, one should bear in mind that these techniques are reserved for specific situations in management; they are not intended for routine utilization on the average child patient.

In summary, the previous discussion explains the basic mechanisms of "flooding" techniques of behavior management. Further, the effects of neglecting to use HOM to manage avoidance behavioral problems are described. The final question concerning the long-term effects of HOM and restraint remains. With the viewpoint that these are not truly aversive techniques and therefore are not subject to the possible sequelae of aversive therapy, however, the question is moot.

One suggested long-term effect of HOM is the possibility of creating a dental phobia. This may be a possibility if the dentist employing HOM does so in an especially punitive or vicious manner or fails to verbalize appropriately to the child. Conversely, the chances are greater for the creation of a dental phobia in a child who manages to avoid consistently the dental experience.

Further longitudinal, controlled research may ultimately dispose of the question of long-range effects. The psychological literature is replete with examples of adults and children being treated with flooding response-prevention techniques with no negative con-

sequences. There is no rationale for attributing different results to the dental behavior management applications of these same principles.

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