

PERCEPTION OF BEHAVIOR MANAGEMENT AMONG DENTAL STUDENTS

Dentistry

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Abstract:

Dentistry for children requires more than dental knowledge, for one is dealing with organisms that are in their very formative years. Commonly, the pediatric patient provides the greatest challenge in behavior management. Our study was aimed to recall the exposure of fourth year dental students (n=93, Mean age=25.6) to a range of specific behavioral management strategies, both pharmacological as well as non-pharmacological, and their willingness to use those techniques in their own dental practice with children and adolescents. This was achieved through a 40 point questionnaire. The findings were analyzed using Analysis of Variance (ANOVA) test, and the results interpreted. It was seen that whereas the theoretical learning of these techniques was optimal, the actual on ground implementation of these behavior management techniques was grossly lacking. The students were as willing to use the controversial methods like Hand Over Mouth, as to use the more acceptable methods like Tell-Show-Do. This indicated the need for further development in the science of dental education.

Key Words: Behavior management techniques, Pediatric patients, dental students.

Introduction:

Dentistry for children is perhaps the most needed and yet the most neglected area of all services performed by the dentist (Finn1998).¹ Pediatric dentistry is synonymous with dentistry for children (Pinkham, 1994).² Dentistry literature acknowledges that the management of child's behavior begins the moment the child enters the dental environment and continues until he leaves.³

Our aim was to recall the exposure of these students to a range of specific behavioral management strategies, both pharmacological and non-pharmacological, and their willingness to

use those techniques in their own dental practice with children and adolescents.

Materials And Methods:

The survey was planned in the state of India, and included the five dental colleges, all recognized by the Dental Council. The required ethical clearance and informed consents were obtained in the very beginning.

Final year students were selected because they had recently completed the behavioral sciences course in pediatric dentistry and had begun direct patient care. Furthermore, the selection of these students provided an

opportunity to evaluate their exposure to, and their use of behavioral management techniques in novice clinicians, with only one year or less of clinical practice. An average of 3 to 4 hours of didactic teaching in the field of behavior science is given to the students in the BDS curriculum. Here it may be worthwhile to mention that a pilot study was conducted on 20 subjects prior to the commencement of the study to review any shortcomings of the survey design.

The survey consisted of a questionnaire having 40 objective questions. These questions were regarding the teaching of various behavior management techniques in the various institutes, and the attitude of the participants as to which method they are most likely to use according to the age group. These techniques were primarily taken from the AAPD's Clinical Guidelines on Behavior Management⁴ and which are also covered in the Dental Council of India (DCI)⁶ curriculum for the teaching of the subject of Pediatric dentistry. Total anonymity was maintained for the questionnaire responses by collecting no uniquely identifying information about participants. The students were also asked to note any additional techniques which they might be using in clinical practice, besides the ones mentioned in the questionnaire.

The categories in the questionnaire pertained to whether the students had been taught, or had observed, or had used each of the behavioral methods in clinical practice. Each of the categories was conceptualized as separate categories rather than categories that were dependent on each other.

Students were also asked to rate as to how likely they were to use the various methods in future clinical practice (i.e., as dental students in school clinics or as future practitioners) with each of four populations (children, preschool, middle school and adolescents). The ratings were graded from one to seven, with one being the "Absolutely will not use" scenario, and seven being the "Absolutely will use" scenario. Participants' ages were also dichotomized to facilitate identification of nontraditional persons. Frequencies and percentages were calculated and analysis was done using analysis of variance ANOVA test.

Scale used for evaluation of the responses

Results:

Out of a potential 298 subjects, 93 responded with

accurately completed forms. Of the 41 males and 52 females, mostly the respondents were in the age group of 22-25years. To maintain the objective nature of the study, the behavioral management techniques under investigation were divided into six basic categories: educational, supportive, cognitive-behavioral, coercive, restrictive, or pharmacological. Findings related to each of these six categories are discussed in relation to percentages of students who recalled being taught the technique, or having used the technique, or having observed faculty use of the technique.

Majority of the respondents recalled being taught the methods in the educational techniques such as patient education (80.6%), clarifying expectations (67.75%), tell-show-do (73.1%), but contrastingly had seldom observed their instructors use these methods on patients. For example, a mere 5.4% had ever observed the technique of tell-show-do. 69.9% students had been taught hiding needles from fearful patients in classrooms but only 6.5% ever observed it in the clinics and still 79.9% were using the method in their practice. In office parental support had similar answers.

Among the various cognitive techniques, most of the students (66.7%) agreed on being taught distraction as a method of behavior management, but only 22.6% had observed their instructors using it, and still 48.4 % were using the method in their practice. Of the 43% students who could recall being educated in the technique of competitive stimuli, only 12.9% had used it in their practice.

Physical restraints are a controversial method of behavior management. Sedative methods of nitrous oxide and benzodiazepines had a response of 72% and 69.9% in the taught category. And not surprisingly, none of the students had practiced nitrous oxide sedation.

When asked according to age group which method the students would like to use in their future practice, interesting observations were made. Patient education was most preferred in adolescents (Mean= 6.52, S.D. =1.01); this is valid considering the level of understanding of adolescents and their need to be treated as adults. Distraction was preferred in children of age group of 0-3 years (M=4.52, S.D. 2.04), as well as in preschooler years (M=5.19, S.D. = 1.30). The technique of Competitive stimuli (M=5.10, S.D. =1.49) and the use of reward system (M=4.30, S.D. =1.71) was indicated by the students for the 4-7years age

group. The technique of relaxation was advocated for the adolescent age group (M=5.72, S.D. =5.38). Tell-show-do, medical immobilization, papoose, verbal intimidation and voice control was found to be suitable by most of the respondent in all age groups but mostly for patient between ages of 8-12 years. Hand over mouth was suggested for the ages between 7-12 years (M=4.51, S.D. =1.75). Hiding needles from fearful patients (M=5.75, S.D. =1.58) and in-room parental support (M=5.83, S.D. =1.56) was found to be preferred in age group of 3-7 years. Sedative method of nitrous oxide (p=0.078) and benzodiazepines (p=0.012) were preferred equally in all age groups.

Discussion:

The value of pediatric dentistry cannot be exaggerated, for inadequate or unsatisfactory dental treatment during childhood may damage permanently the entire masticatory apparatus, leaving the individual with many of the dental problems so common in today's adult population. [1] Commonly, the pediatric patient provides the greatest challenge in behavior management. To guide dentists working with children, the American Academy of Pediatric Dentistry (AAPD) [4] has developed its Clinical Guidelines on Behavior Guidance for the Pediatric Dental Patient. Medical immobilization, sedation, and general anesthesia were listed as advanced behavioral management techniques by the AAPD. Their use is recommended only to those dentists who have completed commensurate advanced postdoctoral training. [5]

The learning of Pediatric dentistry as a subject begins from the third year in the curriculum of Bachelor of Dental Science (BDS) and this learning involves the most complex and the most versatile of subjects- something that sets apart a pediatric dentist from others.

The acceptability of a behavior management technique depends, among other factors, on the child's need at the time of treatment, the type and urgency of treatment influencing both the selection of a particular technique and parental acceptance of the techniques.[5] Dental students play a significant role in public life, eventually becoming the future leaders of dentistry.[1] The fourth year students are equipped with fresh knowledge and skills of behavior science, and they practice the current standard of dental clinical care.

Behavior dentistry is an interdisciplinary science. The objective of the science is to develop in a dental practitioner an understanding of the interpersonal social force that influences a patient's behavior. The foundation of practicing pediatric dentistry is the ability to guide a child through their dental experiences. This ability is a prerequisite to provide their immediate dental needs.[7] One major aspect of child management in the dental chair is managing dental anxiety, a worldwide problem and universal barrier to oral health care. The dentist treating a child patient almost always assesses one aspect of behavior- cooperativeness. Cooperative behavior is the key to render treatment.[7]

It was noted in our survey that one of the main drawbacks of the current teaching system is the lack of observational learning. In order to implement these methods with accuracy, there should be more opportunities for observational learning in the field of behavior management. The controversial topics in behavior management are less practiced and less preferred by these students. It was noted that more of the female respondents accepted being taught these methods and more male respondents recalled using these methods in the clinics. These differences were noted in almost all the questions.

An Australian survey of strategies used by dentists to manage children with behavioral problems revealed that female dentists were less likely to use aversive techniques[8]. The current results are similar to a study done in Philadelphia on similar lines.[5]The authors in the Philadelphia study also stressed on the importance of observational learning.

Dental treatment for children requires the use of behavioral management techniques. Tell-show-do, positive reinforcement, modeling, voice control, and physical restraints are some of the commonly used techniques. When these behavior management techniques fail to provide a practical tool, other methods like sedation or general anesthesia may be required.[9]

However the technique of "Hand Over Mouth" (HOM) has been removed from the list of techniques of the AAPD in the year 2006.4 Primosch and Mathewson (1995)[10] state that some dentists feel that the presence of a parent during treatment increases the potential management problems with the child by offering unsolicited advice, attempting to placate the unmanageable child, and disrupting the dental office routine.

Tell-show-do (TSD) introduced by Addleston in 1959, remains the corner stone of behavior management techniques followed by dentists, [7] and other studies showed similar interest of respondents in using this technique.[5, 11, 12,] and a survey of first year students also had similar results.[13]

Many practitioners have experience with parents who are reluctant or unwilling to personally pay for the added cost of sedation or dentist time needed to manage their behaviorally complex child.[14]

Behavior assessment helps us to plan appointments and provide quality oral health care to children. Proper use of management techniques improves behavior on subsequent visits, making things easy for the child patient and the pediatric dentist. Assessment and reevaluation helps us to reinforce our beliefs in our own techniques.[7]

Researchers are just beginning to empirically examine behavioral management training within dental schools, and limited attention has been paid to the role of students in this training.[5]Children appeared to judge a behavior management technique according to the way it looked. [15]A recent study by Boynton et al[16]demonstrates the effectiveness of portable video-based instruction in

teaching pediatric behavior guidance to dental students. A review of other studies shows the same potential benefit of a technology-based approach for patient education.[17]

There are a few shortcomings to the present study, the sample size for one. This could be a reason for bias but all care was taken to avoid such bias. The incorporation of psychological principles and techniques into dentistry has significantly increased in recent years, and though time spent in such instruction may have peaked[18], the AAPD[4] recommends that “behavior management should have a greater focus in dental education.” If pediatric dentistry is to provide the best care to the largest number of patients, dental students should be taught more than theoretical aspects of behavior management.

Conclusion:

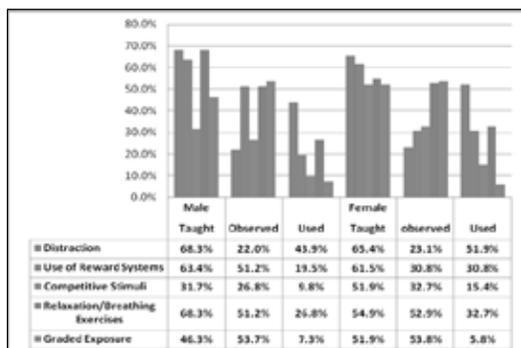
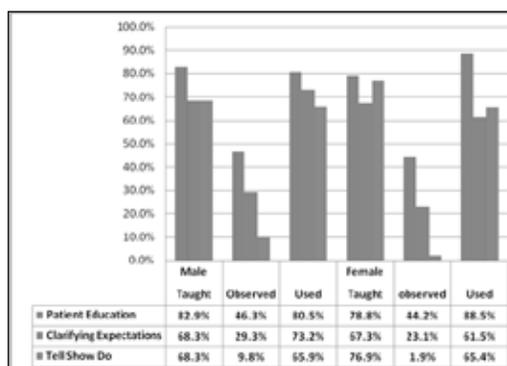
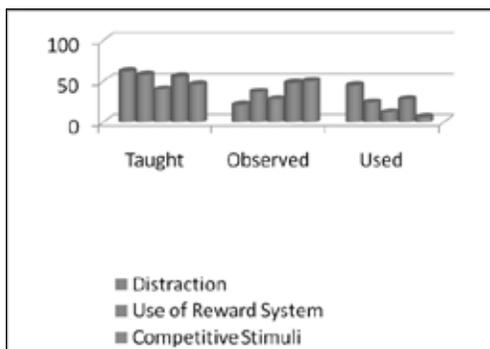
There is not much literature available in this aspect, because not enough research is being done in the field of teaching behavior management to undergraduate students. More aggressive research is definitely required if we want to achieve an all-round development of a potent and capable clinician which begins in these formative years as a dental student.

Table1. Percentage of Respondents Endorsing each Method

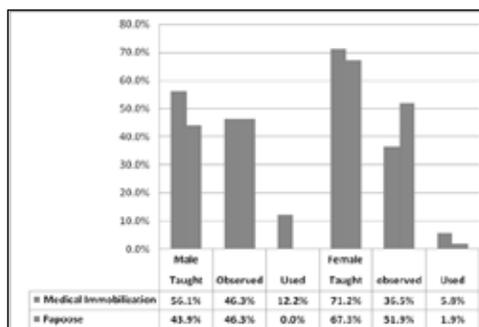
S No.	Taught		Observed		Used	
	Males	Females	Males	Females	Males	Females
Distraction	68.3%	65.4%	22.0%	23.1%	43.9%	51.9%
Use of Reward Systems	63.4%	61.5%	51.2%	30.8%	19.5%	30.8%
Competitive Stimuli	31.7%	51.9%	26.8%	32.7%	9.8%	15.4%
Relaxation/Breathing Exercises	68.3%	54.9%	51.2%	52.9%	26.8%	32.7%
Graded Exposure	46.3%	51.9%	53.7%	53.8%	7.3%	5.8%
Medical Immobilization	56.1%	71.2%	46.3%	36.5%	12.2%	5.8%
Papoose	43.9%	67.3%	46.3%	51.9%	0.0%	1.9%
Hiding Needles from Fearful Patients	68.3%	71.2%	9.8%	3.8%	73.2%	84.6%
Nitrous Oxide	63.4%	78.8%	9.8%	5.8%	0.0%	0.0%
Benzodiazepine	61.0%	82.7%	0.0%	0.0%	7.3%	3.8%

Other Sedative Medication	63.4%	75.0%	0.0%	0.0%	9.8%	7.7%
Patient Education	82.9%	78.8%	46.3%	44.2%	80.5%	88.5%
Clarifying Expectations	68.3%	67.3%	29.3%	23.1%	73.2%	61.5%
Tell Show Do	68.3%	76.9%	9.8%	1.9%	65.9%	65.4%
Hand Over Mouth	73.2%	82.7%	61.0%	69.2%	19.5%	11.5%
Verbal Intimidation	48.8%	69.2%	65.9%	59.6%	29.3%	28.8%
Voice Control	70.7%	71.2%	43.9%	51.9%	63.4%	46.2%
In-room Parent/Spouse/Friend Support	63.4%	73.1%	17.1%	3.8%	65.9%	73.1%

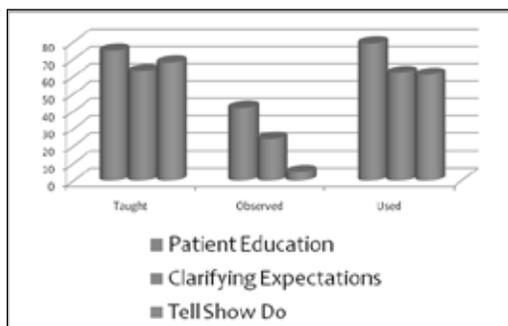
1. Cognitive Behavioral Techniques



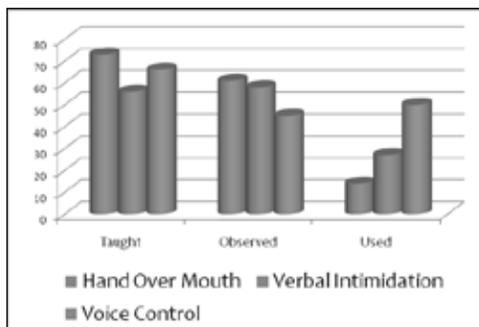
3. Restraint Techniques

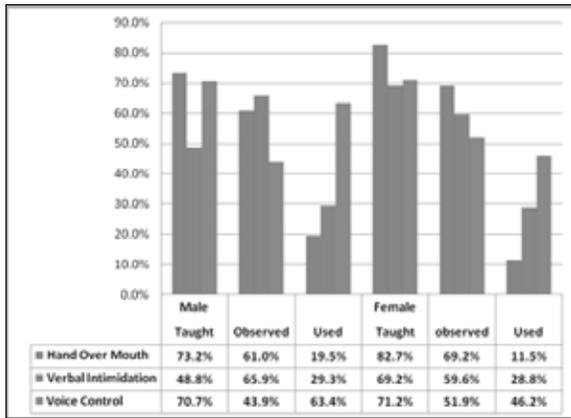


2. Educational Behavioral Techniques

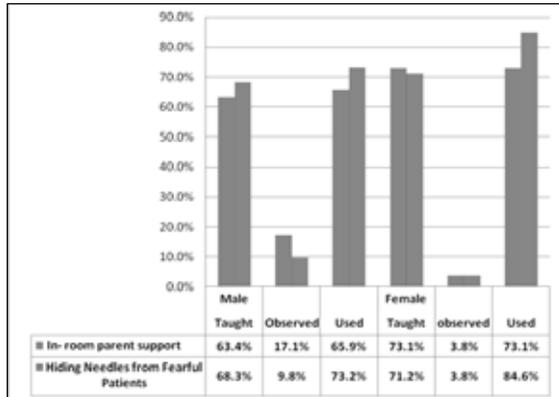
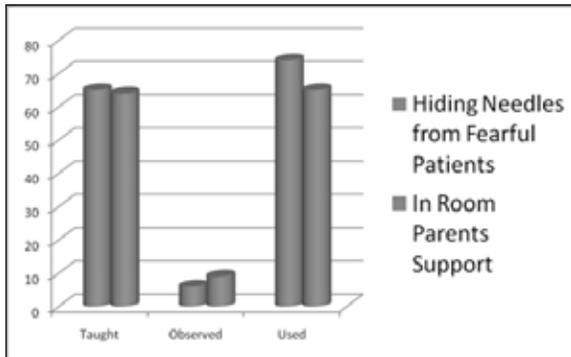


4. Coersion Techniques





5. Supportive Techniques



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