Effects of a Positive Verbal Presentation on Parental Acceptance of Passive Medical Stabilization for the Dental Treatment of Young Children

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Abstract

Purpose: The purpose of this study was to investigate the impact of a positive verbal presentation on parental acceptance of passive medical stabilization of young dental patients needing dental treatment in the private setting.

Methods: Parents appearing for the treatment of their young, uncooperative child were informed regarding the use of passive medical stabilization (Papoose Board). The control group (CG) was given a neutral explanation regarding the use of the Papoose Board (PB), and the experimental group (EG) was given a positive verbal presentation. A video film depicting 2 children undergoing dental treatment with conscious sedation and PB and a third child undergoing dental treatment under general anesthesia was viewed. Next, a post-screening survey regarding parents' attitudes to the treatment modalities was given.

Results: Sixty parents completed the trial. EG parents were found to be significantly more receptive to PB use compared to CG parents (69% vs 10%; χ^2=19.48; P=.001). CG parents believed that active restraint by a parent would be just as successful as passive restraint. The majority of EG parents, however, voiced the opposite opinion. EG parents attributed a restrained child's crying while in a PB to the child's fear, while CG parents attributed it directly to the restraint.

Conclusions: Parental acceptability of the PB, coupled with conscious sedation, is dependent on the way it is presented by the clinician. Positive explanation may result in more parents' acceptance of this form of treatment. (Pediatr Dent 2005;27:380-384)

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The appropriateness of physical restraints is known to provoke much debate among clinicians and parents. Opinions vary among clinicians and parents on the use of passive medical stabilization (MS), even when it is coupled with conscious sedation for the dental treatment of the uncooperative, young patient. More parents accept and consent to general anesthesia (GA) vs conscious sedation (CS) with passive restraint.[1] The use of GA in managing difficult children has also increased.[2] Increasingly, the acceptability of behavior management techniques is being held to the reasonable parent's standard and not to adherence to the professional community standard for determining acceptable behavior management practices.[3]

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With the emphasis on children's rights and the increasing participation of parents in the decision process, parental attitudes toward behavior management constitutes an important factor when a method of management is selected. Consequently, parents may need appropriate information to make an informed decision.

Previous studies have examined the parental acceptability of various behavior management techniques, ranging from tell-show-do (TSD) to aversive conditioning such as hand-over-mouth exercise (HOME).[4-11] Studies have investigated whether acceptability was dependent on the type of dental procedure to be accomplished, whether information about the techniques was given verbally or with a video, and whether parental social status played a role in acceptance. Among the findings of these studies were that parents are more accepting of aggressive behavior management techniques when more serious dental treatment is needed[4] and that acceptability ratings are not significantly influenced by group presentation[7] or parental societal status.[8]

A recent study revisited this issue and examined contemporary parental attitudes towards behavior management techniques.[11] The study concluded that aggressive physical management techniques (HOME and Papoose Board) appear to be less favorably accepted by parents. Although this study was recently published, the videotape of the procedures presented was originally produced over 14 years ago and was the same used by Lawrence et al.[6] A suggestion may be made that future studies utilize more contemporary presentations. Two of the studies examined specific populations (Hispanic[9] and Saudi[10]) that may possess cultural norms influencing their acceptance of behavior management techniques, making comparison to Western-culture society difficult.

The majority of the studies' subjects were parents appearing at university dental clinics and not those attending private clinics. The middle- to upper-class populations attending private clinics may be expected to react differently than previously studied populations. As aforementioned, although many variables have been previously examined relative to behavior management techniques and parental acceptance, none of these studies examined the influence of the personal bias and preference of the pediatric dentist to explain the procedure to parents on their attitude and willingness to accept the technique.

This study's purpose was to investigate the impact of a positive verbal presentation on parental acceptance of passive medical stabilization of young dental patients in need of dental treatment in the private setting.

Methods

Parents bringing their young, uncooperative child for dental treatment at one of 2 private clinics were asked to participate in the survey and view a video. None of the participating parents had any previous experience with the Papoose Board (PB). Parents in the control group (CG) were given a neutral explanation by one of the investigators regarding the use of the PB, active restraint by a parent, and treatment under GA.

This explanation was given to all subjects of the control group by the same female dentist. Although the explanation was not scripted, an attempt was made to present similar explanations to all subjects, allowing questions to be asked only at the end of the survey. Parents were informed regarding the need to administer important comprehensive dental treatment, complicated by the behavioral difficulties that may arise when treating a very young, uncooperative child. Two modes of patient management were described: GA and CS. Parents were told that the GA technique was used routinely for other medical procedures and was performed in a hospital environment.

The child would be admitted to same-day surgery and would not be conscious during the dental procedure. All procedures would be accomplished in 1 session. The other alternative presented was CS. Parents were told that the child would be given a premedication oral sedative prior to treatment. Although the child would also receive nitrous oxide inhalation analgesia during dental treatment, he/she would remain conscious during treatment—hence the term conscious sedation.

Children may be expected during dental treatment, however, to exhibit a wide spectrum of behavior including sleeping, being quiet, crying, and even screaming at certain points. The parents were assured that local anesthesia would be administered to prevent the child from experiencing any pain. In the event that the child's crying would be accompanied with movement (head, hands, body, kicking) that interferes with treatment, it would be necessary to restrain the child to allow safe treatment. The benefits and risks of both procedures were explained.

The experimental group (EG) was given a positive explanation of the PB and a neutral presentation of active restraint and treatment under GA. The same male dentist delivered the presentation to all EG parents. The explanation given was identical to that used routinely in the office over the past 10 years. In addition to the information given to the CG, as previously described, an explanation regarding the rationale of the PB was also presented. Parents were told that the objectives of using the PB were to:

1. reduce untoward movement;
2. protect both patient and staff from injury;
3. facilitate delivery of quality dental treatment.

Parents were reassured that the child would initially be under the influence of the sedative before any stabilization would be used. Parents were told that restraint was used on patients receiving sedation to preemptively intercept possible disruptive movements that can result from reflex responses or child resistance rather than rely on deeper sedation or GA to override opposition. It was again emphasized that the PB would only be used while the child was under the influence of CS. Parents were told that the purpose of CS is to lessen irrational fears and anxiety to the point that dental care may be administered in an effective way.

The use of a restraining device with a patient who is under this reduced degree of consciousness succeeds in stabilizing the child and allows a successful safe treatment. The goal, however, is to enable treatment to be performed and establish a positive psychological response to treatment. The child is not "violated" by the restraint. Instead, the patient is assisted to obtain the treatment he or she needs. The child may be convinced to view the "blanket" as being comforting, allowing the sedative to facilitate his/her state of relaxation and allow treatment.

Parents were also told that a successful sedation does not mandate complete and absolute patient immobility or somnolence and that some crying may be expected. Parents were reassured that crying is not necessarily related to a child's pain. Crying is a form of communication. While infants cry from need, toddlers and preschoolers generally cry out of frustration. Toddlers seek independence and may scream in protest at losing the power he or she has enjoyed since birth.

Power struggles that include crying are not limited to the dental office and may occur over toilet training, eating, sleeping, and being restrained in a safety belt in a car.

Parents were reassured that their child has the potential to evolve into a cooperative and enthusiastic dental patient, regardless of their experience of being restrained with a PB. This is dependent, however, upon the pediatric dentist's approach. The pediatric dentist they visit should employ a wide spectrum of management techniques (including tell-show-do, positive reinforcement, and desensitization) in a gentle manner with patience and skillful confidence.

Parents were asked regarding their anxiety to future dental treatment of their child using a visual analog scale. Parents were then shown a video depicting 2 children undergoing dental treatment with CS with passive medical stabilization and a third child undergoing GA for dental treatment (duration=11 minutes).

The sedation of the first child in the video was evaluated as "very good," using the Houpt scale[12] for overall success of sedation (Table 1). The second child's sedation was rated as "fair," due to the child crying intermittingly and treatment being difficult. Both children were seen in a PB with head restraint and nitrous oxide nasal mask. A rubber dam was used as well as local anesthesia. The third child, who was treated with GA, was seen in the operating room undergoing intravenous catheterization, nasal intubation, dental treatment, and extubation. All 3 children were younger than age 5.

Following the video, a postscreening survey regarding parents' attitudes to the treatment modalities was given and completed anonymously. Parents were asked if they:

1. would accept PB use;
2. thought parental restraint would be just as effective;
3. believed the child's crying during PB restraint, as shown in the video, was directly caused by the restraint;
4. felt parental presence would significantly reduce crying.

Statistical analysis

Group means were compared using *t* tests, and group percentages were compared using chi-square tests or Fisher's exact test. A *P*-value <.05 was considered significant.

Results

Sixty parents were included and completed the trial. Twenty-one children were included in the control group (CG; neutral presentation) and 39 in the EG (positive). The sample characteristics of each group of children and their parents are presented in Tables 2 and 3, respectively. No significant differences were found between the groups regarding child's age or sex and parents' gender or anxiety level. A significant difference was found, however, concerning the education of the participating parent between the 2 groups, with the experimental group consisting of more parents with a college/university level of education (χ^2=7.253; *P*=.007).

Due to this finding, each education group was separately

Table 1. Houpt[12] Rating Scale for Overall Evaluation of Sedation

Aborted	**No treatment**
Poor	Treatment interrupted, only partial treatment completed
Fair	Treatment interrupted, but eventually all completed
Good	Some limited crying or movement (eg, during anesthesia or mouth prop insertion)
Very good	Some limited crying or movement (eg, during anesthesia or mouth prop insertion)
Excellent	No crying or movement

Table 2. Children Characteristics*

		Control group	Experimental group
Gender†	Male	48% (10)	51% (20)
	Female	52% (11)	49% (19)
Age‡ (mos)	Mean±SD	44±12	47±11

*No significant differences were found.
†Chi-square (χ^2=.073; *P*=.787).
‡Nonpaired *t* test (*t*=1.13; *P*=.265).

Table 3. Parental Characteristics

		Control group	Experimental group	Test value	*P*
Parent gender*	Male	29% (6)	33% (13)	χ^2=.143	.705
	Female	71% (15)	67% (26)		
Parent education†	High school	52% (11)	31% (12)	χ^2=7.253	.007
	College/university	48% (10)	69% (27)		
Parental anxiety level*	Mean±SD	2.7±1.2	2.8±1.1	*t*=.33	.74

*No significant differences were found.
†A significant difference was found.

analyzed statistically regarding their acceptance of PB (Table 4). Parents' responses to the questionnaire are presented in Table 5. EG parents were found to be significantly more receptive to PB use compared to those in CG (69% vs 10%; (χ^2=19.48; *P*=.001), irrespective of their education level. CG parents believed that active restraint by a parent would be just as effective and successful as passive restraint with a PB. The majority of EG parents voiced the opposite opinion. This difference, however, was not statistically significant (χ^2=3.80; *P*=.051). EG parents attributed a PB-restrained child's crying to the child's fear, while CG parents attributed it directly to the restraint. CG parents were found to agree that the presence of a parent during the procedure would result in a significant reduction in crying, while EG parents did not expect any change.

Discussion

Parents who received a positive explanation regarding the PB showed higher acceptance levels than parents who received a neutral, noncommittal explanation. An additional finding was that those parents who agreed to the technique were also more willing to have their child treated with parental separation in addition to conscious sedation coupled with passive medical stabilization.

This study's findings emphasize the influential component of the dentist's explanation and parents' personal preferences regarding patient management decisions. Parental attitudes can be influenced by the way the proposed dental behavior management procedures are presented and may bring about wider acceptance of the PB.[13] It seems, however, that the opposite has occurred. Dentists have been influenced by parents and have changed their methods accordingly. Other influences on pediatric dentists' choice of behavior management techniques may include: (1) media attention; (2) changing legal issues; and (3) attitudes of other health care colleagues, including fellow dentists.

Pediatric dentists overwhelmingly report that changes in parenting have occurred during their practice careers and these changes were regarded as negative.[14] Dentists may have shifted their behavioral management techniques to less assertive ones as a result of perceived parenting changes. This may be the result of a protective response to counter more involved and difficult parenthood and not be for the child's benefit. Another possibility is that perhaps today's younger pediatric dentists are products of a society in which parenting styles have drastically changed and affected their views on such matters. This study's results suggest that such personal views may affect the acceptance of aversive management techniques.

Another interesting finding suggests that parents' misconception of passive restraint with a PB is embedded so deeply in their minds that, although much evidence may be brought to justify its role in providing safe dental treatment, they still will not permit its use. In the CG, only 10% agreed to the PB. Paradoxically, however, 52% of the same group stated that parental restraint would not be as effective.

This study's limitations are consistent with other clinical studies conducted in private practice. Although patients replied to the surveys anonymously, it may be presumed that some respondents have been influenced by the fact that the child's dentist conducted the research. It is precisely this relationship, however, that was examined. Another factor to consider was the presenter's gender; the positive explanation was given by a male and the neutral one by a female dentist. Some might speculate that a male dentist may possess more assertive and authoratative characteris-

Table 4. Parental Acceptance of Papoose Board by Group and Education Level

	Control group		Experimental group		Test value	Significance
	Acceptable	Unacceptable	Acceptable	Unacceptable		
High school	10% (1)	90% (9)	83% (5)	17% (1)	Fisher's exact test	*P*=.008
College/university	9% (1)	91% (10)	67% (22)	33% (11)	Fisher's exact test	*P*=.001
Total	**10% (2)**	**90% (19)**	**69% (27)**	**31% (12)**	**χ^2=19.48**	***P*=.001**

Table 5. Parental Attitudes and Responses

	Control group		Experimental group		Test value	*P*
Active restraint by parent	Effective	Not effective	Effective	Not effective	χ^2=3.80	.051
	48% (10)	52% (11)	23% (9)	77% (30)		
Restrained child's crying in PB is mainly due to:	Restraint itself	Fear	Restraint itself	Fear	χ^2=18.51	.001
	48% (10)	52% (11)	3% (1)	97% (38)		
Child would cry significantly less with parent presence	Agree	No difference	Agree	No difference	χ^2=20.52	.001
	81% (17)	19% (4)	21% (8)	80% (31)		

tics influencing the parents' decision. In today's modern society, however, such gender differences are disappearing.

The characteristics of the parents participating in this study may affect the application of the results onto other populations. The parents were all middle to upper class, with a relatively high level of education. Nonetheless, it is precisely this type of population that may be of interest to the private practitioner. The majority of studies on parent acceptability of behavior management techniques have been conducted on a population that is very much different than those attending private practice. Many of those families seeking dental care at university clinics are of limited financial resources and, consequently, of lower educational status. The conclusions of these studies may not apply to those populations visiting private dentists.

This study's findings are consistent with a recently published study examining the relationship between dentists' and parents' perceptions of health, esthetics, and treatment of maxillary primary incisors.[15] It can be concluded that, although parents are more involved in clinical decision making, they still rely on the dentist's expertise and advice. In a similar manner, the dentist's advice regarding patient management may influence parents' perception of the PB in a positive or negative way, dependent on the delivery of information regarding it s use.

Conclusions

Based on this study's results, the following conclusions can be made:

1. Parental acceptability of the Papoose Board, coupled with conscious sedation, is dependent on the way it is presented by the clinician.
2. Positive explanation may result in more parents accepting this form of treatment.

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