

Caregiver Perception of Alternative Non-pharmacological Behavior Management Techniques



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INTRODUCTION

- Between 100,000 and 250,000 children undergo sedation in dental offices per year¹. Although pharmacological treatment modalities are safe and effective, adverse events can occur. Adverse events associated with sedation include nausea and vomiting, diffusion hypoxia, and respiratory depression².
- Many non-pharmacological modalities are used in dental offices to lessen a child's anxiety including positive pre-visit imagery, direct observation, tell-show-do, ask-tell-ask, voice control, non-verbal communication, positive reinforcement, distraction, and desensitization³.
- Less common techniques such as hypnosis, music therapy, pet therapy, acupressure, aromatherapy, magic tricks, and virtual reality have been shown to alleviate the anxiety of pediatric dental patients and have increased patient cooperation.
- Due to the risk associated with sedation and general anesthesia, it is important to explore other treatment modalities to safely provide dental treatment. There is a lack of research on whether parents are comfortable with these alternative behavior management modalities. The hypothesis is that parents will have positive perceptions of the non-traditional non-pharmacological techniques in the dental office.
- San Ysidro Health is a Federally Qualified Health Center (FQHC), which offers access to care to those at or below the federal poverty guideline and has multiple dental clinics throughout San Diego County⁴. San Diego Children's Dental Center (SDCDC) is located on the same campus as Rady Children's Hospital, consequently, allowing access to care patients with special health care needs (SHCN). Chula Vista Medical Plaza (CVMP) dental clinic is located in a large health center near the Mexico/U.S. border and treats mostly well children. At both clinics children from 0-14 years of age are seen.

PURPOSE

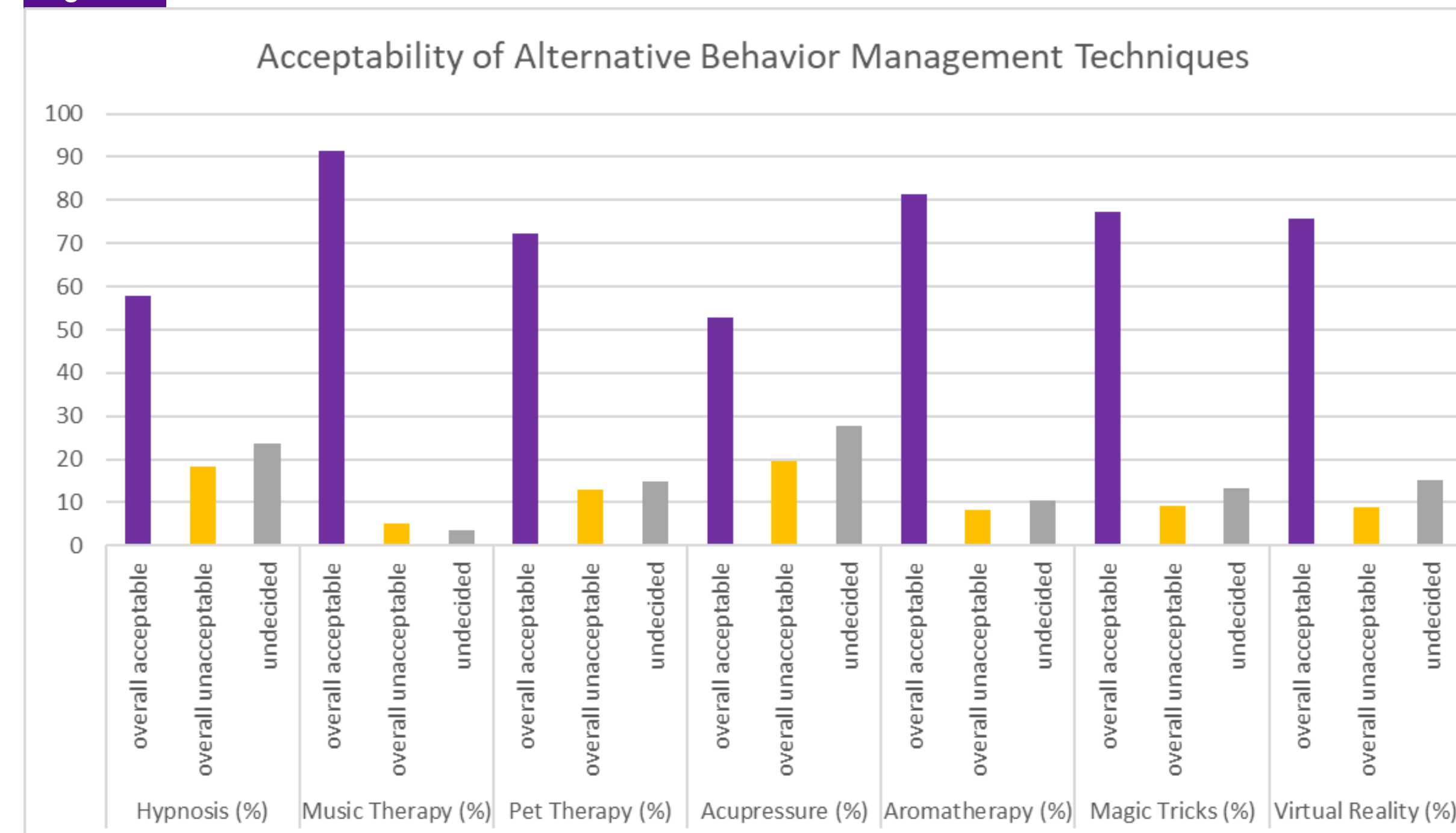
The purpose of this study is to examine biologic parents of pediatric dental patient's perspectives around alternative non-pharmacological behavior management techniques including hypnosis, music therapy, pet therapy, acupressure, aromatherapy, magic tricks, and virtual reality.

METHOD

- A closed-ended paper anonymous survey was used to obtain parents' perception of alternative non-pharmacological behavior management in a community health center dental clinic in San Diego, CA.
- The survey was administered to parents at their child's dental comprehensive oral exam or periodic oral exam appointments.
- Data collected included demographic information including the age of the child, the relationship of the biological parent to the child (mother, father), insurance status (Denti-Cal, private insurer, Tricare, uninsured, unknown), race (American Indian, Asian, Black, Native Hawaiian, White, other) and ethnicity (Hispanic, Not-Hispanic, unknown). Additional data included parents' perception of the seven nontraditional non-pharmacological behavior techniques (hypnosis, music therapy, pet therapy, acupressure, aromatherapy, magic tricks, virtual reality) using a Likert scale.
- Statistical analysis using Chi-square was completed with a significance set at $P < .05$.

Participant Characteristics	SDCDC and CVMP N (%)	SDCDC N (%)	CVMP N (%)	P-value
Relationship				0.219
Father	62 (20.5)	47 (22.7)	15 (15.8)	
Mother	240 (79.5)	160 (77.3)	80 (84.2)	
Race				0.483
American Indian or Alaska Native	6 (2.0)	5 (2.5)	1 (1.1)	
Asian	8 (2.7)	7 (3.5)	1 (1.1)	
Black or African American	8 (2.7)	6 (3.0)	2 (2.1)	
Native Hawaiian or Other Pacific Islander	6 (2.0)	4(2.0)	2 (2.1)	
Other	144 (48.8)	91 (45.3)	53 (56.4)	
White	123 (41.7)	88 (43.8)	35 (37.2)	
Ethnicity				0.005
Do not want to disclose	9 (3.0)	7 (3.4)	2 (2.1)	
Hispanic or Latino	237 (78.5)	151 (72.9)	86 (90.5)	
Not-Hispanic or Latino	53 (17.5)	47 (22.7)	6 (6.3)	
Unknown	3 (1.0)	2 (1.0)	1 (1.1)	
Previous Trauma				0.52
Yes	49 (16.2)	36 (17.4)	13 (13.7)	
No	253 (83.8)	171 (82.6)	82 (86.3)	
Special Health Care Needs				0.017
Yes	38 (12.7)	33 (16.0)	5 (5.3)	
No	262 (87.3)	173 (84.0)	89 (94.7)	
Age (years old)				0.041
1-2	13 (4.3)	9 (4.4)	4 (4.2)	
3-5	71 (23.6)	38 (18.4)	33 (34.7)	
6-8	89 (29.6)	64 (31.1)	25 (26.3)	
9-11	78 (25.9)	59 (28.6)	19 (20.0)	
12-14	50 (16.6)	36 (17.5)	14 (14.7)	

Figure 1



Technique	Relationship	Completely Acceptable	Acceptable	Unacceptable	Completely Unacceptable	Undecided	P-value
Hypnosis	Father, N (%)	9 (17.3)	21 (17.4)	10 (37)	2 (7.1)	20 (28.2)	0.025
	Mother, N (%)	43 (82.7)	100 (82.6)	17 (63)	26 (92.9)	51 (71.8)	
Music Therapy	Father, N (%)	62 (20.5)	28 (20.0)	29 (21.5)	1 (33.3)	1 (8.3)	0.773
	Mother, N (%)	240 (79.5)	112 (80.0)	106 (78.5)	2 (66.7)	11 (91.7)	
Pet Therapy	Father, N (%)	20 (19.4)	26 (22.8)	5 (22.7)	3 (17.6)	8 (17.8)	0.939
	Mother, N (%)	83 (80.6)	88 (77.2)	17 (77.3)	14 (82.4)	37 (82.2)	
Acupressure	Father, N (%)	8 (17.8)	31 (27.2)	7 (18.4)	2 (9.5)	14 (16.9)	0.228
	Mother, N (%)	37 (82.2)	83 (72.8)	31 (81.6)	19 (90.5)	69 (83.1)	
Aromatherapy	Father, N (%)	18 (19.1)	30 (20.3)	4 (36.4)	2 (14.3)	7 (22.6)	0.694
	Mother, N (%)	76 (80.9)	118 (79.7)	7 (63.6)	12 (85.7)	24 (77.4)	
Magic Tricks	Father, N (%)	18 (20.0)	35 (24.6)	2 (16.7)	3 (18.8)	4 (10.0)	0.364
	Mother, N (%)	72 (80.0)	107 (75.4)	10 (83.3)	13 (81.2)	36 (90.0)	
Virtual Reality	Father, N (%)	18 (21.7)	33 (22.9)	3 (21.4)	2 (15.4)	6 (13.0)	0.671
	Mother, N (%)	65 (78.3)	111 (77.1)	11 (78.6)	11 (84.6)	40 (87.0)	

Technique	Special Health Care Need	Completely Acceptable	Acceptable	Unacceptable	Completely Unacceptable	Undecided	P-value
Hypnosis	Yes, N (%)	19 (15.8)	5 (9.6)	4 (14.3)	1 (3.7)	9 (12.7)	0.473
	No, N (%)	101 (84.2)	47 (90.4)	24 (85.7)	26 (96.3)	62 (87.3)	
Music Therapy	Yes, N (%)	17 (12.1)	16 (11.9)	0 (0.0)	2 (16.7)	3 (27.3)	0.587
	No, N (%)	123 (87.9)	118 (88.1)	3 (100.0)	10 (83.3)	8 (72.7)	
Pet Therapy	Yes, N (%)	13 (12.6)	15 (13.3)	4 (18.2)	1 (5.9)	5 (11.1)	0.836
	No, N (%)	90 (87.4)	98 (86.7)	18 (81.8)	16 (94.1)	40 (88.9)	
Acupressure	Yes, N (%)	6 (13.3)	14 (12.4)	2 (5.3)	6 (28.6)	10 (12.0)	0.15
	No, N (%)	39 (86.7)	99 (87.6)	36 (94.7)	15 (71.4)	73 (88.0)	
Aromatherapy	Yes, N (%)	9 (9.6)	13 (8.8)	4 (36.4)	3 (21.4)	7 (22.6)	0.014
	No, N (%)	85 (90.4)	134 (91.2)	7 (63.6)	11 (78.6)	24 (77.4)	
Magic Tricks	Yes, N (%)	9 (10.0)	16 (11.3)	1 (8.3)	4 (25.0)	7 (17.5)	0.392
	No, N (%)	81 (90.0)	125 (88.7)	11 (91.7)	12 (75.0)	33 (82.5)	
Virtual Reality	Yes, N (%)	9 (10.8)	15 (10.5)	1 (7.1)	5 (38.5)	7 (15.2)	0.05
	No, N (%)	74 (89.2)	128 (89.5)	13 (92.9)	8 (61.5)	39 (84.8)	

RESULTS

- A total of 302 surveys were completed.
- Most participants were mothers (n=240,80%) (Table 1).
- Majority of participants were Hispanic or Latino (n=237,79%), though there was a significant difference in ethnicity of participants between clinics (p=0.005). (Table 1)
- More children with SHCN needs were seen at SDCDC versus CVMP (5% and 16% respectively, p=0.017).
- The most acceptable non-pharmacological behavior management technique was music therapy (91%) followed by aromatherapy (80%), magic tricks (77%) with acupressure being the least acceptable (53%) (Figure 1).
- There was a significant difference between fathers and mothers when looking at acceptability of using hypnosis as a form of behavior management (Table 2).
- There was a significant difference in acceptability of using virtual reality and aromatherapy as a form of behavior management with looking at parents with and without children with SHCN (Table 3).

LIMITATIONS AND STRENGTH

- Limitations of the study include self-reporting bias and lack of understanding of the techniques presented.
- Strengths of this study include a large sample size.

CONCLUSIONS

Overall, majority of caregivers surveyed find non-pharmacological alternative behavior management strategies acceptable. Pediatric dentists should consider adding these modalities to their practices.

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