

Dental Knowledge of Healthcare Providers Working with Children with Autism Spectrum Disorder

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INTRODUCTION	
<ul style="list-style-type: none">Pediatric dentistry includes the comprehensive care of patients with special health care needs (SHCN), defined as any “physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs.” as defined by the American Academy of Pediatric Dentistry (AAPD).^{1,2}12.5 million children in the US have SHCNDental care has been cited as the most common unmet healthcare need for children with special healthcare needs.⁸It is essential to interact with multiple members of the healthcare team to better ensure oral and general health due to these patient’s complex medical histories.	

PURPOSE	
<ul style="list-style-type: none">Dentists have long advocated for greater recognition for the role of oral health on overall health through policy and legislation as research has shown the debilitating effects of early dental and periodontal diseases on children.^{3,4}While much of this research has been done on the well child, a large gap exists on patients on the autism spectrum and health care providers such as speech language pathologists, social workers, and behavioral analysts.An in-depth study was conducted in Saudi Arabia to assess the dental knowledge of educators and health care workers for children with autism spectrum disorder showing 73.3% of participants never recommended any form of dental checkup and 75.6% never performed a dental examination, highlighting the lack of proper dental education among healthcare providers.⁷The purpose of our study is to understand and evaluate the dental knowledge of health care providers working with children with SHCN, and specifically children on the autism spectrum.In addition, the long-term goal is to provide recommendations and create resources such as educational materials, lectures, and referral information.	

METHOD	
<p>Sample:</p> <ul style="list-style-type: none">Online surveys sent to three organizations:ECHO Autism CollaborativeAutism Treatment NetworkMissouri Leadership in Neurodevelopmental and Related Disabilities Program (LEND) program <p>Inclusion Criteria:</p> <ul style="list-style-type: none">All health care providers who work with children on the autism spectrum <p>Procedure:</p> <ul style="list-style-type: none">Participants were recruited through a listserv email with reminders sent two-and-four weeks afterwardsThe survey consists of nineteen multiple choice questions with six demographic questions and 13 dental knowledge questions99 responses were received, all of whom were included in the study as all met the inclusion criteria <p>Statistical Analysis:</p> <ul style="list-style-type: none">The data was analyzed via a chi-square test and logistic regression to determine the significance of variables and their association with a 95% confidence interval (p<0.05)	

Table 1: Dental Knowledge	
	n (%)
Advising parents to brush their child’s teeth	
Never	8 (8.1)
Rarely	14 (14.1)
Sometimes	30 (30.3)
Often	28 (28.3)
Always	19 (19.2)
Referred a child to a dentist?	
Never	4 (4.0)
Rarely	15 (15.2)
Sometimes	36 (36.4)
Often	37 (37.4)
Always	7 (7.1)
Examined a child’s teeth?	
Never	27 (27.3)
Rarely	16 (16.2)
Sometimes	28 (28.3)
Often	20 (20.2)
Always	7 (7.1)
Received Oral Hygiene Instructions	
Yes	21 (21.2)
No	78 (78.8)
Source of OHI	
Dentist	10 (10.1)
Professional brochure/leaflets	4 (4.0)
Clinical or didactic education	5 (5.1)
Colleagues	1 (1.0)
First Dental Visit	
0 to 12 months of age	41 (41.4)
13 to 60 months of age	57 (57.6)
Aware of pediatric dental specialty?	
Yes	72 (72.7)
No	27 (27.3)
Responsibility to educate parents about dental care	
No	20 (20.2)
Yes	77 (77.8)
Best resource to learn more	
Presentation/lecture from a dentist	41 (41.4)
Brochures, handouts	43 (43.4)
Textbooks and scientific literature	6 (6.1)
Other sources	9 (9.1)

RESULTS AND DISCUSSION	
<ul style="list-style-type: none">Dental knowledge survey answers are highlighted in table 1 and demographic data is highlighted in table 2	
<p>Examine a child’s teeth</p> <ul style="list-style-type: none">There was a statistical significance between multiple demographic factors and whether a provider has never/rarely or sometimes/often/always examined a child’s teeth including:Males are more likely than females tended to examine a child’s teeth.Providers in practice 21+ years more likely to examine a child’s teeth.Physicians are statistically significantly more likely to examine a child’s teeth, possibly due to most of the respondents being pediatricians	
<p>Awareness of pediatric dentistry specialty and referrals:</p> <ul style="list-style-type: none">The higher the level of education received and the longer they had been in their respective fields, the more likely they were to be aware of the pediatric dental specialty.Physicians and nurses had the highest likelihood of referring patients to see a dentist compared to all other specialties.	
<p>Strengths and Limitations</p> <ul style="list-style-type: none">One strength of this study is the originality in attempting to understand various health care provider’s knowledge on dental knowledge.A limitation to this study is the small sample size overall and the skewed distribution of provider specialties focusing on physicians.	
<p>Future Consideration</p> <ul style="list-style-type: none">This study can be expanded to include a larger and more diverse sample size.Future research can conduct a randomized control trial such as an intervention presentations or brochures and handouts to examine the effects on provider knowledge.	

Table 2: Demographics			
	n (%)	n (%)	
Gender Identity		Highest Level of Education	
Male	18 (18.2)	High school degree/diploma	1 (1.0)
Female	80 (80.8)	Bachelor’s degree	4 (4.0)
Age		Master’s degree	28 (28.3)
26 to 35-years-old	17 (17.2)	Doctorate	65 (65.7)
36 to 45-years-old	33 (33.3)	Specialty	
46 to 55-years-old	22 (22.2)	Behavior Analyst	10 (10.1)
>56-years-old	27 (27.3)	Dietician/nutritionist	2 (2.0)
Years in position		MD/DO	40 (40.4)
0 to 5 years	10 (10.1)	Nursing	5 (5.1)
6 to 10 years	28 (28.3)	Occupational therapist	5 (5.1)
11 to 20 years	30 (30.3)	PhD	2 (2.0)
21+ years	31 (31.3)	Physical therapist	1 (1.0)
Country Practicing		Psychologist	17 (17.2)
US and territories	90 (90.9)	Social worker	6 (6.1)
Canada	4 (4.0)	Speech therapist	7 (7.1)
		Other	12 (12.1)

CONCLUSION	
<ul style="list-style-type: none">Ultimately, this study reveals that while most providers recognize the importance of dental and oral health on overall health, few have the necessary resources to properly do so.The longer a provider has been practicing or the more years of schooling they received, the more likely they are aware of the pediatric dentistry specialty and increase likelihood of providing referrals.Pediatric dentists can help remove barriers to optimal health for children on the autism spectrum by educating health care providers on the importance of dental and oral health.This project is in collaboration with the Missouri LEND program and demonstrates the need for a pediatric dentist to function as part of a multi-disciplinary health care team to help address the comprehensive health care needs of patients with autism spectrum disorder.	

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