

HRSA: Pediatric Dentistry/AEGD Interdisciplinary training grant

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HRSA Pediatric Dentistry/AEGD interdisciplinary training grant

- a. Rationale
- b. Goals and objectives
- c. Clinical program
- d. Behavior GuidanceTechniques (BGTs) usingABA principles
- e. Didactic program (ASD curriculum)
- f. Research

HRSA Pediatric Dentistry Residency Training Grant on SHCN

In 2007, 2010, and 2020 NSU-CDM received a Health Resources and Services Administration (HRSA)/ US Department of Health and Human Services (DHHS) training grant to educate and train future pediatric dentists in treating children with SHCN, thereby increasing access to dental care for these children and establishing a pediatric dental training program through inter-professional collaboration between 3 organizations.

Pediatric Dentistry and AEGD Residency Collaborative: GOALS

- To improve the oral health of children, adolescents, and adults with SHCN through an expanded oral health program within the University and partner agencies
- To educate and train pediatric dentistry and AEGD residents on the oral diseases and conditions and primary care aspects associated with special healthcare needs
- To improve access to oral healthcare for persons with SHCN and improve the quality and availability of dental care received by increasing referrals to the dental clinic.







Goal One

- Provide high quality, comprehensive oral health care visits to vulnerable and underserved children and adolescents with SCHN-ASD on-site at the Mailman Segal Center
- Provide high quality screenings, prevention, treatments and referrals for vulnerable and underserved children and adolescents with SHCN-ASD on site at SFACS
- Provide high quality, comprehensive oral health care visits for uninsured, vulnerable, and underserved children and adolescents on-site at Caridad Center
- Provide high quality comprehensive oral health care visits for uninsured, vulnerable, and underserved children and adolescents on-site at the NSU-HCA Dental Clinic.

Goal Two

HRSA Pediatric Dentistry/AEGD Residency Training Grant on SHCN

1. Meeting the needs of the patients

- Create an environment for successful patient management
- Eliminate waiting and late seating
- Multiple short visits
- Initial encounter benign and relaxing
- Parent education (e.g., prepare child for the appointment)
- Interdisciplinary approach (parents, Lehal guardians, pediatricians, psychiatrists, social workers)
- Positive and negative reinforcement
- Desensitization; TSD
- Protective stabilization
- Dental home
- Conscious sedation and GA referral systems

HRSA Pediatric Dentistry/AEGD Residency Training Grant on SHCN

2. Training and education of residents

- Interdisciplinary approach
- Awareness of medical management
- Learning about social deficits to understand behaviors
- Learn from parents/legal guardians about the patient
- Dental home education and support for the parents/legal guardians
- Behavioral techniques to improve cooperation
- Transition to adulthood

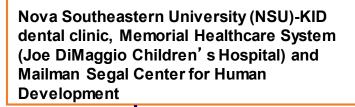
- The didactic portion of the training was designed by experts at all 3 institutions into a standard dental course format.
- This course was integrated into the first-year training schedule of the first year pediatric dental and AEGD residents.
- Through multiple iterations, a standard syllabus and series of didactic lectures were developed to best fit the educational needs of the pediatric residents.

Original Didactic Training Curriculum

- 1. Epidemiology of SCHN and Autism Spectrum Disorders (ASD)
- 2. Child Development: Relevant implications of understanding these processes for dental practice building, including interaction with children and their families
- **3. Autism 1 and 2:** overview of the sensory, cognitive and behavioral profiles of children with ASD. Description of some behavioral, communicative and social difficulties that might interfere with the provision of dental care is provided.
- 4. Behavior guidance: Applied behavior analysis technique
- 5. Teaching Children Dental Care Skills
- 6. Working with the Family
- 7. Resources for Children in the Community

Curriculum was expanded by adding the following additional courses to create a more training robust program:

- Pharmacy Compounding
- Advocacy
- Anticipatory Guidance and Preventative Dentistry
- Clinical Decision Making in the Management of Emergencies in Medically Complex Dental Patients
- Childhood Obesity Prevention in the Dental Office
- Opioids
- Cultural Competence
- Oral Health Literacy
- Telehealth

























First PD residents receiving training



Multidisciplinary special needs' curriculum at JDM and MSC



A two-dental chair suite at The Mailman **Segal Center** (MSC)



JDM's Pediatric Cleft and Craniofacial Center



HRSA Pediatric Dentistry Residency Training Grant on ASD at Mailman Segal Center Clinical training



The clinic is a facility with two portable chairs fully equipped with dental instruments, supplies, sterilization equipment and emergency kit.



The regularly assigned dental team is comprised of 1 full time faculty member in pediatric dentistry, a second-year pediatric dentistry postgraduate student (resident), a dental assistant, and a behavior analyst who is present upon request.

Clinical training

- Residents rotate through the MSC clinic four days per week for routine clinical visits and one day assigned to sedation cases.
- Patients and their families are exposed to behavior guidance and management techniques.
- The behavior guidance protocol is a true marriage of two disciplines (pediatric dentistry/AEGD and behavioral research) and takes into account the specific dynamic of the family being engaged.





BEHAVIOR GUIDANCE TECHNIQUES (BGTs)

- Continuum of interaction involving the pediatric dentist, the dental team, the patient and the parent and directed towards communication and education (AAPD, 2011).
- The D-Termined Program for Repetitive Tasking and Familiarization.
- Current Behavior 'Management' Techniques: what works and what doesn't in children with ASD
 - Tell-show-do
 - Voice control
 - Positive reinforcement
 - Physical restraints
- Behavioral Analysis
 - ABA
 - Intensive behavior-based programming

APPLIED BEHAVIORAL ANALYSIS (ABA)

- ☐ ABA practitioners examine the functional relationship between environment and behavior to modify socially significant behaviors.
- Many of the prerequisite skills (behaviors) necessary for accepting treatment (sitting in dental chair, tolerating dental instruments, reducing oral defensiveness) can be taught and reinforced at home, school and other settings.



HRSA Pediatric Dentistry Residency Training Grant on ASD Clinical training

- Specific behavior analysis techniques come from Applied Behavior Analysis (ABA) and range from chaining (connecting steps of a desired behavior), video priming and modeling, and Task Analysis to desensitization and extinction of undesired behaviors.
- Other methods used are exposing the patient to educational games with a focus on accomplishing tasks designed for children with ASD (iPads).





Pre-Treatment Assessment Form

Parent and/or Guardian must be present for first dental visit.

Parent/Guardian Name:	Parent/Guar	Date:
	ENT ASSESSME	
	leted by Parent or Gu	
Relation to Patient?	☐ Guardian	Caregiver
CHILD	'S INFORMATIO	DN .
Name:		Birthdate:
Sex:	Race: White	African American
Ethnicity: Hispanic/Latino Yes No	■ Asian	☐ More than one race
Family Income: □ 0-\$15,000 □ \$30,0	00-\$49,000	☐ \$70,000 or more
	00-\$69,000	☐ Prefer not to answer
Does the child have any siblings?	□ No	If yes, how many?
Was your child diagnosed with Autism Spectrum Disord	ler (ASD)?	□ Yes □ No
If yes, how would you describe your child's ASD:	☐ Mild	☐ Moderate ☐ Severe ☐ Other
If applicable, what age was your child diagnosed with A	SD?	
From what sources have you received information about	ut your child's ASD	diagnosis? (check all that apply)
☐ Pediatrician ☐ Psychologist	☐ Neurologist	
What program is your child currently enrolled in?:	☐ Baudhuin Pre	school
	☐ Starting Right	Other:
What other services is your child receiving?	☐ Speech; How	often? Music; How often?
Occupational Therapy; How often?	☐ ABA; How oft	
Physical Therapy; How often?	☐ Play; How oft	en? Other:
Does you child have any other co-occurring diagnosis/e	s?	□ N/A
☐ ADHD ☐ Intellectually D	The second secon	☐ Fragile X ☐ Asthma
☐ Seizure Disorder ☐ Down Syndrom		Other Genetic Disorder:
☐ Speech Delay ☐ Seizure Disorde ☐ Epilepsy ☐ Developmenta		☐ Hypersensitivity/allergy-food ☐ Hypersensitivity-medications
☐ Epilepsy ☐ Developmental ☐ Other	*	☐ Depression ☐ Bipolar ☐ Anxiet
	_	
Is your child currently taking any medications? If yes, please list the medications here:	☐ Yes	□ No
Has your child ever visited the dentist? If yes, write age of first visit	☐ Yes Describe:	□ No
A 20 A	_	П
Which type of toothbrush does your child use?	Manual	□ Electric
Does your child use toothpaste with fluoride?	☐ Yes	□ No □ No
Do you floss your child(ren)'s teeth at home? Please describe your child's at-home dental care:	Li Tes	L No
Does your child drink water?	□ No	If yes, how much?
	servings	
	servings	Sweets types:
How many servings of sugar sweetened juice or milk do	es your child drin	

See reverse side

The previsit intake interview provides the opportunity to plan for the visit and to make recommendations to parents to help prepare the child before the appointment

ADDITIONAL INFORMATION											
The Patient needs (check all that apply):											
☐ Rou	ıtine Exam	☐ Orthodonti	ic Treatment] Ext	raction		□ 0	ther		
☐ Filli	ng(s)	☐ Multiple Tr	eatments] Cle	aning		□ Do	on't k	(now	
The Patient's le	_	tion is likely to Aggressive		_	T No	n-Focus	-od			O+1	
□ Play		☐ Short Atter				n't Kno			ш	Other	
_ n	yrui	_ SHOTE Acces	idon span			ii c kilo	**				
Management t	echniques I wo		ntist to use on I		-	ck all t					
☐ Sed			Room/ General	Anesth	esia						
☐ Res	traint	☐ Short, Mult	tiple Visits					□ 04	ther.		
How would yo	u describe you	child's level of	challenging be	haviors	?						
☐ Mir	nimal (Low)		Disruptive (M	oderate	<u>=</u>)		Severe ((High)			
What are your	sources of sun	nort for coning	with the diagn	ocic?							
	-		receive from o	_							
□ Lov		☐ Moderate					No Supp	oort			
	-			_			ivo supp	JOIL			
	per day		ging behaviors					□ Ne			
U \1	perday	☐ 1-2 per day	,	times	per da	ıy		L N	ever		
The following s	statements are	about the opin	ions you have	about s	taying	or not	staying	with t	he ch	hild in t	the dental
treatment room	m when the chi	ild is being trea	ted by the den	tist. (Pl	ease (circle)					
It is best if I sta	y with the child	because the ch	nild needs me to	be the	re.		Agree	Di	sagre	ee	Don't Know
It is best if I sta	y with the child	l because I can I	help the Doctor	and Sta	aff.		Agree	Di	sagre	ee	Don't Know
It is best if I sta	y with the child	l because I need	to be there.				Agree	Di	sagre	ee	Don't Know
It is best if I wa	it in the waiting	room because	dentists make	me ner	vous,		Agree	Di	sagre	ee	Don't Know
and that won't	t help the situat	ion.									
It is best if I wa	it in the waiting	room because	the dentist kno	ows			Agree	Di	sagre	ee	Don't Know
best how to ha	andle the child's	behavior.									
Things that I kr	now will motiva	ate the patient	to try harder (i	.e. com	puter	time, [OVD, iPad	d, vide	o gai	mes, m	novies etc.)
Has your child	ever had their	haircut?	☐ Yes ☐	No	Ifv	es. wh	at was th	e hair	cut e	vnerie	nce like?
rias your cima	ever nou then	- Idiredel			,	C3, 11111	at was th	- 11411		хрстіс	The line
Does your child	d have any oth	ar nhysical chal	lenges that the	dental	team	should	he awar	e of?			
Does your crim	a mave any our	er priystear criar	renges that the	uciitai	ceam	Silouid	DC awai	C 011			
Is there any ot	her informatio	n that the staff	should know p	rior to v	vorkii	ng with	this pati	ent:			
					_						
Is your child ab					=		□ No				
-		al communicati			ш	res	□ No				
_		_	that the child	_							
_	Mayer Johnson	-		Sign	_		_		_		
	Sentence boa	rd or gestures		Picto	ire Ex	change	Commu	nicatio	n Sy	stems	
Diamentine		about annually a	4		-10-1	1: - :					
Please list any		tnat contribute	a to you choos	ing our	clinic	(i.e. in	surance,	proxii	nity	to non	ne, services
offered, other)	r										

The form is completed at every patient's visit and becomes a valuable tool to track desensitization progress. This form is completed in Axium.

DATE Enter Clinic Six in chair (w/parent or w/o) GLOVES Allow Present Close in mouth TOUCH Allow Present Allow Present Brush one tooth TOUCH Allow Present TOUCH Allow Present Brush one tooth TOUCH Allow Present Allow Present TOUCH Allow Present TOUCH Allow Present Allow Present TOUCH PRESENT TOUCH PRESENT TOUCH PRESENT Allow TOUCH FLOSS Hold Present Allow FLOSS Hold Allow (1-5-0 sec) Allow (2-5 sec) Allow (1-10	Patient:		
MR. THIRSTY Six in chair (w/parent or w/o)		— DATE	
Sit in chair (w/parent or w/o)			
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TOUTHPASTE			
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Allow Present Touch Present Allow Present Allow Touch Hold Present Touch Allow (1 sec) Allow (2-5 sec) Allow Present Bluoride Manual Touch Present Touch Allow (10+ sec) Present Bluoride Manual Touch Bluor Touch Allow (2-5 sec) Allow (10+ sec) Present Bluoride Manual Touch Brush Allow (1 sec) Present fluoride Manual Touch Brush Allow (2-5 sec) Allow (1 sec) Present Fluoride Manual Touch Brush Allow (1 sec) Present Mallow (1 sec) Mallow (5-10 sec) Mallow (1 sec) Present Allow (1 sec) Mallow (1 sec) Mallow (1 sec) Present Mallow (1 sec) Present Mallow (1 sec) Mallow (1 sec	****		
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Right Side Bottom Left Side Top	Right Side Top		
Left Side Top			
· · · · · · · · · · · · · · · · · · ·			
	Left Side Bottom		

- 1. The Behavior Analyst uses the reinforcers checklist while testing the patient.
- 2. Patients choose what they prefer as reinforcers
- 3. It is a reinforcer for us but a reward in the patient's eyes

REINFORCER CHECKLIST

Dental Clinic

	Donner China	
Name:	Age:	
	Completed by:	
Date:	Completed 23.	

Please check mark items that the patience likes:

Using the reinforcer list completed, check the reinforces to reveal a hierarchy of preferences. A single item preference assessment (also known as "successful choice") was chosen to be used on the dental clinic. Objects and activities are presented one by one. Each item is presented several times in a random order. After each presentation, data are recorded on how long the person engages with each object or activity.

Sensory Reinforcers	*	Time
Bumble Ball		
Deep pressure		
Fan		
Flashlight		
Lotion		
Tickles		
Spinning Toys		
Vibrating Toys		
Putty		
Koosh Ball		
Kaleidoscope		
Music		
Other:		
Other:		
Other:	1	
Material Reinforcers	*	Time
I-pad		
Musical Instruments		
Musical Toys		
Noise Makers		
Eletronic Toys		
Puzzels		
Stickes		
Stamps		
Pennies (token board)		

Computer	
Games	
Crayons	,
Videos	
Books	
Other:	
Other:	
Other:	
Social Reinforcers	Time
Clapping	
Praise	
High Five	
Hugs	
Music	
Tickles	
Singing a song	
Play	
Other:	
Other:	
Other:	



Pre-treatment Assessment Form Data

Patient Characteristics: Pre-treatment forms N=268

Variable	N	Percent
Male gender	199	74%
Race		
White African American	85 30	32% 11%
Other	25	9%
Hispanic ethnicity	77	29%
ASD Diagnosis	180	78%
Other services		
Physical therapy	30	11%
ABA	84	31%
Occupational therapy	98	37%
Speech	124	46%
Co-Occurring		
Developmental delay	42 72	16% 27%
Speech delay	-	
Ever visited dentist	98	37%

Patient Characteristics: Pre-treatment forms N=268

Variable	N	Percent
Endorsed brushing at home a minimum of once per day	133/172	77%
Reason for visit Cleaning Routine exam	125 193	47% 72%
Top Management technique: Parent Unsure	114	43%
Verbal communication	83	31%
Non-verbal Picture exchange Sentence board or gestures	108 96 23	40% 36% 9%

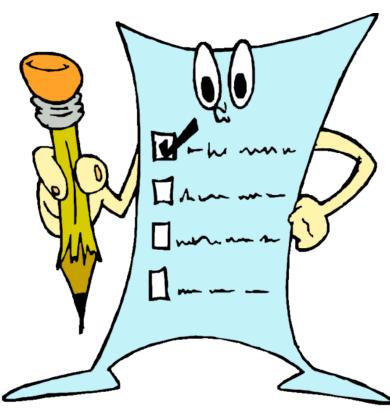


Patient Characteristics: Pre-treatment forms N=268

Most popular factors contributing to the use of the clinic (142 responses):

- Autism friendly program: N=60 (42.2%)
- Location/Child at Baudhuin or Starting Right: N=43 (30.3%)
- School Referral/Other Referral: N=32 (22.6%)
- Insurance/Free N=7 (4.9%)





Patient Characteristics: Pre-treatment forms N=98

Oral Care Information

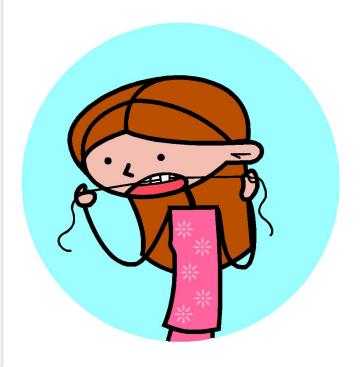
Type of toothbrush used:

- Electric N=20 (20%)
- Manual N=77 (79%)

Fluoride toothpaste: N=49 (50%)

Flossing: N=24 (24%)





Patient Characteristics: Pre-treatment forms N=98

Diet/Nutrition

- Drinks water, N=67 (68%)
- Eats vegetables, N=55 (56%)
- Eats fruit, N=54 (55%)
- Eats sweets, N=54 (55%)
- Drinks juice, N=43 (44%)
- Drinks milk, N=55 (56%)











Patient Characteristics: Pre-treatment forms N=98

Parent's description of child behaviors:

- Minimal (Low) N=36
- Disruptive (Moderate) N=39
- Severe (High) N=9
- Parent's description of child behaviors:
 - Minimal (Low) N=36
 - Disruptive (Moderate) N=39
 - Severe (High) N=9

Patient Characteristics: Pre-treatment forms N=98

Caregiver sources of support:

- CARD support groups/workshops
- Family
- School/school personnel/teachers/therapists
- Other moms
- Don't know/none
- God
- YouTube

Rate level of support from others:

- None, N=3
- Low, N=14
- Moderate, N=29
- High, N=33



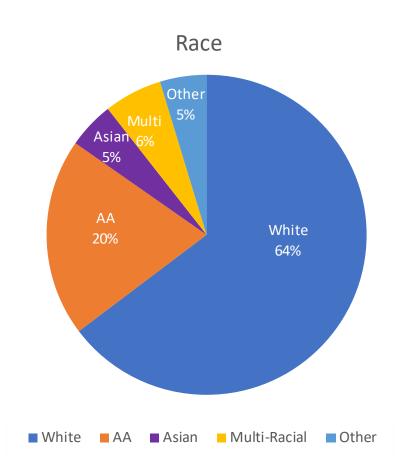


Patient characteristics:

- Mean age: 5.55 (SD 2.3)
- Male gender: N=71 (81.6%)
- ASD Diagnosis: N=81 (93.1%)
- Hispanic ethnicity N=33 (37.9%)

Parent Characteristics:

- Married: N=64 (73.6%)
- Annual Income
 - 70,000 and above: N=40 (46.0%)
 - 50,000-69,999: N=14 (16.1%)
 - 30,000-49,999: N=16 (18.4%)
 - 0-29,999: N=15 (17.6%)
- College grad or post grad: N=66 (75.8%)



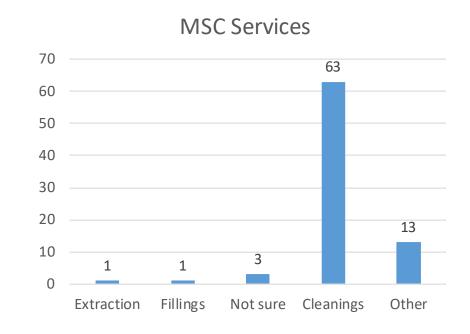


Mean number of visits: 4.55 (SD 4.55)

Reported dental treatment elsewhere: N=33 (38.4%)

Reported very unsatisfied or unsatisfied with prior dental treatment: N=20 (45.5%)

Received services from both pediatric dentist and resident: N=52 (67.5%)



Satisfaction with care from dentist

- 11 questions, total possible score= 44
- Higher score= higher level of satisfactio
- Results: 41.4 (SD= 3.9)

Satisfaction with care from resident

- 4 questions, total possible score=16
- Higher score= higher level of satisfactio
- Results: 15.1 (SD=1.6)





Clinic satisfaction:

- 8 items, total score= 32
- Higher scores=higher satisfaction
- Results: Mean Score: 25.9 (SD=3.49)
 - Lowest mean score: Enough pediatric dentists providing services to special needs patients (1.75 out of possible 4).
 - Second lowest score: It is easy to get an appointment right away (2.93 out of 4).
 - Third lowest: Office hours are good for most people (3.30 out of 4).

Very Satisfied

Parent Satisfaction Surveys N=87

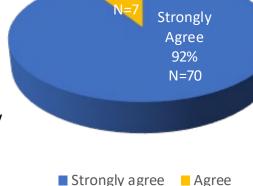
Overall Satisfaction

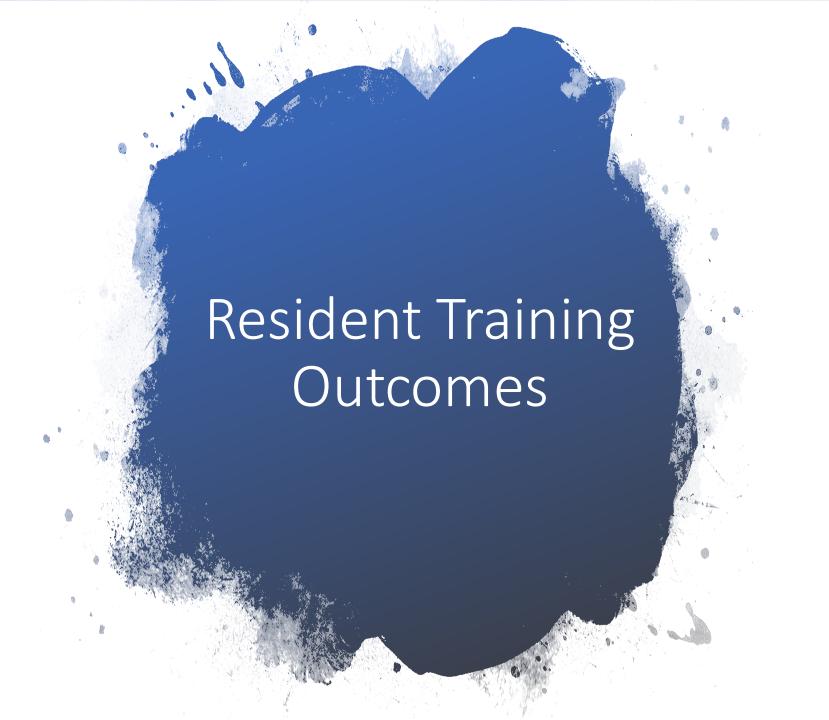
"Dr. Padilla is truly amazing. He makes my son feel safe and cared for. He truly cares and it is felt."

"My child loves going to the dentist! Everyone we encountered has been wonderful!"

"We have only been a couple of times so far however each time has exceeded expectations. They do an excellent job and we are very grateful. Thank you."

"My son visited the clinic 3 times. The first time was with a female dentist that was very nice but the session didn't go well bc I felt that they didn't have the session in control and I had to find ways for my son to agree to what they wanted him to do. This experience was very different then the second visit led by Dr. Padilla where my son listened to Dr. Padilla, he made a connection with him even though he was very scared of coming in and I felt like the whole session was under control and calm. The third time we had the female Dr again and it was the same as the first session. I felt like I had to control my child the entire time. They didn't get him to cooperate with them, it was very difficult. Overall I do want to say that your clinic is amazing! The Dr. are great and the staff too. Can't say thank you enough."







Didactic Trainings

Resident Impact Survey

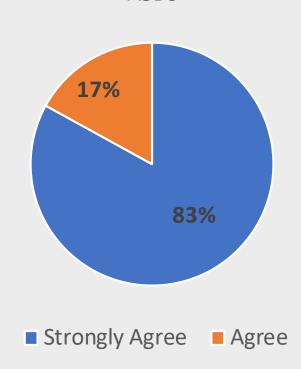
Post Graduate Survey



Resident Impact Survey

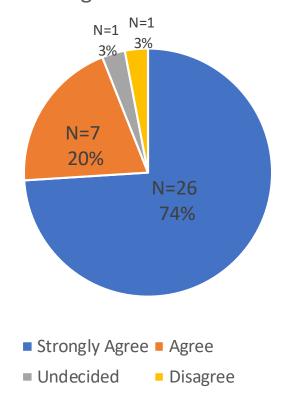
Prepared enough to treat or manage those with ASDs

Resident Impact Survey, N=36

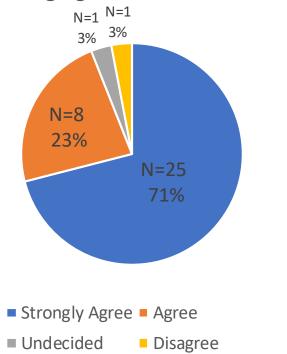


Resident Impact Survey, N=36

Enough clinical exposure to manage and treat ASDS



Clinical exposure increased confidence in treating and managing children with ASDs



Overall Results: Resident Impact Survey, N=36

• Scale 1-10, Mean value of the program: 9.38

Overall how satisfied:

• Extremely: 66% (N=23)

Very satisfied: 23% (N=8)

• Satisfied: 9% (N=3)

Not satisfied: 3% (N=1)



Other comments

"Thank you for the effort and dedication that you put on taking care of the patients and residents. Please continue offering this amazing opportunity to our residents!"

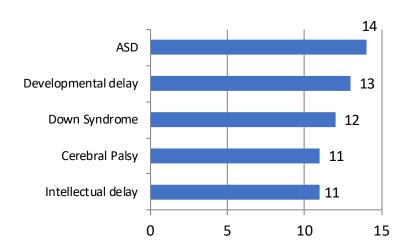
"Love the task strips, and the marriage of ABA to dentistry!"

Post Graduate Survey

Post Graduate Survey N=14

Most reported 0-20% of patients had SHCN (N=11, 79%).

Types of Disabilities Encountered in Practice



Nearly all (N=13, 93%) endorsed using skills from SHCN rotation on current practice.

Specific skills mentioned:

- ABA
- Behavior management/modeling
 - Tell/show/do
- Desensitization
- Behavior modification
 - Use of breaks
 - Rewards
- Using pictures
- Counting
- Taking turns with IPAD
- Singing
- Task strip
- Prior prep at home with parents
- Shaky in, shaky out
- Consistent room/staff

Post Graduate Survey N=14

Barriers

- Limited access to quality providers.
- Not enough time for appointments/limited appointments.
- Insurance/low reimbursement.
- Limited access to specialized equipment (i.e., papoose).
- Difficulty coordinating multiple specialties in private office settings.

"The Medicaid insurance plan most children in Miami that have SHCN have is CMS and that is the only Medicaid plan the company I work for does not accept."

"When multiple specialties are needed to help treat SHCN patients, it gets more difficult to coordinate and at times I refer to local university because they seem to have easier access to coordinating multiple specialties."



ORIGINAL ARTICLE



The development and implementation of a training program for pediatric dentistry residents working with patients diagnosed with ASD in a special needs dental clinic

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Oral health care is the most prevalent unmet health care need among all U.S. children age 17 and under in the U.S., and this includes those with special health care needs (SHCN). Children with SHCN experience unique barriers to receiving oral care including challenging behaviors, inadequate insurance coverage, and a lack of trained dentists. Despite the need for specialized training to successfully provide dental care to children with SHCN, few dental programs offer the necessary educational preparation. The Nova Southeastern University College of Dentistry was funded by the Health Resources and Services Administration to prepare pediatric and Advanced Education in General Dentistry (AEGD) dental residents in the care of children, adolescents, and adults with SHCN. The purpose of this paper is to describe the didactic and clinical training program and to provide data on the program's impact.

curriculum, pediatric dentistry residents, pediatric dentistry, program evaluation, special needs

1 | INTRODUCTION

The Maternal and Child Health Bureau has defined children and adolescents with special healthcare needs (SHCN) as those who have or are at increased risk for chronic physical, developmental, behavioral, or emotional conditions and who require health and related services of a type or amount beyond that required by children in general. Over 9 million (13%) U.S. children and adolescents ages 17 and younger have a special need for healthcare.2 The need for oral healthcare is the most prevalent unmet healthcare need among U.S. children and adolescents with SHCN ages 17 and under, just as it is for all U.S. children and adolescents.3,4 Recent studies have focused on the issue of unmet dental needs and related barriers to care for these patients: 12% of children with autism spectrum disorder (ASD) had unmet dental needs, and of the

93% of children who have been to a dentist, 11% still reported unmet needs.5 Behavior has been identified as a major barrier to dental care, and children with poor perceived behavior have higher odds of having unmet dental needs.5-9 As such, dental researchers and practitioners have recently highlighted the need to connect the disciplines of dentistry and ABA. 10-13

Oral diseases can have a direct and devastating effect on the health of children and adolescents with certain systemic health problems and conditions. For example, children and adolescents with mental, developmental, and/or physical impairments who do not have the ability to understand or cooperate with preventive oral health practices may be vulnerable. In addition, medications, special diets, and oral motor habits can contribute to the development of oral health problems for many children and adolescents with SHCN (e.g., tooth decay-promoting effects of medications with high



THANK YOU

QUESTIONS?