

Oral Hygiene Practices and Home-Care Challenges in Children with Autism Spectrum Disorder

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INTRODUCTION

Autism spectrum disorder (ASD) is a well-studied neuro-developmental disorder. Parents of children with ASD encounter several difficulties and challenges in maintaining good oral hygiene due to child's sensory and behavioral impairments.¹ Many children who have a dental home still have dental problems due to child's cooperation being one of the biggest barrier and dentist not accepting Medicaid insurance.² The purpose of this study were to evaluate and compare home-care regimen of children with ASD to Typically developing peers (TDP), evaluate parental understanding of optimal oral hygiene practices, challenges in maintaining good oral hygiene at home, and access to care for children with ASD.

MATERIAL AND METHODS

This is a cross sectional study with 21- item self-administered questionnaire. The participants were divided in two groups A) Children with medical diagnosis of ASD only and no other co-morbidities B) TDP group: no diagnosis of ASD, no reported disability, or any other diagnosis. Participants were parents of children aged between 3 and 10 years old only, to limit the variability with higher age. Sample size of this study was 60 with 30 in each group. Both the groups were age and gender matched. The study was approved by Institutional Review board (IRB) of UCSF. IRB reference number 21-35015. Chi square test and two-sided t-test were used for statistical analyses.

RESULTS

There were 18 male children (60%) and 12 female children (40%) in each group. The mean age of the children was 6.33. More than 50% of the participants identified as Hispanic or Asian. Significantly higher number of children with ASD (46.6%) had to travel more than 20 miles and among them 23.3% travelled more than 50 miles for their dental home.

Table 1: Home Care Regimen

Home Care Regimen			
	TDP	ASD	
	N (%)	N (%)	p-value
Brushing frequency			0.009*
1x	2(6.7%)	11(36.7%)	
2x	28(93.3%)	18(60%)	
>2x	0	1(3.3%)	
Does child allow to brush?			<0.001*
Never	2(6.7%)	4(13.3%)	
Sometime	0	13(43.3%)	
Yes	28(93.3%)	13(43.3%)	
Is it easy to brush child's teeth?			<0.001*
No	3(10%)	21(70%)	
Yes	27(90%)	9(30%)	
Type of Toothbrush			0.260
Electric	11(36.7%)	7(23.3%)	
Manual	19(63.3%)	23(76.7%)	
Flossing frequency			0.323
Never	9(30%)	12(40%)	
sometime	11(36.7%)	13(43.3%)	
Yes	10(33.3%)	5(16.7%)	

* Statistically significant

Around 70 % of the children in both the groups used toothpaste containing fluoride. Parents of both the group reported that their child would eat sugary snack or a drink once or twice daily with no difference in between the group. Overall, few parents (36.7% in TDP and 26.7% in ASD) reported that they always check sugar content of the products.

Table 2: Parental knowledge

Parental knowledge about home care regimen			
	TDP	ASD	p-value
	N (%)	N (%)	
Toothpaste size			0.198
Pea	14 (46.7%)	17 (56.7%)	
Rice	3 (10%)	7 (23.3%)	
Half length	8 (26.7)	3 (10%)	
Full length	5 (16.7)	3 (10%)	
Check for sugar content			0.517
Never	11 (36.7)	10 (33.3 %)	
Sometime	8 (26.7%)	12 (40%)	
Yes	11 (36.7)	8 (26.7%)	
Routine dental exam			0.618
1x/ year	6 (20%)	7 (23.3%)	
Only when concern	2 (6.7%)	4 (13.3%)	
2x/year	22 (73.3%)	19 (63.3%)	
Child's 1st dental visit			0.223
Age 1 or younger	8 (26.7%)	5 (16.7%)	
Between 1 and 3	16 (53.3%)	13 (43.3%)	
After age 3	6 (20%)	12 (40%)	
Does your child have a cavity			0.110
Don't know	4 (13.3 %)	3 (10%)	
No	15 (50%)	8 (26.7%)	
Yes	11 (36.7%)	19 (63.3%)	

DISCUSSION

The results of this study demonstrated that children with ASD brushed their teeth with less frequency compared to TDP. At the same time, 70% of the parents of children with ASD had difficulty brushing their child's teeth daily. In addition, nearly half of the children would not allow or seldom allow parent to brush. This finding is consistent with other studies in the literature.^{3, 4, 5} Many children with ASD still had to travel long distances to receive dental care which continues to be an issue noticed in many other studies.^{5,6}

CONCLUSION

1. Parents of children with autism spectrum disorder encounter increased difficulty in maintaining routine oral hygiene of their children at home.
2. Parents of children with autism spectrum disorder travel longer distance to find a dental home.

REFERENCES

1. Lewis, C., Vigo, L., Novak, L., & Klein, E. J. (2015). Listening to parents: a qualitative look at the dental and oral care experiences of children with autism spectrum disorder. *Pediatric dentistry*, 37(7), 98E-104E.
2. Lai, B., Milano, M., Roberts, M. W., & Hooper, S. R. (2012). Unmet dental needs and barriers to dental care among children with autism spectrum disorders. *Journal of autism and developmental disorders*, 42, 1294-1303.
3. Mansoor, D., Al Halabi, M., Khamis, A. H., & Kowash, M. (2018). Oral health challenges facing Dubai children with Autism Spectrum Disorder at home and in accessing oral health care. *European Journal of Paediatric Dentistry*, 19(2), 127-133.
4. Alshihri, A. A., Al-Askar, M. H., & Aldossary, M. S. (2020). Brief report: At-home oral care experiences and challenges among children with Autism Spectrum Disorder. *Research in Autism Spectrum Disorders*, 79, 101679.
5. Stein, L. I., Polido, J. C., Najera, S. O. L., & Cermak, S. A. (2012). Oral care experiences and challenges in children with autism spectrum disorders. *Pediatric dentistry*, 34(5), 387-391.
6. Al Agili, D. E., Roseman, J., Pass, M. A., Thornton, J. B., & Chavers, L. S. (2004). Access to dental care in Alabama for children with special needs: parents' perspectives. *Journal of the American Dental Association* (1939), 135(4), 490-495.