Behavioral and Social Determinants of Oral Health in Children With Special Health Care Needs

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In this issue of *Pediatrics*, Lebrun-Harris et al[1] analyzed the 2016–2018 National Survey of Children's Health and found that children and youth with special health care needs (CYSHCN) are more likely to use preventive dental services yet are significantly more likely to have poor oral health, compared with children and youth without special health care needs.

At first glance, this finding may seem to be paradoxical on the basis of the assumption that preventive dental service use is causally related to oral health. However, the greatest contributor to poor oral health in CYSHCN is not a lack of preventive dental services. For example, previous researchers have suggested that dental caries among children with autism spectrum disorders likely include a cariogenic diet, sugar-sweetened and xerostomia-causing medications, and poor oral hygiene practices.[2–7] As Lebrun-Harris et al[1] state, a potential reason for poor oral health among CYSHCN is sociobehavioral, which is not addressed directly through preventive dental visits. Instead, the primary objectives of preventive dental visits for children are typically diagnosis, restorative treatment planning, and monitoring for future disease.

The root cause of dental caries for CYSHCN is dietary sugars, including the cariogenic content of the diet, duration of food in the mouth, and frequency of eating. Oral hygiene practices may also pose a great challenge in CYSHCN and require a family member to help with toothbrushing. According to Lebrun-Harris et al,[1] less than one-half of caregivers with CYSHCN received "instructions on toothbrushing in the past year." Inadequate hygiene also reduces exposure to fluoride toothpaste, which is exacerbated by higher rates of fluoride hesitancy among caregivers of children with autism spectrum disorders.[8] The authors also reported that caregivers of CYSHCN experienced poorer "mental and emotional health" compared with their counterparts, factors that could be significant barriers to hygiene.[1]

The social environment can constrain oral health behaviors for CYSHCN. Examples include living in low-resource neighborhoods with limited healthy food options, employment inflexibility that reduces caregiver bandwidth to engage in healthy behaviors, and lack of supports to help manage the child's and family's needs. The social determinants of health are likely to have a greater impact on families that care for CYSHCN.

Both the findings and the study question put forth in this article are emblematic of a broader problem in the field of dental research on CYSHCN. There is a need to move

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beyond studies that are focused exclusively on dental services, especially when many other social and behavioral factors are known to have a greater influence on oral health. National data sets may lack questions and instruments on the behavioral and social determinants that should be the target of interventions aimed at improving children's oral health.

In light of this limitation and the discussion above, the solution is twofold: (1) include modifiable social and behavioral measures within large data sets on CYSHCN and (2) deliver interventions to families with CYSHCN that address the behavioral and social determinants of oral health.

Data on behavioral oral health factors, such as dietary sugars and toothbrushing with fluoride toothpaste, should be included in large data sets on CYSHCN, like the National Survey of Children's Health. These measures can be adopted from the Basic Research Factors Questionnaire for Studying Early Childhood Caries.[9] Beyond secondary data analyses, there is a need to conduct primary research that sheds light on how to address the root causes of disease through tailored interventions by using principles from the science of behavior change.[10–13]

Regardless of future data collection, we need to change the way dental services are provided to families with CYSHCN so that they better address the behavioral and social determinants of oral health. In the discussion, the authors state that "higher rates of oral health use may be in response to CYSHCN's worse oral health status yet remain insufficient to meet their needs."[1] Dentists can work together with social workers, occupational therapists, and physical therapists in a team approach. Additionally, dentists can adopt strategies from occupational and physical therapists, such as modifying feeding behaviors to decrease dental caries risk. To provide these evidence-based services that decrease dental disease, dentists will need reimbursement for the time required to provide high-quality, comprehensive and coordinated care, which has been a documented barrier to optimal oral health for CYSHCN.[14]

Finally, interventions to families with CYSHCN used to address the behavioral and social determinants of oral health should not be limited to the dental setting. For example, home health aides and social workers can promote oral health in an accessible and convenient manner to families with CYSHCN. The solution to poor oral health in CYSHCN includes a system in which the family does not shoulder the burden alone but receives needed support for oral health in the home, from primary care,[15] and in the community.

ABBREVIATION

CYSHCN: children and youth with special health care needs

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