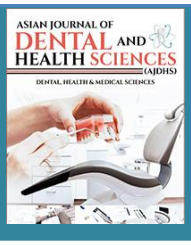

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Open Access Short Communication

Oral habits and oral health findings in children with autism spectrum disorder and intellectual disability: a community-based report

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Abstract

Objective: To describe oral habits and associated oral health findings among children with Autism Spectrum Disorder (ASD) and intellectual disability in a community-based setting.

Methods: This short communication reports observations from a community service program conducted at a special needs school in Yogyakarta, Indonesia. Fifteen children underwent intraoral examination and caregiver interviews. Oral habits assessed included dietary patterns, chewing behavior, toothbrushing practices, and dental visit history.

Results: Unfavorable oral habits were commonly observed, including late-night eating, frequent intake of cariogenic foods, and inconsistent toothbrushing practices. Although most children brushed their teeth at least twice daily, improper timing and lack of supervision were noted. Chewing abnormalities such as food pocketing and reduced chewing behavior were identified. Dental caries were more frequently observed in children with mixed dentition, while plaque accumulation and calculus were common in those with permanent dentition.

Conclusion: Observed oral habits may contribute to poor oral health conditions in children with special needs. Caregiver involvement and structured oral hygiene routines are essential to improve oral health outcomes.

Keywords: Oral habits, Autism, Intellectual disability, Oral hygiene, Community-based

INTRODUCTION

Children with Autism Spectrum Disorder (ASD) and intellectual disability are at increased risk for poor oral health due to behavioral, motor, and cognitive limitations[1]. These limitations often result in unfavorable oral habits, including irregular dietary patterns, dependence on caregivers for oral hygiene, and reduced ability to perform effective toothbrushing[2].

Recent studies have highlighted that children with special needs frequently exhibit higher plaque accumulation and gingival inflammation despite reported adequate brushing frequency[3]. Additionally, sensory processing difficulties may further complicate oral hygiene practices and dental care access[4]. Understanding oral habits is therefore essential to identify modifiable behavioral factors influencing oral health in this population. However, limited evidence is available regarding the specific role of oral habits in influencing oral health outcomes in this population.

METHODS

This report was derived from a community-based oral health program conducted as part of the curriculum of the Specialist Program of Pediatric Dentistry, Faculty of Dentistry, Universitas Gadjah Mada. A total of fifteen children with Autism Spectrum Disorder (ASD) and intellectual disability were evaluated through caregiver interviews and intraoral examinations. Data collection focused on oral habits, including dietary patterns, chewing behavior, toothbrushing practices, and dental visit history. Clinical findings included dental caries, oral hygiene status, and the presence of calculus. All data were presented descriptively.

RESULTS

Oral Habits

The distribution of oral habits and oral health findings is summarized in **Table 1.** Late-night eating was observed in 60% of participants, and cariogenic dietary patterns were reported in 80%. Although 80% of children brushed their teeth at least twice daily, inconsistent brushing timing (66.7%) and lack of supervision (100%) were common. Chewing abnormalities, including food pocketing or reduced chewing, were observed in 20% of participants. Only one-third (33.3%) had a history of dental visits. Representative clinical examination during

the program is shown in **Figure 1**. This pattern indicates a mismatch between reported oral hygiene behavior and actual clinical outcomes.

Table 1: Distribution of Oral Habits and Oral Health Findings (n = 15)

Variable	n (%)
Late-night eating (>21:00)	9 (60.0%)
Cariogenic diet (snacks, fried foods, carbohydrates)	12 (80.0%)
Toothbrushing ≥2 times/day	12 (80.0%)
Inconsistent toothbrushing timing	10 (66.7%)
Limited supervision during brushing	15 (100%)*
Chewing abnormalities (food pocketing / non-chewing)	3 (20.0%)
History of dental visit (ever)	5 (33.3%)
No history of dental visit	10 (66.7%)
Presence of caries (observed clinically)**	≥5 (≥33.3%)
Poor oral hygiene / calculus presence	Majority observed

*All participants required caregiver assistance during toothbrushing, indicating limited independent oral hygiene practice.
**Caries findings were reported descriptively based on clinical examination and were not fully quantified for all participants.

Figure 1: Clinical oral examination conducted as part of a community-based oral health program in children with special needs.

DISCUSSION

This report demonstrates that unfavorable oral habits are commonly observed in children with ASD and intellectual disability. Despite most participants reporting toothbrushing twice daily, overall oral hygiene remained poor, highlighting that brushing frequency alone may not reflect effective oral hygiene practices. These findings suggest that brushing technique and caregiver supervision are critical determinants of oral health outcomes[3]. Chewing abnormalities, such as food pocketing or reduced chewing, may contribute to prolonged food retention and increased plaque accumulation, thereby elevating the risk of dental caries[4]. In addition, late-night eating without adequate oral hygiene may further exacerbate oral disease due to reduced salivary flow during sleep[5].

These observations are consistent with recent evidence emphasizing the importance of caregiver-assisted oral hygiene and structured behavioral interventions in improving oral health among children with special needs[12]. However, as this report is descriptive in nature, no causal relationships can be established. Nevertheless, these findings emphasize the importance of shifting focus from brushing frequency alone to the quality of oral hygiene practices and caregiver involvement. Targeted, caregiver-centered oral health strategies may therefore be essential in improving oral health outcomes in this population.

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