Pandemic Disruptions: Dental Care Utilization Gaps in Children with Special Health Care Needs

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Introduction

- Compared to their peers, children with special health care needs (CSHCN) are more likely to experience unmet dental needs.[1]
- This is concerning because CSHCN have a high risk for poor oral health which may affect their general health and quality of life.[1]
- To maintain good oral health, regular and timely utilization of dental care is important.[2]
- However, in March 2020, the World Health Organization declared COVID-19 a global pandemic, resulting in the closure of dental offices or their limitation to emergency care.[3]
- Considering the burden of disease in CSHCN, it is important to understand dental utilization trends, especially during times of instability and uncertainty.

Objective

To examine trends in dental utilization among CSHCN from 2016-2023, encompassing years before and during the COVID-19 pandemic.

Materials and Methods

- Data Source: National Survey for Children's Health (NSCH) data from 2016 to 2023.
- Data Collection: The NSCH collects data on the physical and emotional health of U.S. children aged 0-17 through web and mail surveys using a stratified sampling design. Oral health data include oral health problems and dental visits. Out of 334,708 children participating in the NSCH from 2016-2023, 77,943 were identified ad CSHCN. A complete case analysis was used for this sample.
- Statistical Analysis: Univariate analysis was conducted to describe the demographic characteristics of CSHCN. Dental utilization trends between the years and, pre-pandemic (2016-2019) and pandemic (2020-2023) years were analyzed using Chi Square Tests of Independence. Odds ratios with 95% confidence intervals were estimated for dental utilization by year and by pre-pandemic and pandemic periods. Trends in dental utilization, stratified by met and unmet dental needs, were analyzed using the Cochran-Armitage trend test.

Dental service utilization among children with special health care needs **significantly decreased** during the pandemic compared to pre-pandemic years, with the highest odds of non-utilization in **2021**.

Figure 1. Percentages of CSHCN Utilizing Dental Services and with Unmet Needs

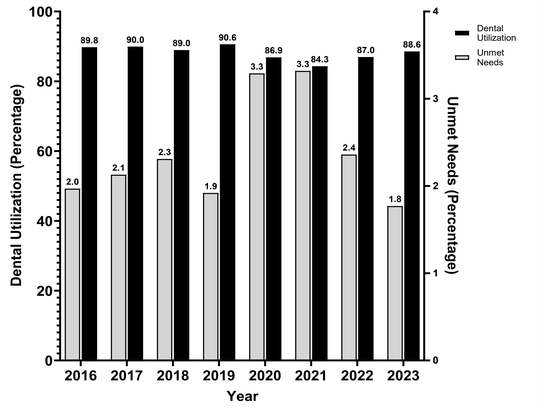
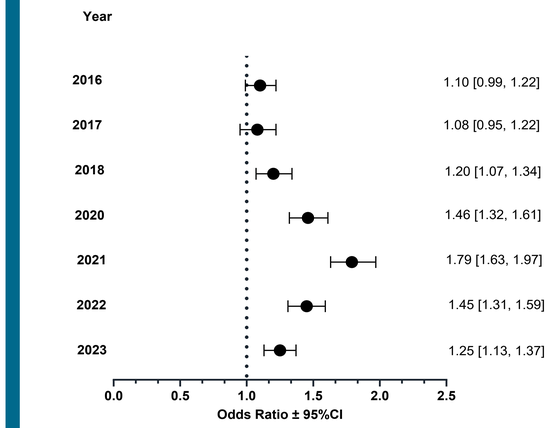


Figure 2. Odds Ratios of No Dental Visit for Each Year Relative to 2019



Results

Among CSHCN with met dental needs, a significant decreasing trend in dental utilization was observed from 2016 to 2023 ($p < 0.0001$). In contrast, no significant trends in dental utilization were identified among CSHCN with unmet dental needs ($p = 0.53$).

Table 1. Cochran-Armitage Trend Test for dental visits stratified by dental needs, 2016-2023

	Met Dental Needs		Unmet Dental Needs	
	Received Dental care (%)	Did Not Receive Dental Care (%)	Received Dental Care (%)	Did Not Receive Dental Care (%)
2016	90.52	9.48	52.02	47.98
2017	90.86	9.14	47.12	52.88
2018	89.93	10.07	48.45	51.55
2019	91.29	8.71	52.63	47.37
2020	87.98	12.02	53.8	46.2
2021	85.75	14.25	42.82	57.18
2022	87.85	12.15	49.51	50.49
2023	89.22	10.78	51.05	48.95

Conclusions

- This study found decreased dental utilization among CSHCN during the pandemic.
- It demonstrated disparities in dental utilization based on dental needs.
- Interventions to improve utilization may include optimizing teledentistry use, training dental providers to treat CSHCN, improving healthcare coordination, and integrating oral health into medical training.

References

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