

Do Social Determinants Influence Receiving a Timely Dental Surgery?

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INTRODUCTION

- Social Determinants of Health (SDOH) describe conditions in which individuals are born, live, grow, learn, work and age.¹
- SDOH affect social, medical, and dental outcomes throughout life. Higher caries experience is associated with social deprivation.²
- Patients may require general anesthesia (GA) for dental treatment due to medical and/or behavioral complexities. Those with special health care needs (SHCN) may require GA in a hospital setting.³
- Wait times are increasing for children with SHCN who require dental care under GA in hospitals. The average wait time for GA increased from 2.3 months in 2002 to 12 months in 2020.⁴
- At the study hospital, the average wait time for dental GA in 2019 was 15 months.



PURPOSE

- Describe patients with SHCN planned for dental GA at a pediatric hospital and identify SDOH which were bridges or barriers to receiving treatment within a clinically optimal time frame.

METHODS

- Health records were reviewed for all patients planned for dental GA in 2019. Demographics and surgery plan details were recorded. SDOH variables were language of care, parent/household status, social work plan in record, and payor. Clinical presentation and medical status determined the optimal timeframe for surgery. Patients were followed for two years from the surgery plan date.
- Descriptive statistics were calculated. Outcomes were:
 - 1: Patient received treatment within recommended timeframe
 - 2: Patient did not dental GA within two years of planningBivariate analysis were completed. Logistic regression was utilized to determine associations between patient factors, SDOH, and surgery plan details and the two outcomes, with adjustments for confounders.

RESULTS

390 patients were planned for dental GA in 2019: mean age was 8.9 years (SD = 5.1), 56.9% were male, 50.9% were White, 20.6% Hispanic, other ethnicities much less frequent. Recommended timeframe: 26.6% urgent/within 3 months, 26.1% within 6 months, 28.7% within 12 months, 12.1% within 13-18 months, 2.6% other

SDOH:

- 16.4% required interpreters
- Guardianship/Household: 67.9% two parents/1 household, 16.4% single parent, 6.7% two parents/2 households, 2.1% more than 2 guardians, 0.8% foster care, 6.2% missing data.
- 40.0% had a social work plan in the record. Needs included: transportation, housing/food insecurity, recent immigrant, local lodging needed on day of surgery
- Payer: 61% Medicaid, 39% Private Pay

190 (48.7%) were completed in optimal timeframe, 119 (30.5%) were not completed within two years, 81 (20.7%) were completed outside the recommended timeframe



Outcome One: Dental Surgery Completed within the Recommended Timeframe

Mean Age: 7.7 Years (SD = 4.6 years)

Urgency of Need: 77.6% who had an urgent treatment need (related to pain or infection) completed their care within 3 months. 100% of patients who required dental GA prior to life saving surgical or medical treatment received optimally timed surgery.

Household/Guardianship: 52% of patients that lived with two parents/1 household received optimally timed surgery ($P = 0.045$)

Social Work Plan: 64.1% of patients with a social work plan received an optimally timed surgery ($P = 0.047$)

Payer and **Need for interpreter** were not significantly different from all patients with surgery plans

Case Length: 73% who required 1 hour or less of surgical time received an optimally timed surgery ($P > 0.001$)



Outcome Two: Dental Surgery was Not Done within Two Years Following Surgery Plan Date

Mean Age: 11.1 Years (SD = 5.3 years). This was significantly older than all patients planned. (11.1 years vs. 7.9 years, $P < 0.001$)

Urgency of Need: 57.4% of those not receiving treatment had recommended timeframe of 1 year or longer

Household/Guardianship: 66% with two parents/2 households, and 58% with single parents did not receive treatment ($P = 0.458$)

Social Work Plan: 38% with a social work plan did not receive treatment within 2 years

Payer and **Need** for interpreter were not significantly different from all patients with surgery plans

Case Length: 45% of patients with surgery time longer than 2 hours did not receive treatment

DISCUSSION

- Limited access to hospital ORs is a nationwide challenge for dentists providing care to children with SHCN
- There was concern that patients from socially vulnerable families would receive optimally timed care less frequently than patients of socially advantaged families.
- SDOH of guardianship/household, documented social work plan for transportation, housing, food assistance or other needs were found to be both bridges and barriers to optimally timed surgery.

CONCLUSIONS

1. Patients who had two parents/1 household were more likely to receive timely dental surgery
2. Patients who had two parents/2 households or single parents were less likely to receive optimally dental surgery
3. Social work plans of support helped overcome SDOH barriers to receiving optimally timed dental surgery
4. Surgery planning process may need to include SDOH and resources to support vulnerable families to enhance outcomes for all children requiring dental treatment under GA

References

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