Accuracy of Parent Reported Health History in a Dental Setting

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Background

Obtaining thorough documentation of a patient's medical history is important for dental professionals, as oral health is intricately connected to systemic health conditions.[1,2] Data from the CDC shows that in the U.S., over two in five children ages 6 to 17 years have a chronic health condition.[3] However, electronic dental records and electronic medical records remain largely as separate entities[4,5], and dentists often rely on self-report from patients or their parents to document medical history. Literature on accuracy of parent reporting of children's health histories remains sparse, and previous studies on have found mixed results in terms of sensitivity and accuracy of reporting, and overall utilized small sample sizes.

The purpose of this study was to investigate the accuracy of parent reported health history through a retrospective chart review of patients seen in a pediatric dentistry setting.

Methods

Study population:

- A retrospective chart review was conducted on patients seen at the Franciscan Children's dental clinic in between June 1st 2019 and June 1st 2021.
- Patients were included if they were: under age 18, presented to their appointment with a parent, and required a physician consult due to receiving care under oral sedation or general anesthesia.
- A total of 863 eligible subjects were included.

Data collection and analysis:

- De-identified data was imported from Dentrix Enterprise. Diagnoses reported by parents and physicians were grouped based on ICD-10[6] categories.
- To assess accuracy of parent reported medical history, dental records were compared to physician reported medical history.
- Statistical analysis was performed using Python 3.10. Sensitivity and specificity were reported with 95% CI using Clopper-Pearson methods. Significance testing was performed using Fisher's exact test.

Table 1. Six most common disease categories. Few than 12 subjects had genitourinary, endocrine, ear, eye, digestive, infectious, dermatologic, or neoplastic conditions.

Disease category	ICD-10 code	N	Examples
Mental and behavioral disorders	F	285	Attention deficit disorder, autism, intellectual disability, speech disorder
Respiratory conditions	J	96	Asthma, tonsillar hypertrophy, respiratory failure
Nervous system conditions	G	46	Cerebral palsy, seizures, quadriplegia
Congenital malformations	Q	41	Chromosome abnormality or deletion, trisomy 21, cleft lip or palate
Hematologic conditions	D	41	Anemia, sickle cell trait and disease, thalassemia
Cardiovascular conditions	I*	32	Pulmonary valve stenosis, atrial septal defect, "hole in heart"

Results

Table 2. Description of study sample (n=863)

Characteristic	% (N) or mean
Gender (N)	
Male	59.3 (N=512)
Female	40.7 (N= 351)
Age (years)	
Mean	6.9 +/- 3.4 years
Insurance type	
Medicaid	75.3 (N=650)
Private, employer based, or self-pay	24.7 (N=213)
Health conditions on physician form	
No health conditions listed	48.7 (N=420)
One or more condition listed	51.3 (N=443)
Health conditions on dental record	
No health conditions listed	61.8 (N=533)
One or more condition listed	38.2 (N=330)

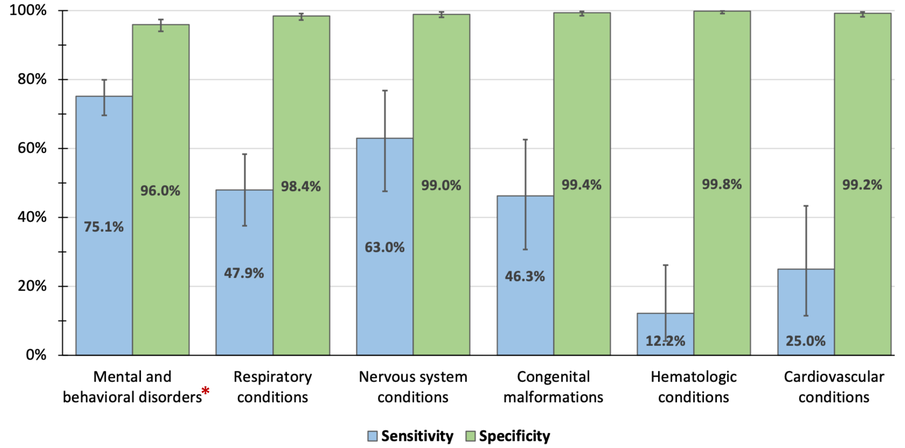

Figure 1. Sensitivity and specificity (%) of parent reported health conditions with 95% CI.

*Parents of children older than six or those with self-pay or private insurance had higher sensitivity for reporting mental and behavioral conditions than those with children younger than six or those with Medicaid (P<0.0001)

Discussion

- Parents were unlikely to falsely report diagnoses when their child did not have a condition, as reflected by high specificity values.
- Sensitivity varied widely, demonstrating that parents may be unreliable in their report of children's health histories, and that dentists cannot rely solely on parents when obtaining health history.
- Literature suggests that inaccurate reporting of children's health history may occur due to forgetfulness, confusion, lack of knowledge, stigma, and more.[7] Known barriers experienced by low-income populations (e.g. language and low health literacy) may also hinder communication between clinician and patient. This may be explanatory for our result where parents of those with private insurance had higher sensitivity than those with Medicaid for reporting mental and behavioral conditions.
- Future research should aim to better understand causes of inaccurate reporting, and assess methods for improving interdisciplinary communication.

Conclusions

- Parents had varying accuracy in identifying the presence of health conditions in their children, with the highest sensitivity for identifying mental and behavioral disorders.
- Dentists should ensure accurate documentation of their patients' health histories, and obtain medical consultations prior to treating patients with incomplete histories and/or special health care needs.
- Systems which support closed-loop communication between dentist and physician as well as integration of dental and medical information systems should be considered to improve patient safety and outcomes.

References

Please scan for references