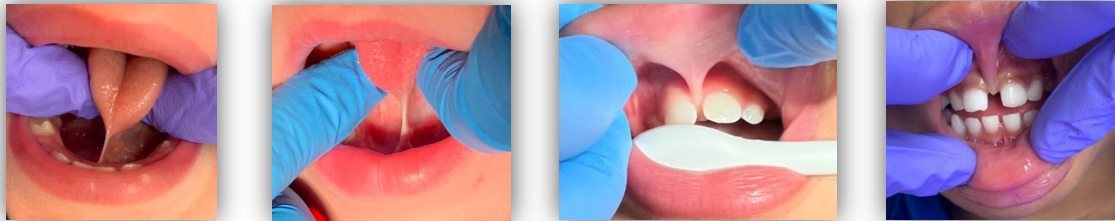


Purpose

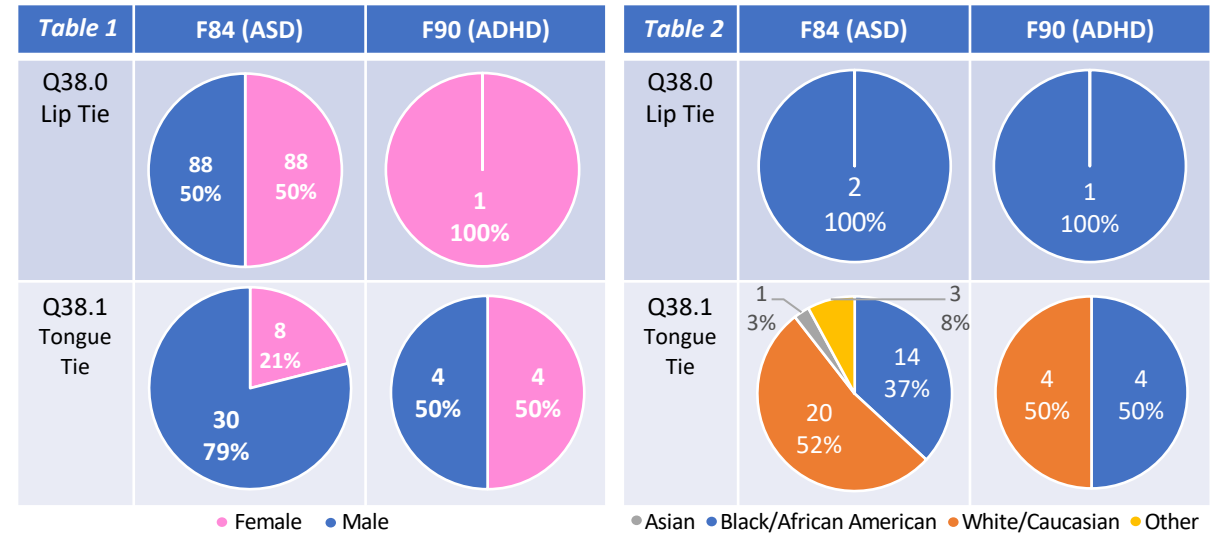
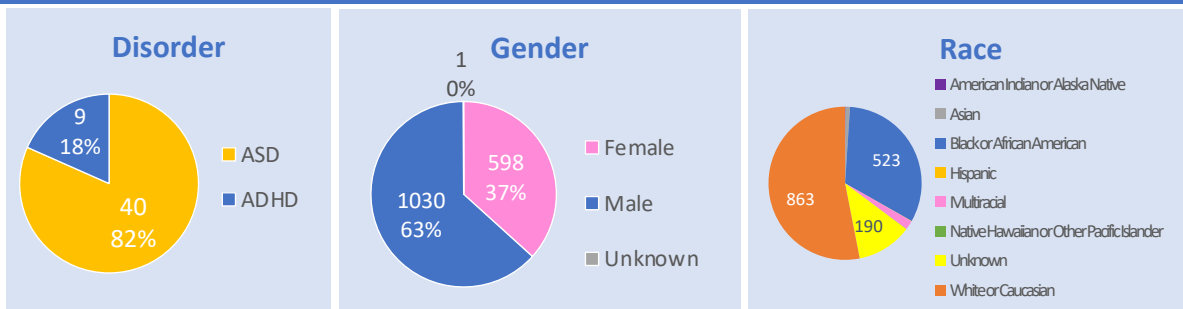
Tethered oral tissues (ToTs), such as tongue and lip ties, are frequent causes of feeding, speech, and oral hygiene difficulties. Tongue-tie, also known as ankyloglossia, is a congenital condition in which the frenulum is shorter or tighter than normal, restricting the movement and mobility of the tongue. A lip-tie is an aberrant attachment of the maxillary or mandibular labial frenum. Clinically, the investigators noted an increase in ToTs in patients with autism spectrum disorders (ASD) or attention-deficit hyperactivity disorder (ADHD) presenting for frenectomies to the University of Mississippi Medical Center (UMMC) School of Dentistry. The aim of this study was to determine if children with developmental disorders such as ASD and behavioral disorders such as ADHD have a higher prevalence of ToTs than in the general population at UMMC.



Methods

IRB #UMMC-IRB-2022-172 was approved. Data was obtained through an Epic honest broker who gave de-identified data to investigators. Data requested was age, sex, race, ethnicity, and diagnosis codes F84 (ASD), F90 (ADHD), Q38.0 (lip tie), Q38.1 (tongue tie). A total of 1,283,974 charts were reviewed. Data sets with various combinations were then given to a statistician who performed the logistic regression modeling.

Results



Conclusion

A positive correlation was found between ASD, ADHD, and ToTs. Patients with ToTs had 6.7x greater prevalence of ASD ($p < 0.001$) and 2.5x greater prevalence of ADHD ($p = 0.01$). The findings also indicated that tethered oral tissues are often unnoticed by clinicians and thus under-diagnosed. Clear assessment and attention to the lip and tongue is necessary to diagnose and treat the problem. In addition, early intervention could improve feeding and speech development and may also embolden parents to seek additional and/or conclusive ASD/ADHD testing. The results may have been influenced by Berkson's bias because the patients were recruited from a hospital setting. In order to prove the results, a follow-up study using controls from the general population should be conducted.

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