Dentist's Assessment and Protocol: Determining the Need for Frenotomy/Frenectomy

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INTRODUCTION

According to recent published otolaryngology studies, there has been a 110.4% increase in diagnosis of ankyloglossia from 2012-2016[1] and an 834% increase from 1997-2012[2] with corresponding lingual frenotomies performed. Similar trends exist for buccal frenula. Although functional and anatomical frenulum assessments such as Hazelbaker Assessment Tool for Lingual Frenum Function (ATLFF), Infant Breast-Feeding Assessment Tool (IBFAT)[3], Kotlow and Coryllos Methods[4] can be found in the literature, the diagnosis and management of tethered frenulua remain controversial.[5] Regarding treatment decisions, health providers have different views of how tethered oral tissues (TOTs) affect children. To the best of the authors knowledge, there is no consensus regarding a protocol that could be used for diagnosis and guide treatment decision on patients with either/both tongue-tie and lip-tie cases. In the 2022 position paper, the AAPD supports "further randomized controlled trials and other prospective studies of high methodological quality are necessary to determine the indications and long-term effects of frenulotomy/frenulectomy." [3]

OBJECTIVES

This study aims to understand which tools have driven clinical decision-making by dental practitioners (pediatric dentists and oral surgeons) when diagnosing and treating tethered frenula.

MATERIAL AND METHODS

A 15-question questionnaire was built using the RedCap platform and sent electronically (IRB #89775) to members of the American Academy of Pediatric Dentistry and posted online in AAOMSConnect (American Academy of Oral and Maxillofacial Surgeons). The questions addressed practitioner demographic information, education, and diagnosis and indication in treatment of TOTs. Data was collected from Nov-Dec 2023. Data were analyzed considering providers training (residency, continuing education-CE, both, or none) using Chi-squared and Fisher's Exact tests (α=.05).

RESULTS

Two oral surgeons and 517 pediatric dentists (PDs) from 33 states completed the questionnaire. The following results refer to PDs. Seventy-eight% of the respondents reported practicing in private dental offices. Most of them learned how to treat oral ties in Residency and/or CE (Figure 1). Forty% of respondents had 16+ years of experience (Figure 2). Ninety-one% had training in diagnosing/treating TOTs. Thirty-three% perform frenectomies less than once a month. Less than 8% provide frenectomy more than 5 times/week. Females (64%) were predominant among those who never learned how to diagnose/treat TOTs. Thirteen% of those who never learned to treat TOTs offer it as a service to their patients. PDs trained with CE are more likely to provide frenectomies. Forty-four% diagnose problematic TOTs based on anatomic presentation alone. The Kotlow classification was utilized most frequently, by those trained with CE only (Figure 3). If an assessment tool was not utilized, the highest ranked functional issues for infants were: Inability to latch, lactation consultant request, breastfeeding/nipple pain, poor infant weight gain, and clicking (Figure 4). For children greater than one, the highest ranked issues were limited tongue mobility, speech language pathologist request, speech articulation difficulties, potential for maxillary-incisor diastema, and caries on anterior teeth (Figure 5).

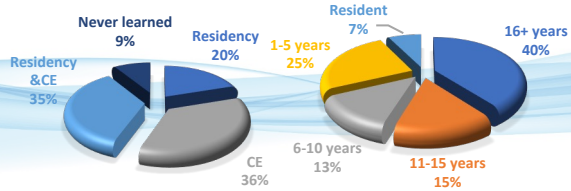

Figure 1. Distribution of participants that practice in private dental offices considering training (Fisher's Exact, p<0.0001).

Figure 2. Distribution (%) of respondents considering years of practice (Fisher's Exact, p<0.0001).

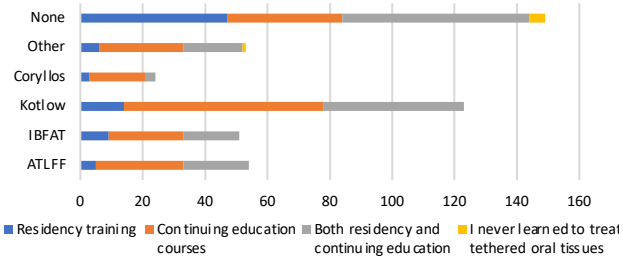

Figure 3. Frequency of assessment tool considering training. Respondents could select multiple tools (Fisher's Exact, p<0.05; Chi-squared, p=0.0007).

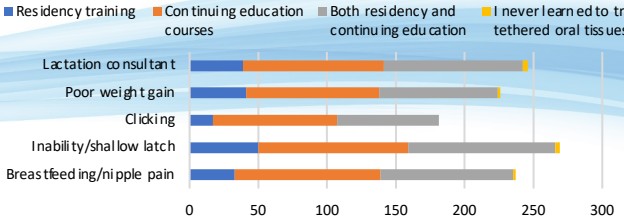

Figure 4. Frequency of the five most cited criteria considering training if an assessment tool was not used to determine indication of frenotomy/frenectomy in an infant patient. Respondents could select multiple criteria (Fisher's Exact, p<0.05).

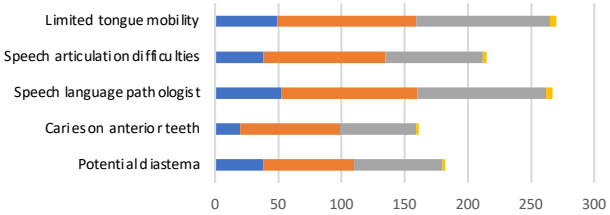

Figure 5. Frequency of the five most cited criteria considering training if an assessment tool was not used to determine indication of frenotomy/frenectomy in a toddler/child/adolescent. Respondents could select multiple criteria (Fisher's Exact, p<0.05).

DISCUSSION

The present study demonstrates lack of standardization amongst pediatric dentists in their diagnosis and treatment of TOTs, regardless of where they received their education. Those practitioners trained with CE most frequently utilized the Kotlow classification. This classification focuses heavily on classifying frenula based on their anatomical attachments rather than a protocol to functionally assess symptoms (breastfeeding, speech, etc.) difficulties. Emphasis must be placed on assessing an infant, child, or adolescent's presentation of symptoms rather than allowing their anatomy solely to dictate the need for surgical intervention. Thirteen percent of responding PDs report offering surgical interventions for TOTs despite never learning to treat them. Perhaps due to wording of the survey questions, it is unclear if these providers are completing the procedures themselves or if they offer the procedure and then refer to other trained surgical providers.

CONCLUSIONS

Diagnosis and indication for treatment of TOTs remain non-standardized. The provider's training influences the offer of treatment and the assessment of TOTs. There is no consensus among practitioners if anatomy, function, or both, dictate problematic frenula.

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