TONGUE TIES AND SPEECH SOUND DISORDERS: WHAT ARE WE OVERLOOKING?

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BACKGROUND AND SIGNIFICANCE

The conversation for tongue tie in the speech pathology community is growing louder among some groups of speech-language pathologists (SLPs) (ASHA Leader, 2015). An ASHA literature search has suggested a correlation between tongue tie and difficulty producing lingual alveolar phonemes (Merkel-Walsh & Jahn, 2014). Furthermore, Eucher, Klein, and Overby (2010) indicated that SLPs’ diagnostic criteria, treatment, goals, and discharge criteria for ankyloglossia differ depending on comorbid behavior (i.e., SSDs or feeding/swallowing difficulty).

Recently, there is a rise in the identification of posterior tongue ties in infants who are having trouble feeding and toddlers/adolescents who are exhibiting continuous speech sound errors despite years of speech-language pathology services. Posterior ankyloglossia is characterized by a thickened frenulum (Type III) or a submucosal frenulum visualized as a flat, broad mound absent of any typical protruding frenular tissue, and restricts movement at base of tongue (Type IV) (Kurlow, 2011).

PURPOSE

Due to the lack of information on evaluation on our part as SLPs, we may be overlooking the important relationship between structure and function during our assessments and treatments. Thus, potentially increasing the incidence in feeding/swallowing or speech sound disorders. Therefore, the purpose of this study is to share the results of a bi-university collaboration that has tracked two children who have had posterior tongue tie revisions after exhibiting significant speech sound delays or been earmarked with suspected childhood apraxia of speech (CAOS). Therefore, there is a call for more systematic guidelines for how to assess and treat all tongue ties from the SLPs perspective.

METHODS

Design: This was an exploratory study. Data was collected using the Clinical Assessment of Articulation and Phonology—Second Edition (CAAP-2; Secord & Donohue, 2014). The results from the CAAP-2 pre-revision and 6-months post-revision were analyzed.

Participants: Two participants who received speech-language intervention services in a university clinic during the 2015-2016 school year with identified posterior tongue ties and scheduled for revisions were asked to participate in this study.

ACKNOWLEDGMENTS

We express gratitude to our participants and their parents. We would like to thank Ms. Roxanne Stoebr and student clinicians for assisting with testing.

DISCUSSION

[q] Findings

- Participant 1:
  - Decreased by 13 articulatory errors six months following posterior tongue tie revision.
  - The most notable findings on her phonological process evaluation was the large reduction in the fronting process. She went from 90% occurrence to 10% following the revision.
- Participant 2:
  - Decreased by 17 articulatory errors six months following posterior tongue tie revision.
  - The most notable findings on his phonological process evaluation was the large reduction in the fronting and stopping processes. He went from 40% occurrence to 0% following the revision.

- Discussion
  - We suspect this finding is due to the increased mobility of the posterior tongue to now be able to raise to adequately and produce velar sounds.
  - As a field, SLPs needs to be aware of all types of tongue ties when assessing and treating children with articulation and phonological delays or disorders.

Future Research

- The level of training SLPs have in identifying various types of tongue ties varies and is not explicitly addressed in ASHA literature. Thus, potentially increasing the incidence in feeding/swallowing or speech sound disorders. Therefore, there is a call for more systematic guidelines for how to assess and treat all tongue ties from the SLPs perspective.

- We need further research on guidelines for referral process, presence, and relationship of posterior tongue tie to persistent speech sound errors and the potential misdiagnosis of childhood apraxia of speech, phonological disorder, or un-repaired speech sound errors.

REFERENCES


CAAP-2 ARTICULATION RESPONSE

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<tr>
<th></th>
<th>Participant 1</th>
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<td>Consonant Inventory Score</td>
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<td>Standard Score</td>
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CAAP-2: PHONOLOGICAL PROCESS EVALUATION

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