

Oral motor function, chewing efficacy and articulation in children with Speech Sound Disorders (SSD)

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Aim: The purpose of this ongoing study is to investigate the correlation between oral motor function, chewing efficacy and articulation in children with SSD.

Background: Oromotor impairment is a common feature in children with rare diseases and there is a strong correlation between oromotor impairment and impaired intelligibility and eating in those children (Sjögreen et al, 2015). Oromotor impairment have also been reported in children with speech- and language disorders of different origin (Teverovsky et.al, 2009). Therefore it is important to investigate this in children with SSD. The impact of oromotor impairment on articulation is still unclear.

Method: 40 children between 6 and 12 years with SSD are included. All were referred to the Mun-H-Center clinic for an oral motor and speech motor examination. Assessment included an oral motor screening test (NOT-S) (Bakke et. al, 2007), a two coloured chewing gum test (Schimmel et al., 2007) and an articulation test (SVANTE) (Lohmander et al, 2005). The NOT-S test maximum score is 12. Mean score for typically developing children 6 years and older is <2 (McAllister, Lundeborg, 2013). In the two coloured chewing gum chewing efficacy is estimated by analyzing how well the colours blend. To date no data exist on typically developing children's performance on the two coloured chewing gum test. Percent Consonants Correct (PCC) is counted from the articulation test. Swedish typically developed children ≥ 6 years have a mean PCC of 97, 4% (Lohmander et al, 2005).

Result: The children with SSD had in general a higher score on NOT-S than expected for age. The variation within the group was large and varied between NOT-S score 1-9. All children with a low score on the NOT-S also had a more efficient chewing. Most children with low PCC also had a high score on the NOT-S and a lower level of chewing efficacy. Almost all children with SSD had difficulties with the motorically more challenging phonemes /r/, /l/, /ç/ and /f/. Some also had signs of co-existing language impairment.

Conclusion: This is an ongoing study. So far results indicate that many children with SSD also have co-existing oral motor difficulties of varying severity.

References

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