

SonoSpeech Cleft Pilot: A pilot randomised control trial of ultrasound visual biofeedback versus standard intervention for children with cleft lip and palate.

• Background

Children with cleft lip and palate often have speech production and intelligibility difficulties that may affect their educational outcomes (Grewal et al. 2021). Speech therapy treatment usually involves articulatory intervention, which teaches the child the correct position and movement of their articulators. This type of intervention may be challenging as large portions of the articulators are hidden from view and may be hard to describe. Recent ultrasound tongue imaging studies have shown promising results but only one study has focused on children with cleft lip and palate (Roxburgh et al. 2016).

• Aim

This pilot randomised control trial will assess the feasibility of running a large-scale randomised control trial comparing a new treatment, speech therapy involving ultrasound visual biofeedback, to traditional articulatory therapy for children with cleft lip and palate. The study aims to determine the recruitment, attrition, and outcome measure completion rates, as well as the acceptability of the new treatment and of randomisation to the children and their families.

• Methods

Forty children, aged 4;6-16, will be randomised to either 6 sessions of ultrasound intervention or articulatory intervention, stratified by age. Their percentage of correct consonants will be measured by assessors blind to their treatment groups, based on auditory recordings, taken before, during, and after treatment. Patient reported outcome measures on quality of life and experience of service will also be used.

• Results

The study is in its recruitment stage and preliminary results will be presented at the conference, including case studies of children in both groups.

• Conclusions

Ultrasound visual biofeedback is a potentially useful tool in speech sound therapy of children with cleft lip and palate and more research is required to test its effectiveness.

Grewal, S. S., Ponduri, S., Leary, S. D., Wren, Y., Thompson, J. M. D., Ireland, A. J., Ness, A. R., & Sandy, J. R. (2021). Educational Attainment of Children Born with Unilateral Cleft Lip and Palate in the United Kingdom. *The Cleft Palate-Craniofacial Journal*, 58(5), 587–596.
<https://doi.org/10.1177/1055665620959989>

Roxburgh, Z., Cleland, J., & Scobbie, J. M. (2016). Multiple phonetically trained-listener comparisons of speech before and after articulatory intervention in two children with repaired submucous cleft palate. *Clinical Linguistics & Phonetics*, 30(3–5), 398–415.
<https://doi.org/10.3109/02699206.2015.1135477>