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Why did we do this study?
- To add to the small intervention evidence-base for childhood apraxia of speech
- To provide some first-step evidence for the Nuffield Centre Dyspraxia Programme treatment approach

What is the Nuffield Centre Dyspraxia Programme (NDP) treatment approach?
- Created in UK for children with SSD/CAS
- A motor and linguistic approach
- Aims to build accurate motor programs for phonemes, words and sentences
- Aims to develop a contrastive system at each phonotactic level (eg C, V, CV, CVCV, CVC), incorporating new motor programs
- Pictorial cues are utilized from the supplied NDP resource

Where can you find out more about the NDP treatment approach?

A multiple single-subject design with repeated measures

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<th>No intervention</th>
<th>Intervention</th>
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<td>T1</td>
<td>6 weeks</td>
<td>10 weeks</td>
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Repeated measures
1. NDP Assessment (Williams and Stephens 2004)
2. DEAP Phonology subtest (Dodd et al 2002)

Participants
Harris, 4 years 7 months; Terri 6 years 5 months
- Severe speech sound disorders & unintelligible speech
- Met the consensus criteria for CAS (ASHA 2007)
- Had normal hearing, non-verbal and language skills

Intervention
- 10 weekly sessions, each of one hour
- NDP treatment approach & NDP3 picture materials
- Parents carried out home practice
- Specific targets set for each child, but both included:
  - Expansion of phonetic inventory
  - Developing number & range of CV words
  - Developing number & range of CVCV words
  - Developing number & range of CVC words (Harris)

Control measures – untreated words. No intervention aimed at cluster words and multisyllabic words.

Results

Harris:
- Small expansion of phonetic inventory
- Significant changes (p<0.05) at CV, CVCV, CVC, T2-3
- No change to scores on untreated words
- Increase in PCC on DEAP

Terri:
- Added /k/, /g/, /f/ to her phonetic inventory
- Overall change T1-T4 was significant (p<0.05)
- Change T2-3 not significant, but closer than T1-2 or T3-4
- No change to scores on untreated words
- Small increase in PCC on DEAP

So, was the NDP treatment approach effective?
- More convincing for Harris than for Terri
- Child specific factors likely to be involved
- Both children ended study at/below 1st centile on DEAP
- Both required further intervention
- Next steps: further case studies & longer intervention periods required to strengthen the findings & build evidence base