NSW Speech Pathology Evidence Based Practice Network

Critically Appraised Paper: TREATMENT (CAP-T)

CLINICAL BOTTOM LINE:
Reducing feedback frequency may be beneficial for some but not all children with CAS (although this may depend on child's age or severity)

Clinical Question *In children with CAS does intervention (e.g., DTTC, Integrated Phonological Awareness Approach, AAC, Combined Melodic Intonation Therapy + Multimodal approach, +/- PML principles) improve speech (+/- literacy, overall communication skill) when compared to no intervention?*

Citation: Maas, E., Butalla, C.E. & Farinella, K.A (2012) Feedback Frequency in Treatment of Childhood Apraxia of Speech. AJSLP Papers in Press. Page 1-54. Doi:10.1044/1058-0360(2012/11-0119)

Method: Design and Procedure (e.g., note type of research design, comment on randomization, summarize treatment intensity as appropriate, such as dose (trials) per session, session length, frequency, total treatment duration, summarize general procedure, resources / materials required)

- alternating treatment design with multiple baseline across behaviours over two phases
- independent variable was amount of feedback: high frequency feedback (feedback on all trials) and low frequency feedback (feedback on about 60% of trials). Both conditions administered in every Rx session.
- study duration was 16 weeks (initial BL with 3 probe sessions over 2 weeks, 4 weeks Rx, 2 weeks maintenance, 4 weeks Rx, 2 weeks maintenance, follow up after 2 weeks). Included performance- based criterion (80% correct on targets on 2 consecutive probes) and time-based treatment (4 weeks per phase). 3 weekly 50-min sessions during Rx phases for 3 children, 1 child had 2 weekly one-hour sessions (10 hours of Rx per phase)
- different target items were set for each child for high and low frequency feedback conditions
- Rx administered by trained graduate student clinician under direct supervision
- Dynamic Temporal and Tactile Cueing treatment used (protocol in article)
- Feedback included knowledge of results and knowledge of performance.

Method: Participants

- 4 monolingual English children with diagnosis of CAS (Dx following Ax of connected speech sample, dynamic Ax procedures- structured single word or single phrase-production)
- 2 males, 2 females (5;4-8;4) and CAS ranging from moderate to severe.
- standardised Ax used for language (components of CELF-4, PLS4), PPVT
- 3 of the 4 children had an expressive language delay (not able to test 4th child), 2 of the 4 children had a receptive language delay
- all had normal hearing, nil medical/neurological Dx
- all had difficulties with speech sound production (Ax-GFTA, PCC, PVC)
- -3 of the 4 children had participated in treatment study prior

Critically Appraised Paper: TREATMENT (CAP-T) *continued....*

Results:

- Mixed findings as 2 children showed advantage for low frequency feedback, one child showed small advantage for high frequency feedback, and one child showed no clear improvement in either condition.
- nil drop outs
- small ES

Level of Evidence (NHMRC, 2009) *Circle one* **I II III-1 III-2 III-3 IV**

Quality of Evidence: ❒Rated ❒ Not Rated

(i) rating system (e.g., PEDRo, SCED Scale from SpeechBITE) _____

(ii) score _____

Nature of Evidence: ❒ feasibility ❒efficacy study ❒effectiveness study

Relevance to practice (e.g., were the participants and/or treatment context similar/different to everyday clinical practice? Is replication possible in clinical practice? What barriers might prevent the results from be applied to everyday clinical practice? What could be done to address barriers? If barriers can't be modified, how could the procedure be modified to accommodation limitations in clinical practice?)

- the treatment protocol used in this study (DTTC) and feedback frequency can be trialled and used within clinic sessions for relevant clients
- unable to provide frequency of Rx outlined in the article due to service delivery limitations.
- may educate and train parents/carers to ensure child is getting frequency of practice at home.
- more relevance if using functional vocabulary stimuli.

Additional comments (e.g., limitations of the study, need for further research addressing a specific issue)
-Small sample size
-Treatment phases differed for participants
-Further research is needed to investigate feedback related variables (e.g. feedback delay - immediate vs. delayed)

Appraised By: EBP Paediatric Speech Group

Date: 18/9/12