



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: Therapy aiming to improve profound auditory discrimination impairments (word sound deafness) was not effective for this patient with chronic aphasia, and may indicate these problems may be hard to remediate. There was some evidence that encouraging use of lip reading may be a helpful strategy. In contrast, therapy targeting the use of effective compensatory strategies with a primary communication partner did lead to significant functional gains, including decreased incidence of communication breakdown in conversation, suggesting that this is a promising technique for future similar cases.

Clinical Question [patient/problem, intervention, (comparison), outcome]:

What are the effective therapy techniques currently being used to improve auditory comprehension deficits in aphasia?

Citation: Maneta A, Marshall J, Lindsay J. (2001). Direct and indirect therapy for word sound deafness. *International Journal of Language & Communication Disorders*, 36(1): 91-106.

Participants:

- 84 yo male (PK)
 - 5 years post left temporo-parietal infarct
 - chronic expressive and receptive aphasia characterised by:
 - neologistic jargon
 - poor auditory comprehension / word sound deafness
 - All auditory input tests severely impaired, while written tasks were not.
 - Repetition, virtually impossible.
 - could make some use of lip reading information, at least to improve the accuracy of his repetition.
 - impaired auditory discrimination (unable to perform minimal pairs tasks)

Design/Method:

- Single case study design
- Evaluated 2 forms of intervention
- The 2 therapy aims were addressed in 2 separate therapy phases:

Therapy Phase 1)

- Treatment aimed to improve PK's auditory discrimination, involved
- Use of lip reading & cued speech
- Discrimination of initial sounds in minimal pair tasks
- Phoneme to grapheme matching
- Matching spoken to written words
- Spoken word to picture matching

Therapy Phase 2)

- Aimed to change communication behaviours of wife
- To increase PK's comprehension of wife in conversation
- Written 'advice booklet' given to wife outlining PK's strengths / weaknesses & simplified model of normal input processing
- Wife observed therapist implementing strategies in conversation & actively evaluating which strategies worked
- Wife practiced use of effective strategies with therapist observing and providing feedback
- Assignments given to complete between sessions
- Each therapy phase involved 12 sessions over 6 weeks, 30 mins duration in PK's own home
- Evaluation involved pre & post testing:
 - 1) Psycholinguistic assessment:
 - PALPA (2 conditions: lip reading & free voice)
 - Administered pre & post therapy phase 1
 - 2) Qualitative analysis of interactions between PK & wife
 - Use of biographical yes / no questions
 - Analysed frequency & length of communication breakdowns
 - Communication strategies used by wife
 - Administered pre & post therapy phase 2

Experimental Group: N/A (single case study)

Control Group: N/A (single case study)

Results:

Therapy Phase 1:

- No statistically significant improvements noted in post-testing (i.e. in minimal pair discrimination, spoken word to picture matching, repetition & naming) in either lip reading or free voice condition
- However a small, consistent trend of improvement was noted in the lip reading condition across all tasks indicating that PK may have learnt to make better use of lip reading.

Therapy Phase 2:

- Statistically significant improvement in number of appropriate responses to questions asked by wife post therapy
- Also a reduction in number of breakdown sequences and typical length of breakdowns.
- Wife used very different communication strategies post therapy (in line with SP's recommendations)
- Note that PK's understanding of purely spoken yes / no questions was unchanged after treatment (i.e. his auditory comprehension itself had not improved)

Comments – Strengths/weaknesses of paper

Weaknesses:

- 2nd phase of therapy was 'influenced by other approaches' but these were not described
- 2 people rated qualitative assessment with 5/74 disagreement rate (6.8% disagreement) - ? acceptable
- Single case study design – how much can you generalise?
- Is a highly structured approach necessary with all patients?

Strengths:

- Addressed limitations in discussion e.g. biographical questions not necessarily reflective of natural interaction
- Controlled with extra set of yes / no questions (in post-testing for Therapy Phase 2)
- Accounted for discrepancies between this study and other similar studies
- Good number of other studies referenced / compared
- Clearly outlined theoretical basis for therapy for auditory discrimination
- Identified that success of indirect therapy may have been due to several factors – needs to be further researched, e.g. was the length / intensity of the programme necessary?
- Clinician friendly – acknowledged practicability and was easy to read.

Level of Evidence (NH&MRC): Level IV evidence

Appraised By: Adult Language EBP group
Clinical Group:

Date: May 2009