Speech and language therapy for aphasia after stroke: an updated systematic review and meta-analyses

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Cochrane Corner: **Speech and language therapy for aphasia after stroke; an updated systematic review and meta-analyses**

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Background

Aphasia significantly impacts on the individual, families and communities. Timely, effective intervention is vital. Speech and language therapy (SLT) is a complex rehabilitation intervention targeting improvement in language and communication abilities (verbal comprehension, spoken language, reading, writing), activity and participation. Therapy may vary in intervention regime, theoretical approach or delivery model. Our comprehensive updated review [1] synthesised evidence of the effectiveness of SLT for aphasia after stroke found in randomised control trials compared to (i) no therapy and (ii) other SLT interventions.

Data sources:

We searched a range of sources including the Cochrane Stroke Group Trials Register, the Cochrane Central Register of Controlled Trials, Cochrane Library Databases, MEDLINE, EMBASE, CINAHL, AMED, LLBA and SpeechBITE (all from inception to September 2015). We also searched ClinicalTrials.gov, the Stroke Trials Registry, Current Controlled Trials, and WHO ICTRP (all to September 2015). There were no language restrictions.

Data collection and analysis

Two reviewers independently classified trials according to the inclusion and exclusion criteria, assessed trial quality and extracted data. We sought clarification or unpublished data from trialists when required. Using the TIDieR checklist we systematically extracted complex intervention data.

Main results

We included 57 RCTs (74 randomised comparisons; n= 3002 participants) in this review. Some informed more than one comparison. Meta-analysis of 27 randomised comparisons (n= 1620) comparing the effects of SLT with no SLT demonstrated benefit for participants' functional communication [P=0.01; standardised mean difference (SMD) 0.28, 95% Confidence Interval (CI) 0.06 to 0.49]; auditory comprehension [P= 0.59; SMD 0.06, 95% CI -0.15 to 0.26]; reading [P =0.03, SMD 0.29, 95% CI 0.03-0.55]; expressive language naming [P=0.26; SMD 0.14, 95% CI -0.10 to 0.38]; writing [P=0.003; SMD 0.41, 95% CI 0.14 to 0.67] (Figure 1).

Thirty-eight randomised comparisons (n=1242) directly compared different SLT approaches. Those that received higher intensity SLT had significantly better functional communication [P = 0.002; SMD 0.69 95% CI 0.25 to 1.13] and less severe aphasia [P = 0.02, SMD 0.38, 95% CI 0.07 to 0.69] than those that received lower intensity SLT. Notably, the benefits of higher intensity interventions were confounded by higher dropout rates amongst those groups [P = 0.01, Odds Ratio 2.35, 95% CI 1.20 to 4.60]. Generally, trials randomised small numbers of participants across a range of characteristics (age, time since stroke, and severity profiles), interventions, and outcomes.

Implications for practice

Our review provides evidence of the effectiveness of SLT for people with aphasia following stroke in improved functional communication, reading, writing, and expressive language compared with no SLT. Therapy at high intensity may be beneficial but may not be acceptable to all.

Implications for research

Continued improvement in quality of SLT trials, reporting of trial findings (which adhere to CONSORT and TIDieR recommendations) will further contribute to transparency, replication of findings and subsequent meta-analyses. Designing, conducting and completion of larger research activities will require close collaboration between people with aphasia, clinicians and researchers. Future research endeavours should seek to establish the optimum approach, regimen and delivery of SLT for specific patient groups with aphasia following stroke.

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Disclosures:

MB, PE and HK are speech and language therapists and members of the Royal College of Speech and Language Therapists. PE has been involved in two trials included in this review. She did not contribute to the assessment or interpretation of either of these studies within this review. JG and PC none.

Reference:

This paper is based on a Cochrane Review published in The Cochrane Library 2016, Issue 6 (see www.thecochranelibrary.com for information). Cochrane Reviews are regularly updated

as new evidence emerges and in response to feedback, and The Cochrane Library should be consulted for the most recent version of the review.

1. Brady MC, Kelly H, Godwin J, Enderby P, Campbell P. Speech and language therapy for aphasia following stroke. Cochrane Database of Systematic Reviews 2016, Issue 6. Art. No.: CD000425. DOI: 10.1002/14651858.CD000425.pub4.

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Figure Legend: **Figure 1: Meta-analysis of SLT versus no SLT on functional communication, receptive and expressive language and severity of language impairment outcomes.**