NSW Speech Pathology
Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: Maternal involvement and self-efficacy as well as mothers' MLU and use of recast and open-ended questions are positively related to receptive and expressive language development in young children with hearing aids.

Clinical Question [patient/problem, intervention, (comparison), outcome]:
In Children with Specific Language Impairment with an MLU <2 what therapy approaches are effective?

Citation:
DesJardin, J. & Eisenberg, L. (2007) Maternal Contributions: Supporting Language Development in Young Children with Cochlear Implants. Ear & Hearing, 28, 456-469.

Design/Method:
Single subject multiple baseline design across subjects.

Participants:
Recruited from CARE Centre (Children's Auditory Research & Evaluation) LA. 32 mother and child dyads from list generated from participants from previous study. Mothers Caucasian and English speaking, average age 36, some level of college education, upper middle-income. Children – 2.5-7.2yrs (mean 4.8) bilateral sensorineural hearing loss (dx 12months), multi-channel cochlear implant users for 24 months, family-centred intervention/SA program for at least 3 months, no additional disability or developmental delay, mainly auditory-oral communication, ax using Reynell Developmental Language Scales – mean delay of 2yrs chronologically, language skills commensurate with that of their post-implant age or "hearing age".

Experimental Group:
50 participants sent an invitation. 32 replied.
Prior to appointment, parents were sent a questionnaire to complete (Scale of parental involvement and maternal Self-efficacy (SPISE)).
Parents and children were videotaped during free play (~ 7 minutes) and story book interaction(~ 10 minutes).
Following videotaping, children's language was assessed using Reynell Developmental Language Scales III. The assessment was conducted in the child's primary mode of communication (auditory-oral, or auditory-oral with sign support).
All mother and child speech and vocalizations as well as signs were transcribed and analysed using Computerized Language Analysis and a specific coding instrument designed specifically for this study.

Control Group:
Nil

Results:
Mother's belief that they were able to develop their child's speech language skills were significantly related to mother's MLU.
Mothers' involvement and self-efficacy in terms of their children's speech language development was related to facilitative language techniques.
Mother's **MLU** and **word types** were *positively* related to children's receptive **and** expressive language skills
Mothers' use of **recast** *positively* associated with children's **receptive language** abilities
Mothers' use of **open ended questions** *positively* related to children's **expressive skills.**
Recasting was positively associated with children's MLU, number of words and word types.
Mothers' use of linguistic mapping, labels and directives were *negatively* associated with children's receptive and expressive language skills.

Comments – Strengths/weaknesses of paper

- Very clear description on how study was completed including resources etc, would be fairly easy to replicate.
- Significant reliability testing on all transcribed data (random 10%), found high levels of reliability 95-98%.
- High level on analyses used on a range of measures.
- Drew on a wide range of literature in the construction of the paper.
- Limited validity of SPISE measure – authors admitted further evidence required into its use.
- Findings relatively easy to implement in day to day practice.
- Requires further investigation into directionality (mothers affective their children or children affecting their mothers) and the impact of this on results.

Level of Evidence (NH&MRC): Level IV

Appraised By: Paediatric Language
Clinical Group: Paediatric Language

Date: 02/08/2012

Guidelines for completion of the CAP

Clinical Bottom Line
The consensus of the reviewers on implications of the paper on clinical practice. Whilst this may be somewhat subjective, it is hoped that robust discussion, the Level of Evidence and your comments on the design will enable you to produce a practical/realistic 'bottom line'. Many of the papers in Speech Pathology may have limitations, but the Clinical Bottom line should be aimed to help clinicians apply what evidence there is.

Clinical Question
This should ideally include four components:

- the patient or problem
- the intervention (or diagnostic test or prognostic factor)
- the comparison intervention or test *(optional)*
- the outcome

Design
Refer to pages 12 to 15 of the EBPIG Resource Package for guidance in reviewing the design used.

Comments on Design
Pages 12 to 15 of the Resource Manual should again assist here. You may also find it useful to refer to the forms 'Evaluating case studies/case series' and 'Critical appraisal sheet' adapted from Dr Lil Mikuletic's (see 'Critiquing/Appraising the Evidence).

Level of Evidence
It is recommended that the paper you are reviewing be rated against the NH&MRC Levels of Evidence, as reproduced here. The levels may be updated from time to time by the NH&MRC, but use of the ratings listed here will ensure consistency across CATs and groups. These levels are listed with comments on pages 15 and 16 of the Resource Package.

LEVEL

I. Evidence obtained from a systematic review of all relevant controlled trials

II. Evidence obtained from at least one properly designed randomised controlled trial

III. **1** Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method)
2 Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group
3 Evidence obtained from comparative studies with historical control, two or more single-arm studies or interrupted time series without a parallel control group

IV. Evidence obtained from case series, either post-test or pre-test and post-test