Do preschool children with expressive phonological impairments demonstrate an improvement in speech intelligibility following integrated phonological awareness therapy versus speech production therapy alone?

**Rationale**
Children with expressive phonological impairments commonly exhibit difficulties when it comes to early literacy development, which is considered to be due to weak phonological representations. There is some debate in the literature as to the role of phonological awareness therapy as to developing phonological representations for improving speech production. Determining whether Phonological Awareness therapy causes improvements in Speech intelligibility would be beneficial information for therapy for these clients with the secondary benefit of improving literacy skills.

**Critical Appraisal**
The studies selected were all intervention studies due to the absence of systematic reviews or meta analysis. RCTs and cohort studies which were found related phonological awareness therapy to literacy skills and were irrelevant for this study.

Critical appraisal of the intervention studies was based on Aims, Participants Method, Intervention and Analysis and Outcomes.

1. Gillon has completed several studies related to this area.
   - The 2007 study was rejected due to use of the same data as her 2005 study. After appraisal the 2005 study was also rejected due to numerous methodological flaws such as issues in intervention replicability and variations in administration of intervention within controls and experimental groups. In addition, participants had variability in severity of 18.5SD most likely to influence outcomes and impact on the ability to replicate the study.
   - The Heshketh study was accepted due to a large sample size, standardised outcome measures, replicability of intervention and thorough analysis of outcomes. Weaknesses of this study included the absence of blinding and a weak allocation method.

2. The Heshketh study was accepted due to a large sample size, standardised outcome measures, replicability of intervention and thorough analysis of outcomes. Weaknesses of this study included the absence of blinding and a weak allocation method.

3. The Rvachev study also used a large sample size, explanation of intervention was explicit, 2 outcome measures both standardised. The study also used random allocation methods and made use of blinding measures.

**Search the Evidence Base**

<table>
<thead>
<tr>
<th>Cochrane Collaboration (and other databases searched for systematic/meta analysis reviews) (10 studies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key words: Phonological awareness, phonemic Reviews found for Phonological Awareness (PA) related to language and literacy skills – irrelevant for PICO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ovid, Scopus, Web of Knowledge, Google scholar (6 studies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keywords: Phonological Awareness, Speech production</td>
</tr>
</tbody>
</table>

**Inclusion/exclusion criteria**
- Age range: 3-5 Years
- Standardised measure of Speech Intelligibility
- Pre and Post outcome measures
- Use present data
- Include both therapy types
- PA therapy integrated with production therapy for experimental groups

**Included Studies (using the Cochrane framework)**

<table>
<thead>
<tr>
<th>Author</th>
<th>Methods</th>
<th>Participants</th>
<th>Intervention</th>
<th>Outcomes</th>
<th>Notes</th>
<th>Allocation Concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hesketh et al. (2000)^6</td>
<td>Longitudinal Case Control design</td>
<td>N = 61</td>
<td>ARTeclation vs METERaphonological therapy</td>
<td>Pre post + NFT</td>
<td>Metaphonological - development of phonological therapy</td>
<td>Semi random to ensure equal numbers and to match? Bias? Affect results?</td>
</tr>
<tr>
<td>Gillon (2005)^3</td>
<td>Longitudinal Case Control design</td>
<td>Matched for SES, sex</td>
<td>Complex how replicable? Control treatment?</td>
<td>Pre post + after no treat PCC</td>
<td>Multiple outcomes measured.</td>
<td>Group allocation? Administered by supervised Student SLT</td>
</tr>
<tr>
<td>Rvachev et al. (2004)^6</td>
<td>Case Control design</td>
<td>N = 34</td>
<td>Matched for SES, sex severity</td>
<td>Pre post PCC and GFTA-2 scores</td>
<td>Greater gains in articulatory accuracy although not significant</td>
<td>Random allocation Research assistant + parent</td>
</tr>
</tbody>
</table>

**References**