In adults with functional dysphonia, does a combination of direct and indirect intervention give a significantly better improvement in voice as compared to no intervention?

Introduction

Functional dysphonia is a voice disorder in which there is no organic reason² for the hoarseness of the clients voice. It can be due to vocal abuse or because of the clients occupation e.g. teaching. It can have major impacts on the clients life, especially if they require their voice for their work.

Different interventions for the treatment of functional dysphonia may include drug therapies, direct intervention (modifying the aspects of the faulty voice production) and indirect intervention (managing the contributing factors).

This PICO question aims to investigate whether a combination of direct and indirect therapy have a positive impact on the patients voice as compared to no intervention or other possible interventions.

Method

An electronic search of the databases Medline and Scopus was carried out using key words, 'functional dysphonia' and 'Intervention'.

All available articles were then considered and either excluded or included in this study.

Inclusion criteria- Randomised control trials (RCT) or systematic reviews.

Exclusion: Lower levels of evidence.

If the same data was used in different articles then the first published article was chosen.

These articles were then critically appraised using the CONSORT checklist² and summarised in the table to the right.

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<th>Authors</th>
<th>Study Design</th>
<th>Allocation Concealment</th>
<th>Participants</th>
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<tr>
<td>Bernova et al (2004)¹</td>
<td>Randomised Pilot Study.</td>
<td>Single-blinding- allocation unclear.</td>
<td>30 adults with functional dysphonia persisting for two or more weeks.</td>
<td>1) Medical treatment (20)</td>
<td>1) Voice related quality of life</td>
<td>IB</td>
<td>No significant difference in any outcomes for either intervention group.</td>
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<tr>
<td>Cardin et al (1999)⁵</td>
<td>Randomised control trial</td>
<td>Allocation inadequate</td>
<td>45 adult patients diagnosed with non-organic dysphonia</td>
<td>1) Indirect treatment (15)</td>
<td>2) Vocal Performance Questionnaire</td>
<td>IB</td>
<td>Combination of direct and indirect intervention is most effective.</td>
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<td>Gillivan-Murphy et al (2006)⁶</td>
<td>Randomised control trial</td>
<td>Unclear</td>
<td>20 teachers with self reported voice problems.</td>
<td>1) Direct and indirect intervention (9)</td>
<td>2) Voice Care knowledge (VAS)</td>
<td>IB</td>
<td>Treatment group showed significant improvement in all areas + improved voice care knowledge.</td>
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<td>Mackey et al (2001)⁷</td>
<td>Randomised control trial</td>
<td>Computer-generated- allocation adequate</td>
<td>133 adult outpatients with persistent hoarseness for at least two months</td>
<td>1) Direct and Indirect intervention (70)</td>
<td>2) no intervention (63)</td>
<td>IB</td>
<td>Voice therapy is effective in improving voice quality as assessed by self rated and observer rated methods.</td>
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<td>Rattenbury et al (2004)³</td>
<td>Randomised Controlled Trial</td>
<td>Unclear</td>
<td>50 adult patients with muscle tension dysphonia</td>
<td>1) Direct and Indirect treatment (26)</td>
<td>2) Transnasal Flexible Laryngoscopy (TFL)- assisted therapy (24)</td>
<td>IB</td>
<td>Both interventions give significant improvement. TFL is more effective than traditional voice therapy.</td>
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<td>Simber et al (2006)⁸</td>
<td>Randomised control trial</td>
<td>Drew from a hat- inadequate allocation</td>
<td>40 student teachers screened as having a voice disorder (self reporting voice symptoms or with deviant voice quality)</td>
<td>1) Direct and indirect treatment (20)</td>
<td>2) no intervention (20)</td>
<td>IB</td>
<td>Voice therapy is an effective method to treat students with mild voice disorders.</td>
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</table>

References


Results

Strong and robust evidence exists to support the use of a combined approach of direct and indirect intervention as an effective treatment of functional dysphonia.

One high quality RCT⁵ included large numbers of participants and had adequate allocation concealment. The study reported an effect of 4.1 points for combined intervention vs. no intervention.

The other five RCT's²,³,⁵,⁶,⁷ had small sample sizes and had inadequate allocation concealment which risks some bias. Two reported that voice therapy has the same effect as medical approaches¹ and the other three found a combined therapy approach is more effective than no intervention.²,³,⁶

A systematic review,² of RCT's investigating the effectiveness of voice therapy, found that there is evidence for combined voice therapy comprising some direct and indirect techniques. The forest plot below shows that the results from these RCT's favour voice therapy over no treatment. Confidence interval scores are small suggesting strong evidence, but it must be remembered that numbers in the studies were also small.⁷

Conclusions + Implications

Further research is needed to evaluate the economic benefits of TFL² as it is just as effective as comprehensive voice therapy but may prove more efficient.

Larger and more methodologically sound studies are needed to investigate further.

A combination of direct and indirect voice therapy give significantly better improvement in voice quality as compared to no intervention and should be offered as primary treatment and the best available at this time.