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Demystifying Research: Accessing & Understanding Evidence for Clinical Practice

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Demystifying Research: Accessing and Understanding Evidence for Clinical Practice

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Mary Huston, MS, CCC-SLP

WHAT IS EBP AND WHY DO WE CARE?

EBP is the integration of:
- Clinical expertise/expert opinion
- External scientific evidence
- Client/parent/caregiver values

The EBP process:
- Ask a question
- Acquire knowledge – search the literature
- Appraise the literature – is it valid
- Apply the knowledge – clinical practice
- Assess client improvement

The goal of EBP:
- Provide optimal client-centered service
- Provide dynamic integration of external evidence and clinical expertise
- Provide high-quality services

WHAT DO SLPs GATHER INFORMATION?

Theora of EBP

Why do we care about EBP?
- Research has been known to disseminate popular clinical opinion (e.g., exaggerating premature infants, facilitated communication, and the use of opium to treat diabetes)
- Backing expert opinions with research is necessary to improve the evidence base
- Using all three elements of EBP allows the clinician to avoid subjectivity and bias

How do SLPs gather information?
- Find the best evidence
- How do I find the best evidence?
- How do I evaluate the evidence I’ve found?

WHERE DO I FIND THE BEST EVIDENCE?

Databases

<table>
<thead>
<tr>
<th>Topics</th>
<th>Exhaustive</th>
<th>Quality Assurance</th>
<th>Article Summary</th>
<th>Clinical Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed</td>
<td>Medical</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ERIC</td>
<td>Education</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SpeechBITE</td>
<td>SLP</td>
<td>x</td>
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<td></td>
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<tr>
<td>ASHA’s Evidence Maps</td>
<td>SLP</td>
<td>x</td>
<td></td>
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<tr>
<td>The Informed SLP</td>
<td>SLP</td>
<td>x</td>
<td></td>
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</tr>
</tbody>
</table>

How to search a database: https://www.nlm.nih.gov/bsd/disted/pubmedtutorial

EBP Guidelines & Systematic Reviews

Some predict that EBP guidelines would substantially improve the time barrier of accessing and reading evidence for practice (Fry, 2006). Some options for SLPs:

- Autism PDC’s EBP Guide (Autism)
- ASHA Practice Portal (Speech-Language Pathology)
- ASHA SIG Perspectives Press (Speech-Language Pathology)
- ASHA’s Systematic Review (Speech-Language Pathology)
- Campbell Collaboration (Social-Economic)
- Cochrane Database of Systematic Review (Medical)
- Pearson EBP Briefs (Speech-Language Pathology)
- U.S. Department of Health & Human Services National Guideline Clearinghouse (Medical)
- What Works Clearinghouse (Education)

Statistical Analysis

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Getting Access to Evidence

Cost of articles is a barrier. Options:
- Pay for it ($12–$55 for our top journals); rent it (e.g., $6, 48 hrs)
- ASHA journals (free for members)
- Google (not Google Scholar) article title alone, then author name. If brand new, wait and try again later.
- Author’s institutional repository (aka Scholarly Commons; search www.opendoar.org)
- Visit a university; get alumni or community access
- Rent from your employer
- Author the article for it (small)

Table 1: Body of evidence matrix

<table>
<thead>
<tr>
<th>Evidence Matrix</th>
<th>How do I evaluate the evidence I’ve found?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>* Higher level of evidence: validated experimental designs, randomized controlled trials, meta-analysis, systematic reviews, outcomes-based research, meta-analyses, and reviews of the literature</td>
</tr>
<tr>
<td>Research methods that indicate higher level of evidence: * Experimental (and quasi-experimental) * Randomized control trial * Systematic review * Meta-analysis</td>
<td></td>
</tr>
<tr>
<td>EBP guidelines</td>
<td>* A statistically significant result is not necessarily an important or meaningful result! * Large sample sizes make it easier to get a statistically significant result (i.e., p &lt; .05) * We need to look at effect size — how big is important? the difference is for * A correlation does not equal causation</td>
</tr>
</tbody>
</table>

Critical Appraisal

Beware the pseudoscience!
- Science vs. Pseudoscience Checklist
- Baloney Detection Kit

Author disclosures: Murphy & Huston report no financial or non-financial conflicts of interest related to the content of this piece. Harold reports ownership of The Informed SLP.

Poster, references, and resources can be retrieved from http://digitalcommons.odu.edu/cdse_pubs/11