Speech and Hearing BC

Journal Club
Guidelines for Completion of the Critical Appraisal Form

Group Member Clinical Question

The widely-used PICO (Patient, Intervention, Comparison, Outcome) format is recommended to ensure relevance of your clinical question to your clinical situation.

P	Population	Describe the patient, patient group or problem	I.e. age, diagnosis, specific characteristics
I	Intervention/Indicator	Describe what you want to do with the population	E.g. treatment, observation, cause, prognostic factor
C	Comparison/Control	Describe alternative or comparison to the intervention (Optional)	E.g. different treatment, no treatment
O	Outcome	Describe relevant measured outcomes	E.g. improved test results, functional outcome measures, reduced discharge time

For example:
Does Melodic Intervention therapy (I) improve aphasia (O) in stroke patients (P)?

In school-aged children (P), is individual treatment (I) more effective than group treatment (C) for improving language disorders **(**O)?

For adults with hearing impairment (P), would initial prescriptive fitting (I) approximate user preferred response (O)?

For information and examples regarding PICO questions, see the Centre For Evidence Based Medicine and ASHA.

Article

Include details of the citation. For example:

> Cirrin, F.M., Gillam, R.B. (2008). Language Intervention Practices for School-Age Children With Spoken Language Disorders: A Systematic Review. Language, Speech, and Hearing Services in Schools 39: 110-137

Adapted from Paul, R., & Cascella, P. (2007). *Introduction to Clinical Methods in Communication Disorders* (2nd ed.). Baltimore: Paul H. Brookes Publishing Co.

Methods

In this section label the study design first (e.g. Case Series). Study designs are listed and described below.

1. Multiple Study Designs

A. Systematic Reviews
Systematic reviews summarize the results of existing evidence. They contain explicit inclusion criteria for studies, and answer a specific clinical question. Depending on the quality of each included study and the homogeneity of the results; systematic reviews tend to contain a high level of evidence.

2. Single Study Designs

A. Randomized Clinical Trials (RCT's)
RCT's are true experimental designs and include participants who are randomly assigned to two or more clinical intervention groups. One of the intervention groups is the comparison or control group. This group may receive no intervention, a placebo, or a standard practice intervention. These studies aim to estimate the influence of an intervention on a specific outcome. Quality RCT's provide clinicians with the strongest evidence available from a single study design.

B. Non-Randomized Clinical Trials
Non-Randomized Clinical Trials (Quasi-Experimental) include two or more intervention groups, one of which is the comparison or control group. These studies are not truly experimental because participants are not randomly assigned to groups. With non-random assignment, the opportunity for selection bias to influence outcomes is greater. Therefore, conclusions drawn from the findings of quasi-experimental studies are generally thought to be weaker than those from RCT's.

C. Single-Subject Experimental Designs
Single-subject designs focus on a participant group. Intervention variables are systematically manipulated so that inferences can be drawn between the intervention and its relationship to the outcome. Single-subject designs provide detailed information about specific individuals. Inferences about the effects of the intervention can be applied to individual participants. With single-subject studies, generalising evidence from the participants to a broader population can be limited.

D. Multiple Baselines Across Behaviours Design
This design is commonly used. It involves the measure of multiple baselines before and after a treatment. It starts with a subset of goals, and once a criterion is reached, a new subset of goals begins. This study design does not require withdrawal of an effective treatment to demonstrate causal effect. Generalizing evidence from the participants to a broader population can be limited.

E. Case Study
A single participant, event, or context is studied in depth using quantitative and qualitative data. Case studies examine complex phenomena in order to increase the understanding of them. This study design is a weak form of evidence for determining causality of intervention effects.

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F. Case Series
A case series is a collection of case studies. Case series are a weak form of evidence for making causal inferences about intervention.

See the Centre For Evidence Based Medicine for determining study design, and advantages and disadvantages of specific designs.

Next, summarize the procedure, including service delivery (who, when, where, what, and for what duration). Note what data was collected and how frequently. Describe any family involvement, if present.

Participants

Include ages, gender, number of participants, and any other pertinent characteristics.

Control or comparison group

In this body of research there is no control or comparison group in most cases. Was there a control or comparison group? Yes or no.

Outcomes

Include the results from the study in this section. If possible, the inclusion of case study outcome data can aid in illustrating results.

Strength and limitations of research

What were the strengths and limitations of the study design? Can the results be attributed causally to the intervention? If the authors commented on limitations of the study, include these here.

Validity and Clinical Importance

Mark the columns in the critical appraisal form based on your appraisal of the study. Consider the questions below to assist with your appraisal.

	Yes	*Unclear*	*No*
Is the description of the intervention sufficient enough to be put into clinical practice?			
Is the intervention feasible for clinical practice?			
Are the participants described clearly?			
Does the article include patients similar to the target population/client?			

Are individuals who collect or record data blind to the group assignments of the participants?

Are outcome measures valid and reliable?

Are dropouts accounted for?

Were effects statistically significant?

Were the effects clinically meaningful?

Is the effect size reported and interpreted?

See Dartmouth University and the Centre for Evidence Based Medicine for informative resources on in-depth appraisal of study designs.

Clinical Implications

Include the clinical bottom line and any additional comments regarding potential application of the findings into clinical practice. The clinical bottom line is the focal finding from the study, and is usually described succinctly in the abstract section. For example, 'A Core Vocabulary approach for 3-4 year old children diagnosed with inconsistent speech disorder, resulted in gains in intelligibility, accuracy and consistency of word production.'

When applying evidence-based practice to clinical practice, consider the quality of the evaluated external evidence, client perspectives and clinical expertise.

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