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Summary of Findings Tables for Joanna Briggs Institute Systematic Reviews

Developed by the Joanna Briggs Institute Levels of Evidence and Grades of Recommendation Working Party* April 2014

Introduction

There has been a push internationally to adopt the approach of the GRADE (Grading of Recommendations Assessment, Development and Evaluation) working group who have developed a grading of evidence and recommendation system that has been endorsed by many evidence-based healthcare organizations, including Cochrane, WHO, AHRQ, NICE, BMJ Clinical Evidence and SIGN, amongst others.

The approach of GRADE is not to classify findings based solely on study design but to consider other factors as well. The GRADE working group have developed a process to establish confidence in the synthesized results of quantitative research through considering issues related to risk of bias, publication bias, inconsistency, indirectness, imprecision of evidence, effect sizes, dose-response relationships, and confounders of findings. The evidence is then ranked into one of four levels (High, Moderate, Low, Very Low). This process begins with findings being assigned a pre-ranking based on their design (High = randomized controlled trials (RCTs), Low = observational studies), and then downgraded or upgraded based on the aforementioned factors. A new, more nuanced ranking can then be assigned to an individual finding or outcome. In this way, evidence from observational studies can be ranked above that of RCTs where appropriate. This score is then applied to the major results of a quantitative systematic review. Key findings and important supporting information is presented in a ‘Summary of Findings’ table (or evidence profile) within the systematic review. These ‘Summary of Findings’ tables have been shown to improve understanding and accessibility of the results of systematic reviews.

The Joanna Briggs Institute (JBI) and its collaborating entities have recently decided to adopt the GRADE approach for systematic reviews of effectiveness. However, the JBI do not conduct reviews pertaining to effectiveness alone, and have developed methodology for conducting reviews of qualitative research and text and opinion. To date, there has been no widely accepted approach to assist health care professionals and policy makers in establishing confidence in the synthesized findings of qualitative systematic reviews and to develop summary of findings for these types of reviews. To address this, a working party was established within the JBI to develop a system for establishing the confidence in the synthesized findings of qualitative research and to present this in a Summary of Findings table.
This document outlines the methods for creating a Summary of Findings table for effectiveness, qualitative and text and opinion reviews.

PLEASE NOTE: It is not compulsory for authors conducting JBI reviews to use this methodology. However, the option is available to them if they wish to do so.

**Effectiveness Reviews**

Systematic reviews should be accompanied by a Summary of Findings table. The Summary of Findings table should include the question being investigated, the population, intervention and comparison, the outcomes assessed, estimated risk or odds for categorical data or weighted means for continuous data, relative effect, sample size as well as the number of studies which contributed to the sample, the GRADE quality of evidence for each finding, and any comments (including decisions as to why the reviewers assigned the final GRADE ranking). These Summary of Findings tables can be created using the software program GRADEPro (http://tech.cochrane.org/revman/other-resources/gradepro/download) and should appear underneath the executive summary in JBI systematic reviews, following the implications for research.

To determine a GRADE quality of the evidence, the GRADE approach begins by assigning findings to one of two starting levels of quality depending on the study design. Initially, randomized trials are high quality, while observational studies are low quality. Additionally, two other levels exist; moderate and very low. This gives four levels: High, Moderate, Low and Very low. Studies can then be up- or downgraded based on certain factors.

Factors that should lead to downgrading are: Risk of bias (as determined by the JBI MASTARI critical appraisal form; -1 if serious risk of bias, -2 if very serious risk of bias), Inconsistency or heterogeneity of evidence (-1 if serious inconsistency, -2 if very serious inconsistency), Indirectness of evidence (-1 if serious, -2 if very serious), Imprecision of results (-1 if wide confidence interval, -2 if very wide confidence interval) and Publication bias (-1 if likely, -2 if very likely).

Factors that should lead to upgrading are: Large magnitude of effect (+1 level if a large effect, +2 if a very large effect), Dose response (+1 level if there is evidence of a gradient), All plausible confounding factors would reduce the demonstrated effect (+1 level) or create a spurious effect where results suggest no effect (+1 level).
Table 1: Summary of Findings Template

```
<table>
<thead>
<tr>
<th>Title</th>
</tr>
</thead>
</table>

| Bibliography: (review name) |

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>No of Participants (studies)</th>
<th>Follow up</th>
<th>Quality of the evidence (GRADE)</th>
<th>Relative effect (95% CI)</th>
<th>Anticipated absolute effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome 1 - Most critical outcome (i.e. Mortality) Measurement (i.e. all-cause mortality)</td>
<td>0 (0)</td>
<td></td>
<td>LOW</td>
<td></td>
<td>Study population</td>
</tr>
<tr>
<td></td>
<td>Study population</td>
<td>See comment</td>
<td>-</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Outcome 2</td>
<td>i.e. 247 (4 studies) 4-18 weeks</td>
<td></td>
<td>LOW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome 3</td>
<td>Measurement</td>
<td></td>
<td>LOW</td>
<td></td>
<td>due to risk of bias, inconsistency</td>
</tr>
</tbody>
</table>

*The basis for the assumed risk (e.g. the median control group risk across studies) is provided in footnotes. The corresponding risk (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

Cl: Confidence interval; RR: Risk ratio;

GRADE Working Group grades of evidence
High quality: Further research is very unlikely to change our confidence in the estimate of effect.
Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.
Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.
Very low quality: We are very uncertain about the estimate.

Example footnotes:
1 No studies assessed mortality
2 Change score in the control (continuous) group
3 Methodological limitations across studies, particularly in terms of blinding.
4 Statistical heterogeneity
```

JBI endorses GRADEPro for the development of Summary of Findings tables. All Summary of Findings tables created for JBI effectiveness reviews must use the GRADEPro software.

When developing a Summary of Findings table within GRADEPro, there are different format options for exporting the table. JBI reviews must use the Summary of Findings table (ACCP) option (Figure 1).
Figure 1: Export options within GRADEPro with the recommended format for JBI reviews highlighted.

Detailed guidance and help for creating a Summary of Findings table is available within the GRADEPro software.
http://tech.cochrane.org/revman/other-resources/gradepro/download

Further information regarding the development of Summary of Findings tables and GRADE can be found at the following websites:
http://tech.cochrane.org/revman/other-resources/gradepro/download
http://www.gradeworkinggroup.org/society/index.htm
Qualitative and Text and Opinion Reviews

Within GRADE, findings are given a pre-ranking of high (for RCTs) or low (for observational studies). As it is not appropriate to distinguish between different qualitative study designs (for example a phenomenological study or an ethnographic study) via a hierarchy, in this system all qualitative research studies start off as ‘high’ (on a ranking scale of High, Moderate, Low to Very Low). Expert opinion is pre-ranked at low.

This ranking system then allows synthesized findings to be downgraded based on their dependability and credibility. Downgrading for dependability may occur when the appraisal criteria relevant to dependability are not met (a subset of criteria from the JBI-QARI/ NOTARI critical appraisal checklist).

Five questions of the JBI-QARI checklist are viewed as specifically relating to the concept of dependability in qualitative research. These are:

- Is there congruity between the research methodology and the research question or objectives?
- Is there congruity between the research methodology and the methods used to collect data?
- Is there congruity between the research methodology and the representation and analysis of data?
- Is there a statement locating the researcher culturally or theoretically?
- Is the influence of the researcher on the research, and vice-versa, addressed?

Five questions of the JBI-NOTARI checklist were viewed as specifically relating to the concept of dependability in text and opinion.

- Does the source of the opinion have standing in the field of expertise?
- Is the opinion’s basis in logic/experience clearly argued?
- Is the argument developed analytical?
- Is there reference to the extant literature/evidence and any incongruence with it logically defended?
- Is the opinion supported by peers?

If 4-5 of the responses to these questions are yes, the synthesized finding remains at the level it is currently. If 2-3 of these responses are yes, it moves down one level (i.e. from High to Moderate). If 0-1 of these responses are yes, it moves down two levels (from High to Low, or Moderate to Very Low).

Downgrading for credibility may occur when not all the findings included in a synthesis are considered unequivocal.

- **Unequivocal:** findings accompanied by an illustration that is beyond reasonable doubt and; therefore not open to challenge
- **Credible:** findings accompanied by an illustration lacking clear association with it and therefore open to challenge
- **Unsupported:** findings are not supported by the data.
A synthesized finding can be made up of unequivocal, credible, or not supported findings, or a mixture of all. If synthesized findings come from only unequivocal findings, it can remain where it is on the ranking system. For a mix of unequivocal/credible findings, the synthesized finding can be downgraded one (-1). For credible findings, the synthesized finding can be downgraded two (-2). For credible/unsupported findings, it can be downgraded three (-3), and for not-supported findings, it can be downgraded four (-4).

The proposed system would then give an overall score of High, Moderate, Low to Very Low. This ranking can be considered a rating of ‘confidence’ in the qualitative synthesized finding, a process we have called ‘ConQual’ for short.

The Summary of Findings table includes the major elements of the review and details how the ConQual score is developed. Included in the table is the title, population, phenomena of interest and context for the specific review. Each synthesized finding from the review is then presented along with the type of research informing it, a score for dependability, credibility, and the overall ConQual score. The type of research column (i.e. qualitative) has been included to stress to users who are more familiar with quantitative research that this is coming from a different source. The Summary of Findings table has been developed to clearly convey the key findings to a reader of the review in a tabular format, with the aim being to improve the accessibility and usefulness of the systematic review (Table 1).

Table 1: ConQual Summary of Findings Example

<table>
<thead>
<tr>
<th>Synthesized Finding</th>
<th>Type of research</th>
<th>Dependability</th>
<th>Credibility</th>
<th>ConQual Score</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>People undergoing imaging often expect a health issue to be found during their scan, which can then lead to anxiety and worry</td>
<td>Qualitative</td>
<td>Downgrade 1 level*</td>
<td>Downgrade 1 level **</td>
<td>Low</td>
<td>*Downgraded one level due to dependability of primary studies **Downgraded one level due to equivocal findings</td>
</tr>
</tbody>
</table>
How to cite this document:

*The Levels of Evidence and Grades of Recommendation Working party consists of:
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The ConQual approach has been submitted for publication in an international, peer-reviewed journal.
References