Lumping versus splitting in systematic reviews: feasibility for researchers versus relevance for practice and policy?

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**Background**

A clearly defined research question is key in developing a systematic review (SR). However, within international development there is a tendency to work with very broad SR questions. This consideration in defining research questions is known as “splitting versus lumping”:

- **Splitting:** focusing on a single, well-defined intervention
- **Lumping:** broadens the scope at the intervention, outcome and study type level

**Objectives**

To reflect on the pros and cons of lumping versus splitting in a mixed-methods SR on the effectiveness and implementation of WASH (water, sanitation, hygiene) promotion programs to promote behaviour change in low and middle income countries (De Buck et al., 2017).

A lumping approach was used for the SR, including a variety of:
- Promotional interventions: community-based approaches, sanitation and hygiene messaging, social marketing, theory-based approaches
- Outcomes: behavioural factors, behaviour outcomes, health outcomes
- Methods of outcome measurement: observations versus self-reported
- Timing of outcome measurement: during, < 12 months, or > 12 months project implementation
- Study types: experimental studies ((quasi-) randomized controlled trials) and observational studies (case-control and cohort studies)

**Methods**

The **researchers’ perspective** was considered based on:
1. total time spent to conduct the SR
2. the number of included studies
3. the number of outcomes for which data were extracted

The **practitioners’ perspective** was obtained by 2 face-to-face consultations with funders, field practitioners and policy makers:
1. one during the protocol phase
2. one after the SR results were analyzed/synthesized

**Results**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Example-mixed methods SR</th>
<th>Splitting</th>
<th>Lumping</th>
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<tbody>
<tr>
<td><strong>Researchers: time and resource availability</strong></td>
<td>- Funded by 3ie and WSSCC, but co-funding (Belgian Red Cross, Effective Health Care Research Consortium) necessary</td>
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<td>- Timeline for development of SR: 12 months from protocol development to first draft SR (608 working days)</td>
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<td><strong>Researchers: capacity to deal with complexity at various stages in the SR</strong></td>
<td>- Data extraction: 70 included studies; 27 different promotional approaches; 559 different outcomes; decision to create different categories of interventions and outcomes; difficulties to sort information in correct category</td>
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<td><strong>Practitioners: innovation (the SR should not only confirm what is already known from practice)</strong></td>
<td>- Relative effectiveness of promotional approaches is important information, too narrow focus on one type of interventions will not generate innovative information</td>
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<td><strong>Practitioners: correspondence with real life situation (in reality not 1 isolated intervention is implemented)</strong></td>
<td>- WASH promotional interventions in reality are combinations of different approaches, e.g. a “train the trainer” model, where NGO technicians train local community women to promote the behaviour change through social marketing and household visits, including use of food incentives</td>
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<td><strong>Practitioners: relevance of factors influencing implementation</strong></td>
<td>- Very relevant to know barriers and facilitators of implementation, e.g. gender of implementer, involvement of the community, income generating activities</td>
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<td><strong>Practitioners: simplicity of the analysis and presentation of results</strong></td>
<td>- Difficult for practitioners to interpret results of 43 separate forest plots</td>
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**Conclusions**

It is crucial for researchers to consult with different stakeholders beforehand if they want to develop a policy-relevant SR. However, this should be balanced against time and resources available.

**References**


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