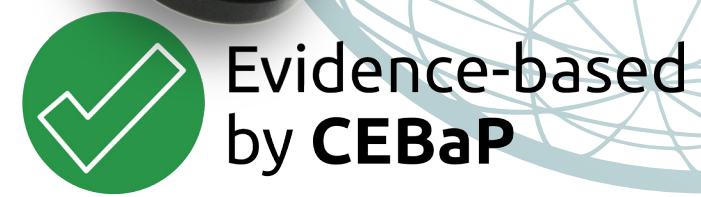


Lumping versus splitting in systematic reviews: feasibility for researchers versus relevance for practice and policy?

Emmy De Buck^{1,2}, Hans Van Remoortel¹, Axel Vande veegaete¹, Thashlin Govender³, Philippe Vandekerckhove^{2,5,6}, Taryn Young⁷

¹ Centre for Evidence-Based Practice, Belgian Red Cross, Mechelen, Belgium; ² Department of Public Health and Primary Care, Faculty of Medicine, KU Leuven, Leuven, Belgium; ³ Division of Health Systems and Public Health, Stellenbosch University, Cape Town, South Africa; ⁵ Belgian Red Cross, Mechelen, Belgium; ⁶ Faculty of Medicine and Health Sciences, Ghent University, Ghent, Belgium; ⁷ Centre for Evidence-Based Healthcare, Stellenbosch University, Cape Town, South Africa



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

Argument	Example mixed-methods SR	Splitting	Lumping
Researchers: time and resource availability	<ul style="list-style-type: none"> ■ Funded by 3ie and WSSCC, but co-funding (Belgian Red Cross, Effective Health Care Research Consortium) necessary ■ Timeline for development of SR: 12 months from protocol development to first draft SR (608 working days) 		
Researchers: capacity to deal with complexity at various stages in the SR	<ul style="list-style-type: none"> ■ 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 ■ Data synthesis: not possible to conduct meta-analyses because of high degree of heterogeneity 		
Practitioners: innovation (the SR should not only confirm what is already known from practice)	<ul style="list-style-type: none"> ■ Relative effectiveness of promotional approaches is important information, too narrow focus on one type of interventions will not generate innovative information 		
Practitioners: correspondence with real life situation (in reality not 1 isolated intervention is implemented)	<ul style="list-style-type: none"> ■ 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 		
Practitioners: relevance of factors influencing implementation	<ul style="list-style-type: none"> ■ Very relevant to know barriers and facilitators of implementation, e.g. gender of implementer, involvement of the community, income generating activities ... 		
Practitioners: simplicity of the analysis and presentation of results	<ul style="list-style-type: none"> ■ Difficult for practitioners to interpret results of 43 separate forest plots 		

Conclusions

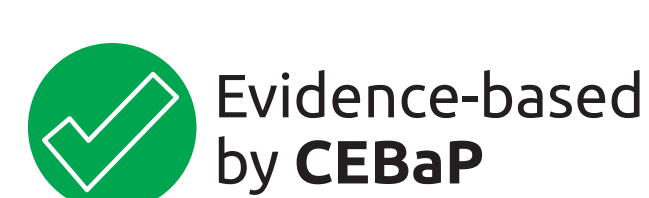
It is crucial for researchers to consult with different stakeholders beforehand if they want to develop a policy-relevant SR. However, this should be balanced against time and resources available.

References

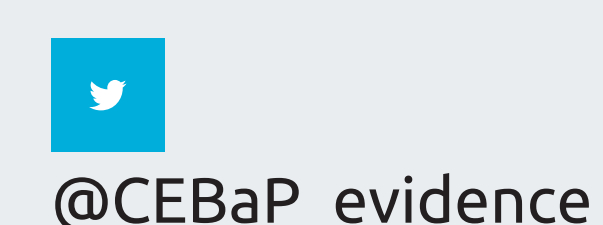
De Buck E, Van Remoortel H, Hannes K, Govender T, Naidoo S, Avau B, Vande veegaete A, Musekiwa A, Lutje V, Cargo M, Mosler H-J, Vandekerckhove P, Young T. Approaches to promote handwashing and sanitation behaviour change in low- and middle-income countries: a mixed method systematic review. *Campbell Systematic Reviews* 2017:7.

Funding

This review is supported and funded by the Water Supply and Sanitation Collaborative Council (WSSCC) in partnership with the International Initiative for Impact Evaluation (3ie), and co-funded by Belgian Red Cross and the Effective Health Care Research Consortium (this Consortium is funded by UK aid from the UK Government for the benefit of developing countries (Grant: 5242)).



More information? Belgian Red Cross, Centre for Evidence-Based Practice, Motstraat 42, B-2800 Mechelen, Belgium. Contact: emmy.debuck@cebap.org



V.u.: Philippe Vandekerckhove, Motstraat 40, 2800 Mechelen | 2017_089



Belgian Red Cross