English-Language Restriction When Conducting Systematic Review-based Meta-analyses: Systematic Review of Published Studies. A Summary of Findings

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Outline

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Introduction

Including LOE papers in a review is time consuming and costly.

There is uncertainty over whether the time needed for the retrieval and translation of papers in LOE is justified when weighed against the potential for further minimization of bias.

What is language bias?

Language bias typically refers to a systematic bias due to the selection of research findings in a particular language.

If this bias is introduced, there may be an over- or underestimation of an intervention’s effectiveness.
The Tower of Babel

There is concern that papers reporting positive results are more likely to be published in English-language journals and that papers reporting negative results are more likely to be published in non-English-language journals.

This is known as “Tower of Babel” bias or “English-language” bias.

Objectives

What is the impact of including or excluding data from primary research published in LOE on summary treatment effect estimates when conducting SR/MA?

What are the other effects associated with the exclusion of primary research published in LOE?

What are the current practices and policies of international HTA agencies, and how do they compare with the CADTH’s language policies?
Methodology

Literature Search:

• Databases searched: MEDLINE, EMBASE, BIOSIS Previews, CINAHL and the Cochrane Library.
• A grey literature search

Search Limitations:

• Articles from 1990
• Conventional medicine

“A system in which medical doctors and other healthcare professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases using drugs, radiation or surgery.”
The US National Cancer Institute
Quality Assessment

A modified Downs and Black checklist was used.

The checklist questions relate to domains of reporting and internal validity.

Results

Approximately 20,000 unique citations were found.
Results

From these 20,000 citations, 5 reports, describing 3 unique studies, were found.

Pham et al. 2005
Egger et al. 2003
Moher et al. 2003
Jüni et al. 2002
Moher et al. 2000

Data Analysis

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<tr>
<th>Study</th>
<th>Summary treatment effects</th>
<th>Methodological quality</th>
<th>Publication status</th>
<th>Statistical heterogeneity</th>
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Summary treatment effect estimates

No empirical evidence was found that showed that the exclusion of papers in LOE lead to biased estimates of an interventions effectiveness, when the intervention was conventional medicine.

Methodological and reporting quality

Conflicting findings about the methodological and reporting quality of trials that were reported in LOE compared with English trials were found.

Juni found methodological quality of non-English language trials tended to be lower than that of trials published in English.

LOE trials included fewer participants but were more likely to show statistically significant results.

English language papers reported a better frequency of allocation concealment.
Methodological quality cont

Moher's 2000 found no statistically differences between English and LOE.

His 2003 study, which used a larger dataset, detected only minor differences in the quality of reports on RCTs that were reported in English or LOE.

The reporting quality of both English language and LOE were considered to be poor, although language inclusive SR were of a higher quality than language restrictive reviews.

Publication status

Moher and Pham evaluated the potential existence of publication bias and found no major evidence of it.
Statistical heterogeneity

Moher and Pham found no significant relationship between restrictions on the language of publication and statistical heterogeneity.

Environmental scan

Our survey received 29 responses from agencies in 10 countries.

Australia, Canada, Finland, Israel, Italy, New Zealand, Singapore, Spain, UK, USA
We asked four questions:

1. What is your current policy on searching for literature in languages other than English?

2. Do you restrict your reviews to English language?

3. If you answered "yes" to question number 2, at what stage do you restrict it to English language?

4. Other information you would like to provide on this topic that is not addressed by the above questions?

HTA organizations do not restrict assessments to English-language reports at the search phase of the review process.

An article written in LOE is unlikely to be included in an assessment.
Environmental Scan (continued)

Canadian perspective:

6 out of 10 Canadian survey responders do not have a policy on languages or include LOE in the literature searches.

Environmental Scan (continued)

Canadian perspective:

Decisions to restrict research to English-language-only articles was based on:

- language capabilities of the research staff members
- timelines
- available resources for translation.
Environmental Scan (continued)

International perspective:

12 of 19 international survey responders do not impose language restrictions on the literature search.

1 organization stated that if articles that are written in LOE are found, they will be translated.

7 international survey responders limit their searches to English articles only or to languages in which staff are fluent.

Language policies depended on language capability of staff and the ability to meet tight deadlines.

Limitations

None of the included studies focused on a medical specialty.

Quality assessment of individual studies.

EMBASE was not searched in two of the included studies.
Conclusion

No compelling evidence of a systematic bias from the use of language restrictions in SR/MA of conventional medicine could be found.

More research is needed, particularly in certain medical specialties, to better understand the role of language restrictions.

Take Home Message

HOWEVER, systematic reviewers who hope to minimize the risk of producing a biased summary effect estimate should search for non-English language studies when resources and time are available.

Egger has shown that trials published in LOE are important in psychiatry, rheumatology and orthopedics.

Pam has noted that Chinese studies are crucial in molecular imaging.

At the protocol stage of an assessment, engage clinical experts to get their perspective.
问题?
Questions?
Preguntas?
Fragen?

Reference

Presentation based on the CADTH report:


http://www.cadth.ca/media/pdf/H0478_Language_Restriction_Systematic_Review_Pub_Studies_e.pdf
For More Information

CADTH web site:  www.cadth.ca