Developing a database of critically appraised systematic reviews in the field of pain management

Shelley de Kock[1], Kate Misso[1], Lisa Stirk[1], Marie Westwood[1],
Sohan Deshpande[1], Jeanette Kleijnen[1], Antony McLellan[1] & Jos Kleijnen[1,2]

[1]Kleijnen Systematic Reviews Ltd, York
[2]Maastricht University, the Netherlands

Contact Author: **shelley@systematic-reviews.com**

KSR Ltd

BACKGROUND

Despite advances in the conduct, reporting and indexing of systematic reviews (SRs), challenges remain for clinicians in understanding reported results, interpreting the essential "bottom line" and applying this to practice. The aim of KSR Pain Evidence is to be a user-friendly source of value-added critical appraisals of SR evidence in pain management. Our experience of producing this database may be of interest to advocates of evidence based practice, information specialists and librarians.

OBJECTIVE

To identify SRs on pain management from a comprehensive range of resources, in order to build a database of critically appraised SRs with clinical bottom lines to be used to support clinical practice and patient care.

METHODS

Information Specialists devised a strategy to retrieve all references on pain and pain management in Embase, Medline, Medline In-Process Citations, Medline Daily Update, the Cochrane Database of Systematic Reviews (CDSR), PsycINFO, the Allied and Complementary Medicine Database (AMED), the Database of Abstracts of Reviews of Effects (DARE) and the Cumulative Index to Nursing and Allied Health Literature (CINAHL). A sensitive SR filter was designed to maximise recall of candidate references. Searches were limited by publication date from 2010 onwards. Results were retrieved and de-duplicated using EndNote X6. Experienced Information Specialists sifted results to remove non-SR records and reviewers critically appraised the SRs using an adaption of the ROBIS tool[1]. For each review, an overall risk of bias, summary and clinical bottom line statement were written.

RESULTS

Figure 1: Percentage of included systematic reviews

- CDSR
- Medline
- In Process & Daily Update
- Embase
- PsycInfo
- CINAHL
- AMED
- DARE
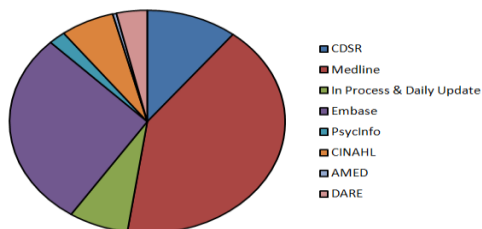
87% of results submitted for critical appraisal to the KSR Pain Evidence database came from Medline databases, Embase and CDSR. 30% of records came from databases other than Medline and Embase. (Figure 1).

Searches found 30369 records (Table 1). Following de-duplication, 14983 records were sifted for inclusion and 3389 were submitted for critical appraisal. The screening inclusion rate for the topic of pain was 23%.

Of the SRs critically appraised by reviewers so far, a significant 70% were considered to be of high risk of bias. 10% of Cochrane SRs were also found to be of high risk of bias (Figure 2).

Table 1*

Database	Total found	Total after de-duplication	Submitted for CA
CDSR	2084	1474	361
Medline	8184	5605	1412
In Process & Daily Update	826	750	237
Embase	11239	4434	960
PsycInfo	2128	1144	68
CINAHL	3322	1033	214
AMED	389	32	15
DARE	2197	511	122
TOTAL	30369	14983	3389

*Results are listed in order of download into Endnote. This means there will be proportionately fewer submitted results from DARE as this is the last set of results to be downloaded into Endnote.

Figure 2: Risk of Bias (RoB) appraisals for SRs on the topic of pain 2010-2015

Pain (n=1929)

- All SRs
- Non-Cochrane SRs
- Cochrane SRs

■ High RoB ■ Unclear RoB ■ Low RoB
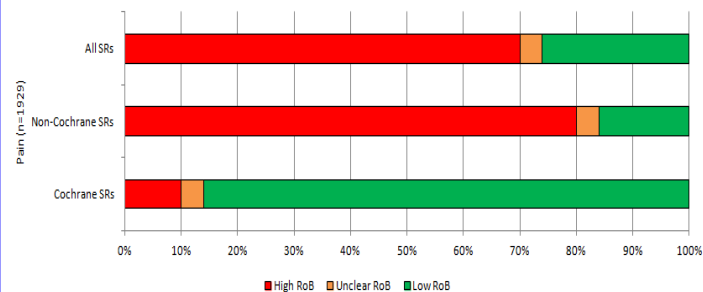
CONCLUSIONS

Comprehensive searches of multiple sources, in combination with a sensitive search strategy, are essential to ensure robust retrieval of SRs on pain. Relying only on Medline and Embase could miss 30% of SRs and meta-analyses on pain-related topics. The large number of SRs found to be of high risk of bias or unclear is of concern for clinical decision makers and validates the utility of a database such as KSR Pain Evidence.

FURTHER INFORMATION

REFERENCES

[1] Whiting P, Savovic J, Higgins JP, Caldwell DM, Reeves BC, Shea B, et al. ROBIS: A new tool to assess risk of bias in systematic reviews was developed. J Clin Epidemiol 2015.
Also see: http://www.robis-tool.info/

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