



Excluding Animal Studies from Systematic Review Searches: Can We Safely Advise Using a Non-Validated Filter?

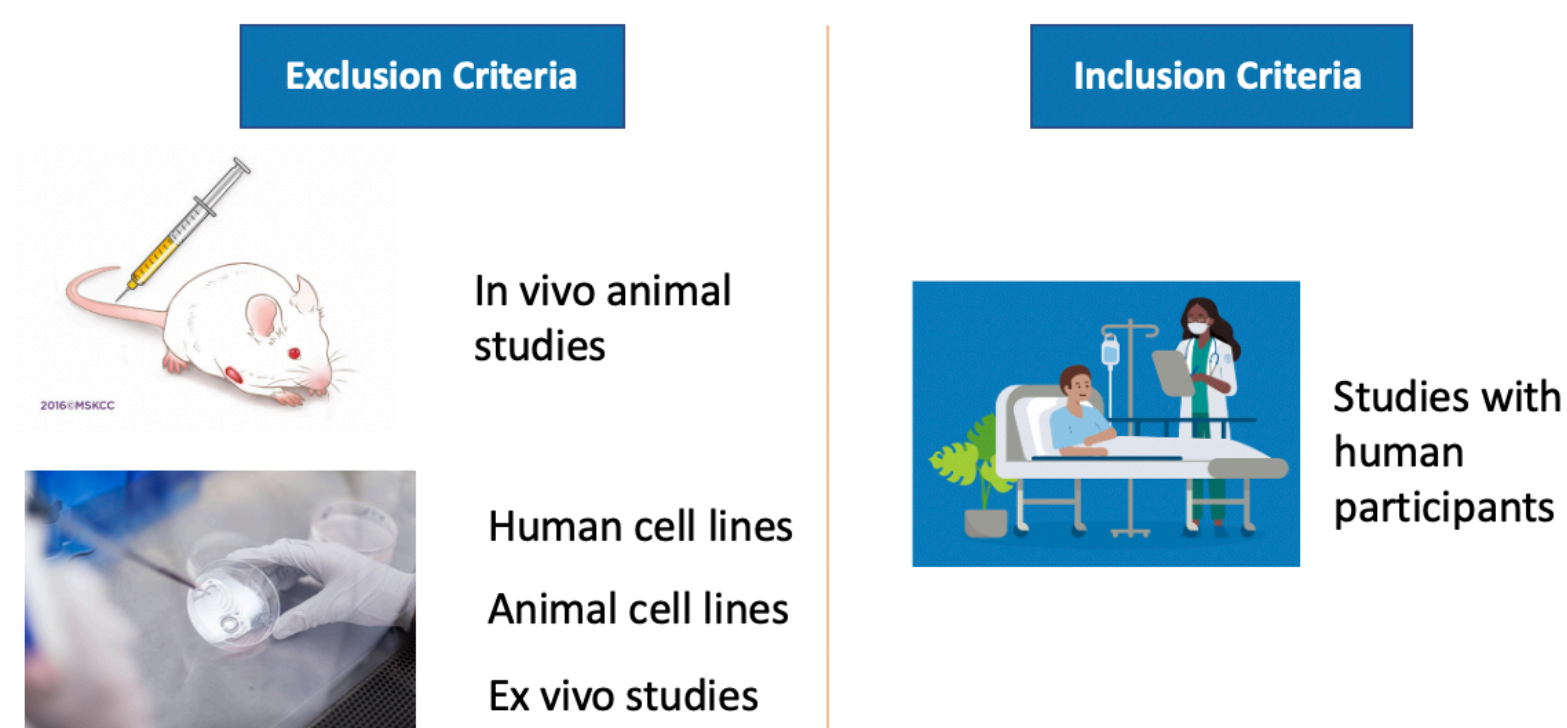
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OBJECTIVES

Literature searches for systematic reviews (SRs) should be designed rigorously to retrieve all possible evidence relevant to the research question. To ensure efficiency, they also need to balance sensitivity and specificity. While working on SR search strategies, we have often been asked to apply a filter to exclude animal studies. We set out to bring awareness to other librarians and SR teams on the rigor of applying the filter to their searches by testing three literature searches in two databases to determine whether this filter effectively retains human studies.

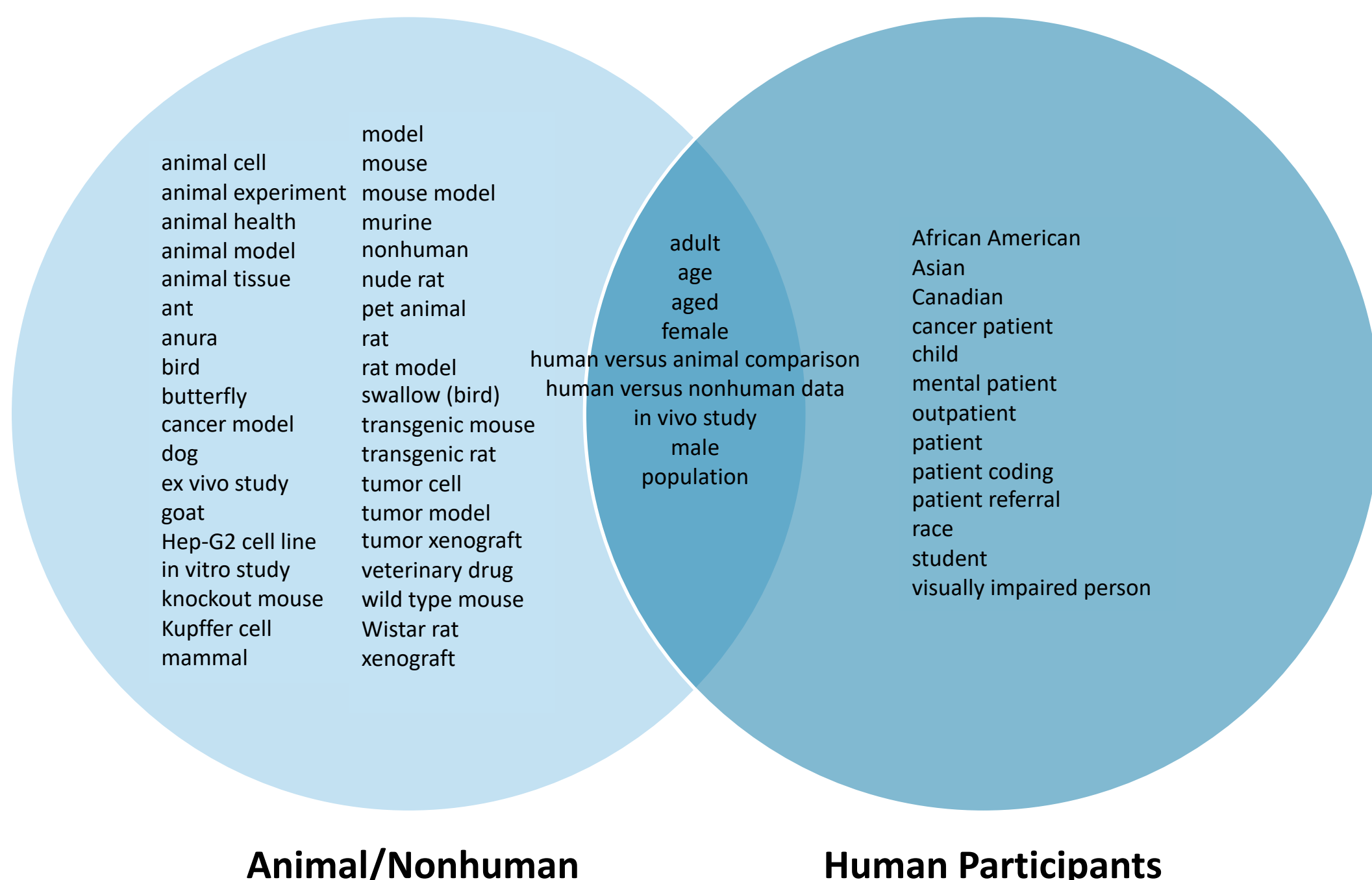


Screening was done by 2 independent reviewers to potentially identify studies with human participants wrongly excluded by the filter

RESULTS

We screened 568 records and identified 63 studies as having human participants. Of the 63 studies, 61 were from Embase (53 conference abstracts, three conference reviews, four articles, and one review), and two from MEDLINE ALL (one letter and one article). One article was incorrectly indexed in both Embase and MEDLINE ALL. Three articles were incorrectly indexed in Embase and correctly indexed in MEDLINE ALL. The letter was correctly indexed in Embase and incorrectly indexed in MEDLINE ALL.

Examples of Emtree Terms Assigned to Excluded Records



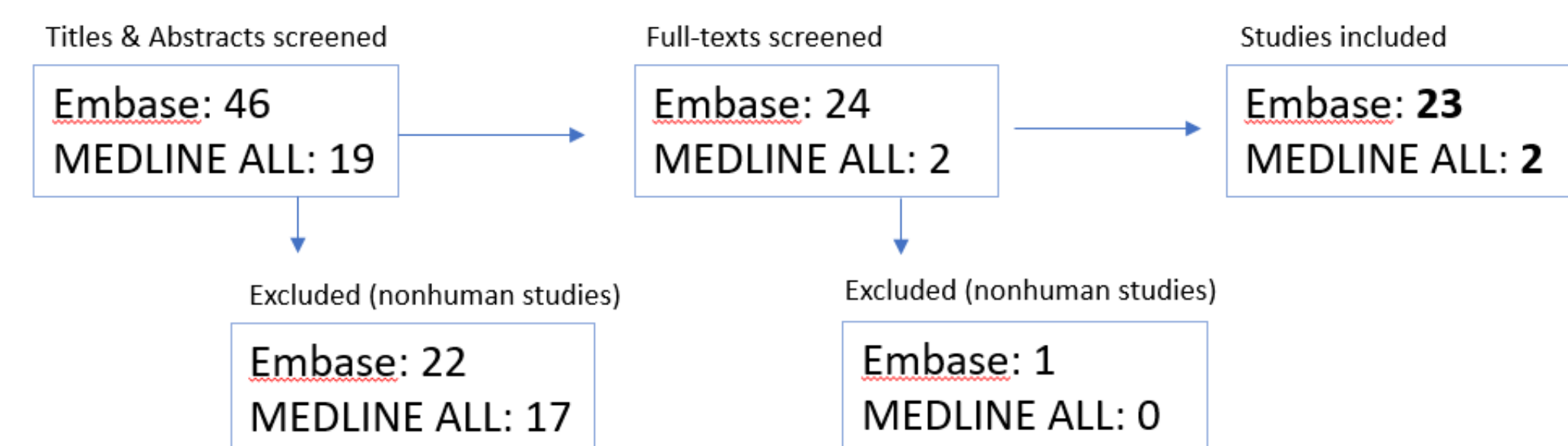
Humans Filter

Embase (Elsevier)	NOT ([animals]/lim NOT [humans]/lim)
PubMed	NOT ("Animals"[Mesh] NOT "Humans"[Mesh])
MEDLINE ALL (Ovid)	not (exp animals/ not humans.sh.)

METHODS

We tested two in-house searches from our librarians and one search from a Cochrane review. We ran each search in Embase (Elsevier) and either PubMed or MEDLINE ALL (Ovid), and adapted the filter listed in the Cochrane Handbook for each database. After running the searches with and without the filter, we exported the excluded references from each search and database instance into its own review within Covidence. Two independent reviewers screened the titles and abstracts for potential studies with human participants and conducted the full-text screening of the remaining records. Conflicts at each stage were reached by group consensus. We downloaded the Covidence data of included studies to an Excel file, extracted the subject headings from the database where each record was found, then compared this indexing with the record in other databases.

Sample of Our Workflow (Cochrane Review)



Takeaway for Librarians and SR Teams:

Including conference abstracts? Do not use this filter.

CONCLUSIONS

Our small sample set of 63 studies did not reveal one subject heading that could be added to the filter to improve performance. As most of the wrongly excluded studies are conference abstracts from Embase, using the filter would be a lesser problem for SR teams excluding conference abstracts. SR teams should be aware that all Embase articles undergo automatic indexing when in press or in process, but conference abstracts do not undergo later manual indexing. The issue with wrongly excluded studies that are not conference abstracts might be mitigated by searching across multiple databases.

A comprehensive guide to [Embase](https://www.elsevier.com/_data/assets/pdf_file/0010/901693/Embase-indexing-guide-2021.pdf) indexing policy. Retrieved from https://www.elsevier.com/_data/assets/pdf_file/0010/901693/Embase-indexing-guide-2021.pdf

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