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Introduction

Currently, no guidance exists on database selection for systematic reviews (SRs) for the Japanese Ministry of Health, Labour and Welfare (MHLW)

SRs of biomedical interventions rely on searching a core set of databases, informed by The Cochrane Handbook, namely: MEDLINE, Embase, and Cochrane CENTRAL (referred to as the 'core databases')

A study by Kojimahara et al, 2015¹ recommended adding a search of a Japanese databases to identify Japanese studies

We explored the hypothesis that searching the core databases and/or only searching in English-language for an SR of Japanese literature may miss studies

Methodology

Study identification

Searches were undertaken in English in the core databases (MEDLINE [via Ovid], Embase [via Ovid], Cochrane CENTRAL [via Wiley]) and CiNii Articles, and in Japanese in Cochrane CENTRAL, CiNii Articles and Ichushi-Web. As confirmed with Ovid, MEDLINE and Embase can not be searched in Japanese language.

Study selection

Based on a pre-defined inclusion criteria, two researches independently screened title/abstract and full texts of records. Studies reported in Japanese were reviewed by Japanese speakers. Disagreements over study eligibility were resolved by a third researcher.

Analysis

We compared the number of studies identified uniquely by:

1. searching CiNii Articles and Ichushi-Web compared with the core databases
2. searching in English language (MEDLINE, Embase, Cochrane CENTRAL, CiNii Articles) compared with Japanese language (Cochrane CENTRAL, CiNii Articles and Ichushi-Web)

The unit of analysis in both comparisons was the number of studies identified uniquely. For comparison 1, this was defined as where we identified a study by searching one database which could not have been identified by another database; and for comparison 2, where a study was identified in one language but not the other.

Results

Based on the inclusion criteria, 13 studies were included after screening.

The effect on study identification of searching CiNii Articles and Ichushi-Web compared with the core databases

Of these 13 included studies:

- 4 studies were identified uniquely by searching CiNii Articles
- 1 study was identified uniquely by searching Ichushi-Web
- 5 studies were identified uniquely by searching the core databases
- 1 study was identified by both CiNii Articles and Ichushi-Web
- 2 studies were identified by both Ichushi-Web and the core databases

Figure 1 shows the distribution of the search results across the databases.

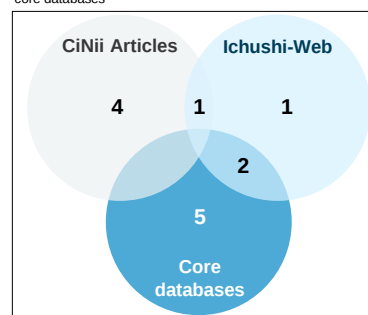
The effect on study identification by searching in English language compared with Japanese language

Of these 13 included studies:

- 2 studies were identified uniquely by the Japanese search
- 9 studies were identified uniquely by the English search, including in the Japanese databases
- 2 studies were picked up by both English and Japanese searches

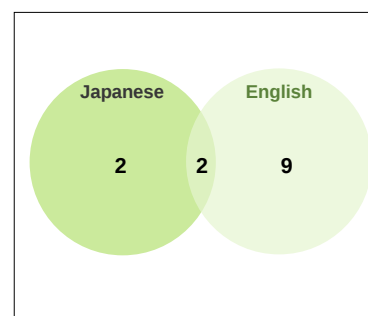
Figure 2 shows the distribution of studies identified by English, Japanese and both languages.

Figure 1. Comparison 1 - Number of included studies identified by CiNii Articles and Ichushi-Web in addition to core databases



Notes: Core databases includes MEDLINE, Embase and Cochrane CENTRAL.

Figure 2. Comparison 2 - Number of included studies identified by English and Japanese-language searches



Notes: Ichushi-Web was searched in Japanese language only. MEDLINE and Embase were searched in English-language only. Cochrane CENTRAL and CiNii Articles were searched in both languages.

References: 1. Kojimahara N, Kawai F, Morizane T. How do the search results of the Ichushi-Web influence systematic review? The case of rapid influenza diagnostic tests (RIDTs). In: Filtering the information overload for better decisions. Abstracts of the 23rd Cochrane Colloquium; 2015 3-7 Oct; Vienna, Austria. John Wiley & Sons; 2015; 2. https://support.nii.ac.jp/en/cia/manual_keyword; 3. <https://help.jamas.or.jp/houjin/myichuAbout.html>

Insights on searching Japanese databases

	CiNii Articles	Ichushi-Web
About	A bibliographic database that contains articles published in academic society journals, university research bulletins and articles	A bibliographic database that contains citations and abstracts from more than 2,500 biomedical journals and other serial publications
Ease of searching	• Provides a basic and advanced search interface, with a search guide² available in English • Supports both English and Japanese language searches as well as Boolean and Phrase searches • Returns search results without delay • Allows to export data for selected records into bibliographic tools or RIS files • Provides quick and helpful responses to queries through the 'contact us' form in English	• Provides a search interface through which a search across bibliographic fields can be undertaken. • A combined title/abstracts OR search fields is possible for literature reviews • Provides a search guide³ in Japanese that can be easily translated using a Google Translate overlay • Provides a search interface in Japanese, that can be easily translated using a Google Translate overlay • Allows to export selected records as RIS files. One export can contain up to 200 records, so searches may need to be exported in batches • Provides quick and helpful responses to queries through the 'contact us' form in English
Cost	Free	Starting subscription ¥275,000 yen (approx. \$2,039 [US] or £1,644 [GBP])

Conclusion

Searching CiNii Articles and Ichushi-Web in English and Japanese enabled us to identify eligible studies that would have been missed in searches of MEDLINE/Embase/Cochrane CENTRAL alone.

Therefore, researchers who are looking to identify studies that were conducted in Japan or reported in Japanese, and those undertaking SRs to inform submissions to MHLW in Japan should consider including searches of Japanese databases in their search strategy.

More broadly, these findings may also demonstrate the potential of searching non-standard bibliographic databases and in languages other than English. Further research is required to generalise these findings to other languages and regions.

In conclusion, this study suggests that an SR of Japanese literature necessitates the inclusion of Japanese language and Japan-specific databases.