Sensitivity & specificity of 5 trial registers used by the Cochrane Skin Group

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Background

• Cochrane review authors are required to search trials registers for relevant trials to avoid missing unpublished evidence.
• The Cochrane Skin Group advises review authors to search:
  1. metaRegister of controlled trials (mRCT),
  2. ClinicalTrials.gov (CT),
  3. World Health Organization International Clinical Trials Registry Platform (ICTRP),
  4. Australian New Zealand Clinical Trials Registry (ANZCTR),
  5. EU Clinical Trials Register (EUCTR).
• However, searching multiple trial registers is a tedious task.
Objective

• To compare the sensitivity and specificity of the five trial registers used by the Cochrane Skin Group in identifying relevant studies.
Methods

• The five registers were searched for relevant studies for two Cochrane reviews* that the author was involved.

• The sensitivity of a register was defined as below:

\[
\text{Sensitivity} = \frac{\text{relevant trials identified in a register}}{\text{all relevant trials}}
\]

\[
\text{Specificity} = \frac{\text{relevant trials identified in a register}}{\text{all trials identified in a register}}
\]

*The two Cochrane reviews are:
Results

• A total of 7 and 48 trials relevant to the first and second Cochrane review were identified, respectively.

• For the first Cochrane review, the sensitivity for mRCT, CT, ICTRP, ANZCTR, and EUCTR was 57%, 57%, 86%, 0%, and 43%, respectively. The specificity was 100%, 80%, 75%, NA, and 75%, respectively. A completed and published trial was mislabelled as ‘recruiting’ or ‘unknown’ in the mRCT, CT, and ICTRP.

• For the second Cochrane review, the sensitivity for mRCT, ClinicalTrials.gov, ICTRP, and ANZCTR was 40%, 56%, 81%, 2%, and 25%, respectively. The respective specificity was 76%, 79%, 100%, 3%, and 100%. A completed trial was mislabelled as ‘active, not recruiting’ in the mRCT.
• Overall, the ICTRP was the best, while the ANZCTR was the worst.

• Apparently, no single trial register encompasses all relevant trials and provide correct information about study status.

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity in review #1</th>
<th>Sensitivity in review #2</th>
<th>Specificity in review #1</th>
<th>Specificity in review #2</th>
<th>Study status correctly labeled in review #1</th>
<th>Study status correctly labeled in review #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>mRCT</td>
<td>4/7 (57%)</td>
<td>19/48 (40%)</td>
<td>4/4 (100%)</td>
<td>19/25 (76%)</td>
<td>3/4 (75%)</td>
<td>18/19 (95%)</td>
</tr>
<tr>
<td>CT</td>
<td>4/7 (57%)</td>
<td>27/48 (56%)</td>
<td>4/5 (80%)</td>
<td>27/34 (79%)</td>
<td>3/4 (75%)</td>
<td>27/27 (100%)</td>
</tr>
<tr>
<td>ICTRP</td>
<td>6/7 (86%)</td>
<td>39/48 (81%)</td>
<td>6/8 (75%)</td>
<td>39/39 (100%)</td>
<td>5/6 (83%)</td>
<td>5/5 (100%)</td>
</tr>
<tr>
<td>ANZCTR</td>
<td>0/7 (0%)</td>
<td>1/48 (2%)</td>
<td>0/0 (NA)</td>
<td>1/34 (3%)</td>
<td>NA</td>
<td>1/1 (100%)</td>
</tr>
<tr>
<td>EUCTR</td>
<td>3/7 (43%)</td>
<td>12/48 (25%)</td>
<td>3/4 (75%)</td>
<td>12/12 (100%)</td>
<td>3/3 (100%)</td>
<td>12/12 (100%)</td>
</tr>
</tbody>
</table>
Portal

• Only simple search: mRCT
• Advanced search provided by CT, ICTRP, ANZCTR, and EUCTR
• Lacking search history, not as powerful as bibliographic databases
Search results

• Various formats.
• None could be exported to references manager softwares, such as EndNote.
Study status

- No trial registers provided complete correct information about the study status.
- A trial already published in June 2011 was still labelled as ‘recruiting’ in mRCT and CT.
Limits

• The limitation of this result was based on the searching exercise for two Cochrane reviews that the authors were involved.
Bottom line

• Authors should keep current strategy of searching all trial registers, and recheck the status information provided by trial registers.

• There is room for improvement of the sensitivity and the accuracy of trial status information by frequent updating and collaboration between registers.
Abstract submission from 15 Feb, 2014
Very early registration by 31 March, 2014
early registration by 30 June, 2014

MORE INFORMATION, PLEASE SEE
www.isehc2014.tw

Host: Taipei Medical University
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