Supplemental Appendix 1: Search Strategy

MEDLINE Search

Search strategy for statins and short-term cognition – RCT's only

Date of search: 4/25/2013; Number of results: 105

Search strategy:


AND


AND

"randomized controlled trial"[Publication Type] OR "controlled clinical trial"[Publication Type] OR "randomized"[Title/Abstract] OR "placebo"[Title/Abstract] OR "randomly"[Title/Abstract] OR "clinical trials as topic"[mesh:noexp] OR "trial"[Title] OR "systematic review"[Title/Abstract]

Then re-run search to combine with check-tags, then "OR" the two searches together.

Search strategy for statins and long-term cognition

Date of search: 4/25/13; Number of results: 650

Search strategy:

AND


Cochrane Database Search:

Date of Search: 4/25/2013; Number of results: 152

Please contact the corresponding author for search strategy details.

EMBASE Search:

Date of search: 4/25/2013; Number of results for statins and short-term cognition: 628; Number of results for statins and long-term cognition: 2746

Please contact the corresponding author for search strategy details.
Supplemental Appendix 2: Illustration of Digit Symbol Substitution Test (DSST)

**Code:**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
</table>

**Response:**

<table>
<thead>
<tr>
<th>7</th>
<th>8</th>
<th>7</th>
<th>1</th>
<th>9</th>
<th>4</th>
<th>6</th>
<th>2</th>
<th>5</th>
</tr>
</thead>
</table>

A code is provided showing a corresponding symbol with each number. Participants are presented with numbers and are asked to reproduce the matched symbol in the blank space below the number.
Supplemental Appendix 3: Example of Bias Table for Short-term Cognition


<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
<th>Judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequence Generation</td>
<td>Quote: “randomized, double-blind, placebo-controlled, 2-period incomplete block crossover study”</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Allocation Concealment</td>
<td>Matching placebo</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Blinding of participants, personnel, and outcome assessors</td>
<td>Quote: “double-blind” Comment: Probably done</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Incomplete outcome data</td>
<td>Only one participant did not complete the study and was excluded from analysis</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Selective outcome reporting</td>
<td>All outcomes for remaining participants reported as mean (standard deviation)</td>
<td>Low Risk</td>
</tr>
<tr>
<td>Other sources of bias</td>
<td>Supported by grant from Merck</td>
<td>High Risk</td>
</tr>
</tbody>
</table>
Supplemental Appendix 4: Revised Newcastle Ottawa Scale for Cohort Study

Note: a study can be awarded a maximum of one star for each numbered item within the selection and exposure categories. A maximum of two stars can be given for comparability.

Selection

1) Representativeness of the exposed cohort
   a. Truly representative of the average community-dwelling individual >65 with average cardiovascular risk*
   b. Somewhat representative of the above in the community*
   c. Selected group of users e.g. nurses, volunteers
   d. No description of the derivation of the cohort

2) Selection of the non-exposed cohort
   a. Drawn from the same community as the exposure cohort*
   b. Drawn from a different source
   c. No description of the derivation of the cohort

3) Ascertainment of exposure
   a. Direct observation, inspection of medicine bottles, in-home assessment*
   b. Record linkage or pharmacy database*
   c. Patient report or any method reliant on a single assessment of exposure (not followed beyond baseline exposure)
   d. No description

4) Demonstration that outcome of interest was not present at start of the study
   a. Yes *
   b. No
Comparability

1) Comparability of cohorts on the bases of the design or analysis
   a. The study controlled for at least two factors related to dementia (diabetes mellitus, hypertension, cardiovascular disease)*
   b. The study addressed indication bias by use of a propensity score or controlling for at least 2 factors associated with statin use (education, SES, self-rated quality of life)*

Outcome

1) Assessment of outcome
   a. Independent blind assessment*
   b. Assessment made without reference to blinding
   c. Record linkage*
   d. No description

2) Was follow-up long enough for outcomes to occur
   a. Yes, greater than or equal to 5 years*
   b. No, less than 5 years

3) Adequacy of follow up of cohorts
   a. Complete follow up – all subjects accounted for *
   b. Subjects lost to follow up unlikely to introduce bias – small number lost - > 90% follow up, or description provided of those lost*
   c. Follow up rate < 90% and no description of those lost
   d. No statement