Supplementary File 3

Summary Cochrane tool for risk of bias assessment

The Cochrane Handbook for Systematic Reviews of Interventions (1), and specifically a modified version of the Cochrane tool for assessing risk of bias was used. The following criteria were used to assess the bias of the included studies. Because the interventions evaluated in these studies were behavioural interventions, the criterion ‘Blinding participant, personnel and outcome assessors’ was considered impossible to be met for the participants and the personnel delivering the intervention. However, it is possible that outcome assessors and study personnel can be blinded to group allocation.

Table C.1: Cochrane tool for risk of bias assessment

<table>
<thead>
<tr>
<th>RANDOM SEQUENCE GENERATION</th>
<th>+</th>
<th>The study was reported as Low risk of Bias if the investigators describe a random component in the sequence generation process such as:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• Referring to a random number table</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Using a computer random number generator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Coin tossing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Shuffling cards or envelopes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Throwing dice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Drawing of lots</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Minimization</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>The study was reported as criterion High risk of Bias if the investigators describe a non-random component in the sequence generation process. Such as:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sequence generated by odd or even date of birth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sequence generated by some rule based on date (or day) of admission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sequence generated by some rule based on hospital or clinic record number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allocation by judgement of the clinician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allocation by preference of the participant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allocation based on the results of a laboratory test or a series of tests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Allocation by availability of the intervention</td>
</tr>
<tr>
<td></td>
<td>?</td>
<td>The study was reported as Unclear risk of Bias if insufficient information about the sequence generation process was reported to permit a judgement of ‘low risk’ or ‘high risk’</td>
</tr>
</tbody>
</table>

| ALLOCATION CONCEALMENT | + | The study was reported as Low risk of Bias if participants and investigators enrolling participants could not foresee assignment because one of the following, or an |
equivalent method was used:
- Central allocation (including telephone, web-based and pharmacy-controlled randomization)
- Sequentially numbered, opaque, sealed envelopes

The study was reported as **High risk of Bias** if participants or investigators enrolling participants could possibly foresee assignments, due to allocation based on:
- Using an open random allocation schedule (e.g. a list of random numbers)
- Assignment envelopes were used without appropriate safeguards (e.g. if envelopes were unsealed or non-opaque or not sequentially numbered)
- Alternation or rotation
- Date of birth
- Case record number
- Any other explicitly unconcealed procedure

The study was reported as **Unclear risk of Bias** if insufficient information was reported to permit a judgement low risk’ or ‘high risk’

**BLINDING OF PARTICIPANTS, PERSONNEL AND OUTCOME ASSESSORS**

+ The study was reported as **Low risk of Bias** if outcome assessors and study personnel were blinded

- The study was reported as **High risk of Bias** if there was no blinding of either the outcome assessors or the study personnel

? The study was reported as **Unclear risk of Bias** if insufficient information was reported to permit a judgement of ‘low risk’ or ‘high risk’

**INCOMPLETE OUTCOME DATA**

+ The study was reported as **Low risk of Bias** if:
  - There were no missing outcome data
  - Reasons for missing outcome data unlikely to be related to true outcome
  - Missing outcome data balanced in numbers across intervention groups, with similar reasons for missing data across groups
  - Missing data have been imputed using appropriate methods

- The study was reported as **High risk of Bias** if:
  - Reason for missing outcome data likely to be related to true outcome, with either imbalance in numbers or reasons for missing data across intervention groups
  - ‘As-treated’ analysis done with substantial departure of the intervention received from that assigned at randomization
  - Potentially inappropriate application of simple imputation

? The study was reported as **Unclear risk of Bias** if there was insufficient information about attrition/exclusion to permit a judgement of ‘low risk’ or ‘high risk’

**SELECTIVE REPORTING**

+ The study was reported as **Low risk of Bias** if:
The study protocol is available and all of the study’s pre-specified outcomes that are of interest in the review have been reported in the pre-specified way
- The study protocol is not available but it is clear that the published reports include all expected outcomes, including those that were pre-specified

- The study was reported as **High risk of Bias** if:
  - Not all of the study’s pre-specified primary outcomes have been reported
  - One or more primary outcomes have been reported using measurements, analysis methods or subsets of the data that were not pre-specified
  - One or more reported primary outcomes were not pre-specified
  - One or more outcomes of interest in the review have been reported incompletely so that they cannot be entered in a meta-analysis
  - The study report failed to include results for a key outcome that would be expected to have been reported for such a study

? The study was reported as **Unclear risk of Bias** if there was insufficient information available to permit a judgement of ‘low risk’ or ‘high risk’

### OBJECTIVE OUTCOME ASSESSMENT

**+** The study was reported as **Low risk of Bias** if the outcome was assessed by an objective measure. Objectivity of the outcome measurement was subject to judgement related to the behaviour of interest. For physical activity, measures such as accelerometers, doubly-labelled water etc; for medication adherence, biochemically validated measures or monitoring of medication records by a pharmacist or pill count not conducted by the patient; and for alcohol and diet, only biochemically validated measures

**-** The study was reported as **High risk of Bias** if the outcome was assessed only by subjective measures such as diaries, questionnaires and recall interviews

? The study was reported as **Unclear risk of Bias** if there was insufficient information about the outcome measures to permit a judgement of ‘low risk’ or ‘high risk’

### OTHER BIAS

**+** The study was reported as **Low risk of Bias** if the study appears to be free of other sources of bias

**-** The study was reported as **High risk of Bias** if there is at least one important source of bias

? The study was reported as **Unclear risk of Bias** if there is either insufficient information to assess whether an important risk of bias exists or insufficient rationale or evidence that an identified problem will introduce bias