A systematic review of the maintenance effects of physical activity randomised controlled trials in healthy and ‘at risk’ older adults: LiveWell

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Citation

Review question(s)
Are physical activity interventions effective in changing physical activity behaviour?
What features of physical activity interventions are associated with intervention effectiveness in terms of changing behaviour?
What features of physical activity interventions are associated with intervention effectiveness in terms of maintenance of behaviour change?

Searches
The following databases were searched from January 2000 until December 2011:
Cochrane Central Register of Controlled Trials (CENTRAL) MEDLINE EMBASE PsycINFO CINAHL Web of Science Scopus ASSIA

Only records with an English language abstract will be assessed for eligibility.

Types of study to be included
Inclusion - randomised controlled trials.
Exclusion - non-randomised or quasi-randomised trials.

Condition or domain being studied
Physical activity behaviour.

Participants/ population
Inclusion - mean or median age of 55-70 years; healthy or at risk of disease i.e., hypertension, impaired glucose tolerance, overweight/obese, hyperlipidemia, dyslipidemia, family history of disease, metabolic syndrome, osteopenia etc.
Exclusion - recruited on the basis of a having a pre-existing chronic or acute medical condition; recruited on the basis of taking medication; institutionalised i.e., living in residential homes, nursing homes or being a hospital inpatient.

Intervention(s), exposure(s)
Inclusion - any interventions of any type of physical activity behaviour.
Exclusion - high performance training i.e., marathon runners and lab-based exercise intervention studies.

Comparator(s)/ control
Inclusion - Interventions could be compared with a no intervention control group, attention control (receiving attention
matched to length of intervention (e.g. general health check) and/or another intervention.
Exclude - interventions where the control or comparator intervention group did not measure physical activity.

**Context**
A study of a free-living, community-dwelling population, originating from a country of "high human development" (United Nations Human Development Index).

**Outcome(s)**

**Primary outcomes**
Objective or self-reported measure of physical activity behaviour.
Exclusion - physiological measures of physical activity i.e., energy expenditure, V02 max etc.
Studies with a follow up of at least 12 months after randomisation.

**Secondary outcomes**
Other behavioural outcomes related to lifestyle will be described and discussed but not included in data analyses i.e, diet, smoking, alcohol and social factors.
Studies with a follow up of at least 12 months after randomisation.

**Data extraction, (selection and coding)**

**Study Selection**
Eligible studies will be selected according to inclusion/exclusion criteria based on title and abstract. Two reviewers will independently assess all the articles. When it is unclear whether the study meets the inclusion criteria, the full text will be retrieved to clarify doubts. If there is disagreement between reviewers about studies to be included, a third reviewer will resolve discrepancies. Excluded studies and reasons for exclusion will be documented.

**Data extraction**
One reviewer will extract the data and enter it onto a data extraction form, another reviewer will check the data extracted. If there is any disagreement during this procedure, a third reviewer will resolve discrepancies. One reviewer will enter data into RevMan and another reviewer will independently verify it. No blinding procedures will be used for data pertaining author's names, journal or institutions. The information extracted from each study and presented in the 'characteristics of included studies' table will be described in the following structure:
1) Study design details
   - Country
   - Method of recruitment and sampling
   - Units of randomization
   - Flow diagram
   - Follow up duration
   - Appropriate analysis
2) Participants
   - Type of population and setting
   - Inclusion and exclusion criteria
   - Baseline characteristics
   - Recruitment rates
   - Attrition rates at follow up
   - Intention to treat analysis
3) Measurement description
   - Type of measurement
   - Evaluation points
4) Outcomes evaluated
   - physical activity behaviours
   - other health and social behaviours
5) Features of interventions
   - Davidson (2003) criteria for reporting evidence based behavioral medicine
   - behaviour change techniques
   - theory

**Risk of bias (quality) assessment**
Two reviewers will independently assess methodological quality of the studies included before analysis. Methodological quality will be appraised using the Cochrane risk of bias tool covering the quality of random allocation concealment, description of withdrawals and dropouts, intention-to-treat-analysis, and blinding of participants, intervention providers
and outcome assessors. Each quality criterion will be assessed for risk of bias in the following way: ‘low risk for bias’, ‘unclear risk for bias’ and ‘high risk for bias’. All data on quality gathered will be tabulated and accompanied by a description of quality for each study.

**Strategy for data synthesis**
A descriptive summary of all included studies will be provided. From our current knowledge of different types of outcomes (i.e. dichotomous and continuous), appropriate statistical techniques will be used for each (i.e. odd ratios and mean/standard mean difference, respectively).

We intend to conduct meta-analyses to calculate pooled effect sizes across studies.

**Analysis of subgroups or subsets**
Subgroup analyses based on the following characteristics are anticipated: study quality; length of follow up assessment; type of comparators; frequency of assessing physical activity behaviour; type and properties of physical activity behaviour assessment; direct vs, indirect feedback from physical activity assessment tool; behaviour change features (techniques, delivery and theory etc.).

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**Conflicts of interest**
None known

**Language**
English

**Country**
England

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Subject indexing assigned by CRD

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Aged; Aged, 80 and over; Exercise; Humans; Randomized Controlled Trials as Topic

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