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## Approaches to increase physical activity: reviewing the evidence for exercise-referral schemes

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### CRD summary

This review assessed the effectiveness of exercise-referral schemes on levels of physical activity. These schemes appeared to increase physical activity in certain populations, but this increase may not persist over time. The quality of the included studies and possible biases in the review process mean that the results are unlikely to be reliable.

### Authors' objectives

To review the effectiveness of exercise-referral schemes.

### Searching

MEDLINE (1966 to 2002), EMBASE (1980 to 2002) and CINAHL (1982 to 2002) were searched for English language papers. Some of the keywords used were listed in the review. The reference lists of the identified studies were checked.

### Study selection

#### Study designs of evaluations included in the review

Controlled studies that were experimental or quasi-experimental were eligible for the review. The included studies were both randomised and non-randomised.

#### Specific interventions included in the review

Studies with interventions based in a primary care setting that aimed to provide access to exercise activities and/or facilities were eligible for inclusion. No inclusion criteria for the control intervention were stated. The included studies involved a range of interventions, such as financial incentives to attend leisure facilities, personalised exercise programmes, access to exercise groups, group- or home-based exercise programmes or classes, motivational interventions and prescribed exercise instructions. The control interventions included written information or other advice, and some exercise interventions in those studies where the intervention group received additional motivation or reinforcement methods.

#### Participants included in the review

No inclusion criteria for the participants were stated. All of the included participants were adults, ranging from a mean age of 34 years to older than 80 years. Most studies included healthy, sedentary participants, but one study included those who were hypertensive, overweight or smokers.

#### Outcomes assessed in the review

Studies that assessed physical activity or adherence were eligible for inclusion. The included studies used the following outcomes: self-reported physical activity levels, adherence to allocated physical activity, or attendance at allocated sessions. Some studies also reported on fitness levels, lipid or cholesterol levels, weight and blood-pressure.

#### How were decisions on the relevance of primary studies made?

The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

### Assessment of study quality

The author did not state that they assessed validity. The Scottish Intercollegiate Guidelines Network (SIGN) framework was used to assess the level of evidence provided by each study, based on the likely level of bias. The author did not state how this assessment was performed.

### **Data extraction**

The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

### **Methods of synthesis**

#### **How were the studies combined?**

Each study was described individually, but the results were not synthesised.

#### **How were differences between studies investigated?**

The studies were described according to whether they were UK-based or not.

### **Results of the review**

Nine studies (3,162 participants) were included in the review. Four studies (1,886 participants) were UK-based. An additional two studies appeared to meet the inclusion criteria but were excluded because of 'insufficient quality' and 'insufficient information about the control group'.

Six studies scored low on the SIGN scale ('high risk of bias'), two scored in the middle ('low risk of bias') and for one study no level was reported.

In three of the four UK-based studies, significant benefits were seen in the intervention compared with the control group at the first point of follow-up but, in general, these benefits were not sustained long term. One of the five non-UK-based studies reported a significant benefit of the intervention compared with the control.

### **Authors' conclusions**

Exercise-referral schemes appeared to increase physical activity levels in certain populations, but this increase may not persist over time.

### **CRD commentary**

This review answered an identified research question which was defined in terms of the intervention and outcomes; the criteria for study design and participants were not defined. However, two studies that fulfilled the inclusion criteria appear to have been excluded for other reasons. The reviewers searched several literature sources for published data, but do not appear to have sought unpublished studies, and restricted the search to studies published in English; the chance of publication and language biases is therefore high. The author did not report whether appropriate steps were taken to reduce the risk of bias and errors during the study selection, validity assessment and data extraction processes. Quality was not assessed in detail: the studies were rated according to study design and risk of bias, but there were no details on how the assessment of risk of bias was achieved. In addition, minimal details of individual study quality were reported, making it difficult for the reader to assess the reliability of the findings.

The results of each of the individual studies were summarised, but there was no attempt to synthesise the results across studies. Although the studies were heterogeneous in terms of the population studied and interventions assessed, some attempt to synthesise the results would have improved this review. Given the concerns about the methodology of the review and the quality of the included studies, the results are unlikely to be reliable.

### **Implications of the review for practice and research**

**Practice:** The author did not state any implications for practice.

**Research:** Further studies in different populations and for different activities are required, as are methods to increase long-term adherence to recommended physical activity levels.

**Bibliographic details**

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.