Promoting physical activity amongst adolescent girls

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CRD summary
The review found that cognitive and affective interventions were as important as physical interventions for promoting physical activity in adolescent girls. In view of substantial limitations in the review, which included poorly defined objectives, heterogeneity between studies, failure to assess study quality and a lack of clear, consistent findings, the author’s conclusions should be interpreted with caution.

Authors' objectives
The review objective appeared to be to assess the effectiveness of methods of promoting physical activity among adolescent girls.

Searching
PubMed, PsycINFO and CINAHL were searched for articles published in English during the previous 15 years. Search terms were reported.

Study selection
Experimental and quasi-experimental studies of physical activity for adolescent girls were eligible for inclusion, provided one of the main study aims was to increase physical activity in order to prevent or treat overweight or obesity. Studies were required to focus on girls aged 13 to 19 years and to report quantitative outcomes.

Most participants in the included studies were aged 12 to 17 years (range nine to 20 years). Most studies included participants from at least two ethnic groups; these included African-American, White, Hispanic, Asian, Pacific Island and/or Native American. More than half of the studies targeted specific populations such as obese, urban or sedentary adolescents. At least one study (the largest) compared schools rather than individuals. Study interventions included a variety of physical, cognitive, affective and environmental components (such as modified physical education classes, nutritional advice, assertiveness training and weekend retreats) with a teaching component in all cases. Intervention duration ranged from five weeks to two years (where reported). Most studies took place in a school setting; church, home and mixed settings were also used. Outcomes reported in the review included amount and frequency of physical activity, pedometer step count, heart health knowledge, self-concept, muscle mass, fitness and percentage body fat.

The author did not state how many reviewers selected the studies.

Assessment of study quality
The author did not state that study validity was assessed.

Data extraction
Data on between- and within-group differences were reported descriptively, with p values in some cases. The author did not state how many reviewers extracted data.

Methods of synthesis
Studies were combined in a narrative synthesis organised by outcomes.

Results of the review
Fourteen studies were included (n= 5,862, range 17 to 2,744).

Fewer than half of the interventions in the included studies increased physical activity. Two studies (n=25 and n=2,744) reported increased frequency and duration of moderate and/or vigorous activity in the intervention group compared to controls (p=0.04, p<0.05). A third study (n=68) reported a significantly greater increase in four-day pedometer step count in the intervention group than in controls.
Other studies reported that the intervention significantly improved cognitive or affective outcomes (three studies) or significantly decreased body fat (two studies). Two studies reported that the intervention significantly improved physical fitness, but did not significantly increase physical activity.

Four studies found no significant difference between the groups in measures of physical activity or body fat.

The results of two other studies were presented in study tables.

**Authors' conclusions**

Cognitive and affective interventions were as important as physical interventions for promoting physical activity in adolescent girls.

**CRD commentary**

As the objective of the review appeared to be to increase physical activity, it was not entirely clear why inclusion was limited to studies that specifically targeted overweight or obesity. Relevant sources were searched. The restriction to published studies in English meant that the review was at risk of publication and language biases; potential for such biases was not discussed. The processes of study selection and data extraction were not reported and it was unclear whether they were conducted independently by more than one reviewer (there was only one author), so risk of reviewer error and bias could not be ruled out. Study designs were not described and study validity was apparently not assessed. There was marked variability between the studies in size, setting, intervention and outcomes. Most studies utilised complex interventions in which the effect of individual components could not be determined. Where p values were reported in the review they did not always relate clearly to between-group differences. All these factors made it difficult to interpret review findings or determine their clinical significance.

In view of substantial limitations in the review, which included poorly defined objectives, heterogeneity between studies, failure to assess study quality and a lack of clear, consistent findings, the author's conclusions should be interpreted with caution.

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

**Practice:** The authors stated that clinicians should utilise interventions that combined cognitive, affective and physical components in order to increase physical activity in adolescent girls and promote long-term change. Interventions could include screening for sedentary behaviour, provision of educational material, goal setting or use of a pedometer.

**Research:** The authors stated that researchers should design multifaceted interventions that included cognitive, affective and physical elements to increase physical activity in adolescent girls.

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Record Status
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.