Physical activity interventions in Hispanic American girls and women

Sharma M

CRD summary
The authors’ conclusions appeared to be that walking, aerobic dancing and general physical education activity interventions may be effective for enhancing physical activity in Hispanic American girls and women. Complimenting physical activity with nutrition behaviour interventions may improve outcomes. The reliability of the conclusions is unclear due to the uncertain quality of reviewed studies and flaws in the review process.

Authors’ objectives
To assess the effectiveness of physical activity interventions in Hispanic American girls and women.

Searching
MEDLINE, ERIC and CINAHL databases (all between 1994 and 2007) were searched for English-language publications. Search terms were reported.

Study selection
Community-based studies conducted in USA that evaluated explicit physical activity interventions in apparently healthy Hispanic American girls (≥10 years) or women were eligible for inclusion. Studies conducted outside USA and those based in clinical settings and that enrolled pre-school children were excluded.

Most studies evaluated both physical activity and nutrition behaviour interventions. Physical activities evaluated were varied; walking was the most popular activity promoted. Only half of the interventions were based on a behavioural theory; social cognitive theory was the most popular. Most interventions used classroom format for delivering instructions on physical activities. Most interventions were for women. Duration of interventions ranged from three weeks to two years. Outcome measures evaluated were varied and included: obesity indicators (such as body mass index and triceps skin-fold), self-reported antecedents of physical activity behaviour (knowledge, self-efficacy for physical activity, processes of change regarding physical activity), physiological variables (such as blood pressure and blood glucose), fitness indicators (one-mile run and push-ups one-minute) and process evaluations.

One reviewer screened studies for inclusion.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Data on physical activity interventions (including behavioural theories, forms of activities, implementation modes, duration of interventions) and outcome measures (such as change in body mass index, change in physical activity behaviour) were extracted and summarised in tables.

The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis
Data on study results were summarised and presented in a narrative synthesis.

Results of the review
Twelve studies (n=2,527) were included. Sample sizes ranged from 30 to 530.

Physical activity interventions compared to controls successfully improved the outcomes: body mass index (two of two studies), physical activity behaviour (two of seven studies), self-reported antecedents of physical activity behaviour (two
of two studies), fitness indicators (two of three studies) and process outcome (one study).

Overall, physical activity interventions resulted in successful improvement in outcomes in half of the interventions (n=6 studies). Half of the interventions where physical activity was associated with significant improvement in outcomes used some behavioural theory.

Authors' conclusions
The authors' conclusions appeared to be that walking, aerobic dancing and general physical education activities may be effective interventions for enhancing physical activity in Hispanic American girls and women. Obesity outcomes may be improved when physical activity exercises are complemented by nutrition behaviour interventions.

CRD commentary
The review question was clear with regard to eligible participants and interventions. Inclusion criteria for study designs and outcomes were not stated. Three major databases were searched for English-only publications and no attempts were made to search for unpublished papers, hence the possibility of language and publication biases could not be ruled out. Limiting searches to the period after 1994 may have resulted in omission of other relevant studies. Study selection was performed by one reviewer (which introduced a risk of selection bias). It was unclear whether appropriate steps were taken to minimise risk of reviewer error and bias during data extraction. The quality of reviewed studies was unclear as no validity assessment was performed. The decision to summarise results narratively was justified given differences in study characteristics, physical activity interventions and outcomes. The reliability of the author's conclusions is unclear given a number of flaws in the conduct of review processes, possibility of selection, language and publication biases, and uncertainty around the quality of included studies.

Implications of the review for practice and research
Practice: The author stated that walking can be used as an intervention to enhance physical activity in Hispanic American women. Aerobic dancing and general physical education activities were also recommended. Physical activity interventions needed to be complemented with nutrition behaviour interventions to maximise their effects on outcomes (such as on obesity indicators). Implementation of physical activity interventions by lay health advisors and teachers in classroom settings was recommended.

Research: The author stated that to further clarify which components of the interventions work and to enhance applicability, future interventions should utilise psychometrically robust measures of the constructs of behavioural theories. Future interventions should be based on behavioural theories (particularly social cognitive theory), last at least six months (to enable assessment of sustainability), use the buddy system (as a means of social support), use strong process evaluations (to assess effectiveness) and incorporate components of environmental and policy change alongside individual behaviour change.

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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.