The Community Guide

Behavioral and Social Approaches to Increase Physical Activity: Family-Based Social Support (2001 Archived Review)

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Review Summary

Intervention Definition

These interventions aim to increase family members' support for behavior change, to help increase participants' physical activity. Programs include joint or separate educational sessions on health, goal-setting, problem-solving, or family behavioral management and often include some physical activity.

Summary of Task Force Finding

The Community Preventive Services Task Force finds insufficient evidence to determine whether family-based social support interventions increase levels of physical activity or improve fitness.

About the Systematic Review

The Task Force finding is based on evidence from a systematic review of 11 studies (search period 1980 – 2000).

The review was conducted on behalf of the Task Force by a team of specialists in systematic review methods, and in research, practice, and policy related to increasing physical activity.

Summary of Results

Eleven studies were included in the review.

- Studies found inconsistent results. Some studies reported increases in activity and others reported decreases.
- Similar inconsistencies were seen in measures of physical changes.

Study Characteristics

- Programs usually included joint or individual educational sessions on health, goal-setting, problem-solving, or family behavioral management and often included some physical activity.
- Interventions targeted to children and their families were often used with other school-based interventions, such as school-based physical education or classroom-based health education.
    - In these interventions, the family component was used as an at-home curriculum to support school activities and often included take-home packets, reward systems, or family record-keeping.
    - Some included family-oriented special events (e.g., Family Fun Nights, or "mini-health fairs" for family and peers that offer games, prizes, food, and beverages).

Publications

Kahn EB, Ramsey LT, Brownson R, et al. The effectiveness of interventions to increase physical activity: a systematic review [www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-evrev.pdf]. *Am J Prev Med* 2002;22(4S):73-107.

Task Force on Community Preventive Services. Recommendations to increase physical activity in communities [www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-recs.pdf]. *Am J Prev Med* 2002;22 (4S):67-72.

Dunn AL, Blair SN. Translating evidence-based physical activity interventions into practice [www.thecommunityguide.org/sites/default/files/publications/pa-AJPM-c-PA-to-practice.pdf]. *Am J Prev Med* 2002;22(4S):8-9.

CDC. Increasing physical activity. A report on recommendations of the Task Force on Community Preventive Services [www.cdc.gov/mmwr/preview/mmwrhtml/rr5018a1.htm]. *MMWR* 2001;50 (RR-18):1-16.

Task Force on Community Preventive Services. Physical activity [www.thecommunityguide.org/sites/default/files/publications/Ch02-Physical-Activity.pdf]. In: Zaza S, Briss PA, Harris KW, eds. *The Guide to Community Preventive Services: What Works to Promote Health?* Atlanta (GA): Oxford University Press;2005:80-113 (Out of Print).

Task Force Finding

Intervention Definition

These interventions attempt to change health behavior through strategies that increase the support of family members for behavioral change. The intent is to create and facilitate behavioral patterns, social interactions, and family norms that support greater levels of physical activity. These interventions target environmental factors and interpersonal and behavioral patterns. Typical elements include setting up behavioral "contracts" between family members as well as goal-setting, problem-solving, and other family behavioral management techniques. Interventions may be targeted to families with children or to couples without children. Programs typically include educational sessions on health, goal-setting, and problem-solving; family behavioral management; or both educational sessions and behavioral management. The programs may also incorporate some physical activities. Interventions directed toward children and their families are often implemented as part of a more comprehensive approach that includes school-based interventions, such as school-based PE or classroom-based health education. In these instances, the family component is often seen as an adjunct to the school activities, involving take-home packets, reward systems, and family record keeping. These interventions may also include family-oriented special events.

Task Force Finding (February 2001)*

The Task Force identified 11 qualifying studies that evaluated the effect of family-based social support programs on physical activity levels and physical fitness. Because results across the body of evidence were inconsistent, the Task Force could not reach a conclusion about the effectiveness of these programs in improving physical activity levels and physical fitness.

*From the following publication:

Task Force on Community Preventive Services. Recommendations to increase physical activity in communities [www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-recs.pdf]. *Am J Prev Med* 2002;22 (4S):67-72.

Supporting Materials

Analytic Framework

See Figure 1 on page 76 of Kahn EB, Ramsey LT, Brownson R, et al. The effectiveness of interventions to increase physical activity: a systematic review [www.thecommunityguide.org/sites/default/files/publications/pa-ajpm-evrev.pdf]. *Am J Prev Med* 2002;22(4S):73-107.

Evidence Gaps

What are Evidence Gaps?

Each Community Preventive Services Task Force (Task Force) review identifies critical evidence gaps—areas where information is lacking. Evidence gaps can exist whether or not a recommendation is made. In cases when the Task Force finds insufficient evidence to determine whether an intervention strategy works, evidence gaps encourage researchers and program evaluators to conduct more effectiveness studies. When the Task Force recommends an intervention, evidence gaps highlight missing information that would help users determine if the intervention could meet their particular needs. For example, evidence may be needed to determine where the intervention will work, with which populations, how much it will cost to implement, whether it will provide adequate return on investment, or how users should structure or deliver the intervention to ensure effectiveness. Finally, evidence may be missing for outcomes different from those on which the Task Force recommendation is based.

Identified Evidence Gaps

- How do interventions affect various population subgroups, such as age, gender, race, or ethnicity?
- Do informational approaches to increasing physical activity help to increase health knowledge? To increase physical activity levels, must knowledge about and attitudes toward physical activity be increased or improved?
- Do these interventions increase awareness of opportunities for, and benefits of, physical activity?
- Are there other benefits from an intervention that might enhance its acceptability? For example, does increasing family support for physical activity carry over into other aspects of family life?
- Are there any key harms?
- Is anything known about whether or how approaches to physical activity could reduce potential harms (e.g., injuries or other problems associated with doing too much too fast)?
- What resource (time and money) constraints slow down or stop the use of these interventions?
- Can reliable and valid measures be developed to address the entire spectrum of physical activity, including light or moderate activity?
- Are these interventions cost effective?
- How can effectiveness in terms of health outcomes or quality-adjusted health outcomes be better measured, estimated, or modeled?
- How can the cost–benefit of these programs be estimated?
- How do specific characteristics of these interventions contribute to economic efficiency?
- What combinations of components in multicomponent interventions are most cost-effective?
- What are the physical or structural (environmental) barriers to carrying out these interventions?

Included Studies

The number of studies and publications do not always correspond (e.g., a publication may include several studies or one study may be explained in several publications).

Baranowski T, Simons-Morton B, Hooks P, et al. A center-based program for exercise change among black-American families. *Health Educ Q* 1990;17:179–96.

Bishop P, Donnelly JE. Home based activity program for obese children. *Am Corrective Therapy* 1987;41:12–9.

Davis SM, Lambert LC, Gomez Y, Skipper B. Southwest cardiovascular curriculum project: study findings for American Indian elementary students. *J Health Educ* 1995;26(suppl):S72–S81.

Hopper CA, Gruber MB, Munoz KD, Herb RA. Effect of including parents in a school-based exercise and nutrition program for children. *Res Q Exerc Sport* 1992;63:315–21.

Hopper CA, Munoz KD, Gruber MB, MacConnie S. A school-based cardiovascular exercise and nutrition program with parent participation: an evaluation study. *Children's Health Care* 1996;25:221–35.

Johnson CC, Nicklas TA, Arbeit ML, et al. Cardiovascular intervention for high-risk families: the Heart Smart Program. *South Med J* 1991;84:1305–12.

Luepker RV, Perry CL, McKinlay SM, et al. Outcomes of a field trial to improve children's dietary patterns and physical activity. The Child and Adolescent Trial for Cardiovascular Health. CATCH collaborative group. *JAMA* 1996;275:768–76.

Manios Y, Moschandreas J, Hatzis C, Kafatos A. Evaluation of a health and nutrition education program in primary school children of Crete over a three-year period. *Prev Med* 1999;28:149–59.

McKenzie TL, Nader PR, Strikmiller PK, et al. School physical education: effect of the Child and Adolescent Trial for Cardiovascular Health. *Prev Med* 1996;25:423–31.

Nader PR, Baranowski T, Vanderpool NA, Dunn K, Dworkin R, Ray L. The family health project: cardiovascular risk reduction education for children and parents. *J Dev Behav Pediatr* 1983;4:3–10.

Nader PR, Sallis JF, Patterson TL, et al. A family approach to cardiovascular risk reduction: results from the San Diego Family Health Project. *Health Educ Q* 1989;16:229–44.

Sallis JF, McKenzie TL, Alcaraz JE, Kolody B, Faucette N, Hovell MF. The effects of a 2-year physical education program (SPARK) on physical activity and fitness in elementary school students. Sports, Play and Active Recreation for Kids. *Am J Public Health* 1997;87:1328–34.

Meyer AJ. Skills training in a cardiovascular health education campaign. *J Consult Clin Psychol* 1980;48:129–42.

Search Strategies

The search for evidence started with seven computerized databases (MEDLINE, Sportdiscus, PsychInfo, Transportation Research Information Services [TRIS], Enviroline, Sociological Abstracts, and Social SciSearch) and included reviews of reference lists and consultations with experts in the field. Studies were eligible for inclusion if they:

- Were published in English during 1980-2000

- Were conducted in an Established Market Economy*
- Assessed a behavioral intervention primarily focused on physical activity
- Were primary investigations of interventions selected for evaluation rather than, for example, guidelines or reviews
- Evaluated outcomes selected for review; and
- Compared outcomes among groups of persons exposed to the intervention with outcomes among groups of persons not exposed or less exposed to the intervention (whether the study design included a concurrent or before-and-after comparison)

*Established Market Economies as defined by the World Bank are Andorra, Australia, Austria, Belgium, Bermuda, Canada, Channel Islands, Denmark, Faeroe Islands, Finland, France, Germany, Gibraltar, Greece, Greenland, Holy See, Iceland, Ireland, Isle of Man, Italy, Japan, Liechtenstein, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Portugal, San Marino, Spain, St. Pierre and Miquelon, Sweden, Switzerland, the United Kingdom, and the United States.

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Document last updated February 9, 2017