
Translating Evidenced-Based Physical Activity Interventions into Practice

The 2010 Challenge

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Introduction

The nonfederal Task Force on Community Preventive Services has effectively summarized a large body of literature on physical activity interventions since the 1980s. They have broadly categorized 11 types of interventions into informational approaches, behavioral and social approaches, and environmental and policy approaches to provide recommendations on what interventions can or should be translated into practice. A total of 94 studies of an initial pool of more than 6000 studies were evaluated for their effectiveness in increasing physical activity or cardiorespiratory fitness. Other criteria included whether other benefits and risks were associated with increased activity or fitness, how widely the intervention might be disseminated, and the economic cost-effectiveness or cost-benefit evidence. Recommendations for translation were based on these criteria. These reviews and summaries are useful not only because they provide recommendations to guide practitioners, but also because they help us understand and appreciate how far the field has come in a relatively short period of time. As a result of these reviews, we should be asking questions about how we can most effectively translate and disseminate these programs. We also should be asking what critical studies need to be conducted to provide sufficient evidence for the next generation of promising interventions, as there is currently not enough information to recommend them.

How Far the Field Has Come—An Exponential Growth in Intervention Research

Physical activity intervention studies comprise a relatively new area of research compared with other types of intervention activities such as smoking. It is striking that this review included no studies published before 1980. Examination of the dates of publication of all of the research studies on physical activity intervention shows that about one third of these studies were

published between 1980 and 1990 and the rest were published from 1991 to the present. This two-fold growth in the published results of intervention research studies from 1991 almost certainly is due to the increased recognition of the importance of physical activity to cardiovascular disease and all-cause mortality, demonstrated by a number of observational studies summarized in 1987 by Dr. Kenneth Powell.¹ The momentum of this research was bolstered by recognition of physical activity as the fourth independent risk factor for cardiovascular disease by the American Heart Association in 1992 and the consensus public health recommendations for physical activity in 1995,^{2,3} culminating in the Surgeon General's Report on Physical Activity and Health in 1996.⁴ With this increased recognition came increased funding by the National Institutes of Health and Centers for Disease Control and Prevention to conduct intervention studies to test methods of increasing physical activity and cardiorespiratory fitness. These advances show that it is possible to develop and implement interventions that can increase physical activity and fitness, and now six types of interventions are recommended for translation and dissemination. These interventions include point-of-decision prompts, community-wide education, school physical education, community social support, individual health behavior, and enhanced access. To make progress in the next decade, it is vital that translation and dissemination occur. The crucial question is whether we have the people, the proficiencies, and the proliferation processes to make this effort.

People, Proficiencies, and the Proliferation Processes

The models to guide translation of the recommended physical activity interventions from research to practice are not as well defined as the models for basic and applied research. However, these models do exist in a number of disciplines that are not well represented or not represented at all in the field of physical activity research. These fields of study include community public health research, as well as sociology, anthropology, communication, marketing, urban planning, eco-

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nomics, political science, and policy research to name a few. Translation efforts for physical activity interventions will need to attract individuals from all these disciplines to build a base of knowledge. For example, we need to know what models are most useful for dissemination and diffusion and how to adapt interventions to diverse cultures. We also need more data on the economic benefits and costs and whether interventions are cost-effective. We could benefit from knowledge from the fields of communication and marketing to determine the best use of new electronic technologies for use of intervention delivery. For translation efforts to succeed, this interdisciplinary focus will be essential. It will be essential not only for implementation but also for all phases of this effort, including the composition of study sections, research groups, publications, and conferences.

In addition to developing interdisciplinary partnerships to translate these interventions into practice, it also will be essential to develop problem-solving mechanisms for sustaining and institutionalizing these efforts. In some instances, sustainability can be brought about by policies and legislation; that is, laws that provided for smoke-free environments undoubtedly played a major role in helping to sustain smoking cessation. Similarly, policies and legislation can help to create environments to encourage physical activity. One recent example is the legislation passed by the State of Texas to build trails and walking paths for children to have safe routes to walk and bike to school. Also passed was legislation mandating physical education in public schools. These efforts currently are sporadic but could be a harbinger of things to come if organizations with an interest in physical activity take an organizing role. For example, the newly formed Coalition for Physical Activity could facilitate this process by establishing a clearinghouse on legislative and policy efforts. This clearinghouse could provide information on the status of federal and state legislation and provide training for physical activity advocates that includes information on the language of the legislation, data on the economic costs and benefits for the communities or states, and suggested methods for implementation.

Policies and legislation cannot be the only mechanism to promote sustainable physical activity interventions and environments. The physical activity community also should look to the business community for ideas and perhaps even partnerships on how to broadly market evidence-based interventions. For example, YMCAs could be viewed as a national chain of family-based recreation centers, yet YMCAs do not offer the evidence-based interventions recommended in this review despite the fact that several might fit quite well within the scope of their activities and within their current operational model. Sustainability will depend on seeking out a variety of partnerships with organizations that have this broad marketing capability, on

problem-solving how to overcome barriers, and on determining how to make it mutually beneficial for all. The models, coalitions, and dissemination processes also need to be evaluated as part of the next generation of physical activity intervention research.

The Next Generation of Physical Activity Intervention Research

The reviews of the eleven types of interventions did not provide sufficient evidence to recommend five types of interventions, including (1) classroom-based health education, (2) behavioral and social support interventions in family settings, (3) mass media campaigns, (4) college-aged physical and health education, and (5) classroom-based health education that focuses on reducing television viewing. The reasons these interventions could not be recommended were the lack of a consistent effect on physical activity behavior or fitness, the dearth of studies, or the lack of a link to physical activity. This lack of recommendations does not mean that studies in these areas are not worthwhile but simply that sufficient evidence is not now available to support a recommendation. The next generation of research should carefully evaluate not only outcomes but also should focus on the processes and procedures to build on these efforts to determine if they can be effective. It is possible that these research studies could then become part of the cache of recommended interventions.

Some Final Thoughts

In the December issue of the *Journal of Molecular and Cellular Cardiology*, Lenfant et al.⁵ state that the "last frontier of cardiovascular health" is to translate and apply our knowledge to improve cardiovascular health. The same can be said of the relation of physical activity to diabetes, obesity, and cancer. Physical activity has a direct and critical role to play in all of these disease states. It also plays a direct role in the primary prevention of these diseases. There is much for us to do.

References

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