

State of the Science: Health, Wellness and Disability

PRESENTATION BRIEF

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Title of Presentation: Health Promotion Interventions: What's Working for People with Intellectual Disabilities?

Introduction

Individuals with intellectual disabilities have a higher risk than the general population of developing secondary conditions. They have lower fitness levels, poorer nutrition, higher rates of obesity, and are more sedentary (Draheim, Williams & McCubbin, 2002; Fernhall & Pitetti, 2001; Yamaki, 2005;). Low levels of physical activity and poor nutrition are highly related to such chronic conditions as cardiovascular diseases, high blood pressure and diabetes. Fewer than one third of adults with intellectual disabilities engage in the standard recommended amount of physical activity (30 minutes of moderate intensity physical activity on most days of the week) (Stanish, Temple, & Frey, 2006). The Office of the Surgeon General, *Closing the Gap: A National Blueprint to Improve the Health of Persons with Mental Retardation*, recommended health promotion programs that would increase physical activity and reduce obesity among adults with intellectual disabilities (U. S. Department of Health and Human Services, 2002). We need broad-based effort to effect changes. This is important for many reasons, including the prevention of secondary conditions that create more problems, and the reduction of health care costs. Ultimately, health promotion interventions can result in better fitness, better health and in improved quality of life and community participation of people with intellectual disabilities.

This paper examines the literature on health promotion interventions for individuals with intellectual disabilities. While much evidence exists of the benefits of such programs for the general population, we are just beginning to develop empirically based health promotion programs designed for people with intellectual disabilities. Key challenges for addressing this population include developing programs that take into account intellectual limitations (e.g., difficulty understanding, lack of knowledge), other cognitive and social emotional barriers (e.g., lack of motivation, lack of self-efficacy, poor outcome expectations) and issues of accessibility (e.g., transportation, accessibility of equipment, money) (Heller, Hsieh, & Rimmer, 2004; Stanish et al., 2006). Agency structure, such as policies and staffing ratios along with limited opportunities can also impact involvement in health promotion activities.

Objective

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This paper is a systematic review of research on health promotion interventions for people with intellectual disabilities. It includes physical activity, nutrition, health services, dental hygiene, health communication, and other (sex education, and condition management). Key questions addressed include:

- 1) What is effective on what outcomes?
- 2) What approaches were used?
- 3) What is the level of evidence?
- 4) What are promising approaches?

Method

The literature surveyed health promotion intervention articles targeting adults with intellectual disabilities age 18-65. It included citations from MEDLINE, Psychinfo, and Cinahl databases from 1986 through July 2006 that included “health education”, “health promotion”, “nutrition”, “exercise” with subject headings such as “health behavior”, “risk reduction behavior”, and “quality of life”. The codes for intellectual disability included “cognitive disabilities” “intellectual disabilities” “developmental disabilities”, “mental handicap”, and “learning disabilities”. This resulted in 65 articles, of which 43 were excluded after the abstract review that indicated that they were not intervention studies, but discussion or review articles, that they did not include adults (age 18 years to 65) with intellectual disabilities, or included primarily mental health interventions (e.g., aggression management training). The final number of included studies was 22.

The types of interventions included 11 studies with a component on physical activity, 6 with a nutrition component, 2 on health services, 2 on health communication, 2 on dental training, and 2 other. The other category included one on condition management and one on sex education. These two will not be discussed in this review as only one study was found for each of these categories. Since some studies cover several components, some studies are coded in more than one category.

Results

Most of the articles identified in the systematic review either focused on physical activity or nutrition or both. Health services, health communication, and dental hygiene training only had two studies in each of these categories. Several of the articles across these categories also included health behavior education and/or staff training.

Physical activity. Among the 11 articles identified as related to physical activity as a component of a health promotion program the following outcomes were noted; improved fitness (balance, strength, aerobic capacity); weight reduction (e.g., lower Body Mass Index-BMI); fewer maladaptive behaviors; better attitudes toward exercise (self-efficacy, expected outcomes, cognitive-social barriers); and improved life satisfaction for persons with ID. The measurement of actual changes in health behaviors or improvements in health status was not measured in all of the studies. As an example, in the Heller et al

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(2004) study, attitudinal and psychosocial factors changed in a positive direction, but the health outcomes were not reported in this study.

Only two of the 11 studies (Heller et al., 2004; Rimmer, Heller, Wang, & Valerio, 2004.) used a control group or comparison group in the study design limiting the validity of findings in most of the studies. To further limit what can be generalized from these findings, none of the studies indicated that intervention programs could be implemented over a long period of time and demonstrated behavioral changes that lead to long-term improvements in important health outcomes.

Nutrition. The 6 studies that included a nutrition component included screening, health behavior education, and nutritional rehabilitation programs. Outcomes included decreased BMI and weight gain for underweight. Advice-giving and screening alone was not effective in reducing obesity. Only 34% of people followed up with actions to reduce weight (Marshall, McKonkey, & Gordon, 2004). BMI decreased with health behavior education that included both healthy eating and exercise components. The nutritional rehabilitation programs targeted training for staff and resulted in weight gain for the residents who were underweight.

In two studies that also included a physical activity component, there were improvements in strength and aerobic fitness (Rimmer et al., 2004) and in life satisfaction (Heller et al., 2004). Only in the latter two studies were there any control groups. However, in those studies it is difficult to tease out the impact of the nutrition component separately from the physical activity component. Most of the studies included no longer term follow-up, with the exception of the two nutritional rehabilitation programs which follow-up at 6 months (Evers, et al., 1991) and at one year (Hogan & Evers, 1997).

Health services. The two studies addressing health services include an in-home advanced practice nurse intervention (Hahn & Aronow, 2005) and a needs-based pop-in clinic (Allan, 1999). The in-home nurse intervention, based on geriatric assessments, resulted in the identification of health-related problems and recommendation for clinical and preventive services. About 40% of the recommendations were followed up. There was no change in overall health risk. The needs based pop-in clinic was successful in identifying health needs and gaps in services. However, no health outcome data was reported. Neither of these studies had a comparison or control group.

Health communication. Two studies addressed health communication primarily. One was a training program including text and video that provided instruction in health communication to staff and to adults with intellectual disabilities (Harper & Wadsworth, 1992). The results included improved communication skills, more knowledge about intellectual disabilities and more pro-active behavior in the health interview six weeks after the training. In the second study (Strydom & Hall, 2001) adults with mild and moderate intellectual disabilities received medication information verbally and in leaflets. The leaflet information combined with verbal information resulted in reduced

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understanding of medications compared with verbal information only for the adults with mild intellectual disabilities. Hence, the leaflets only served to confuse these adults. Both of these studies included control groups. Neither study included any long-term follow-ups.

Dental hygiene. Both studies of dental hygiene interventions targeted staff training. One also included people with intellectual disabilities in the training (Faulks & Hennequin, 2000) and the other also targeted change in policies (Lange et. al., 2000). Outcomes included increase in number of residents having their teeth brushed more than once per day, carers being more likely to reach both posterior and anterior teeth on brushing, ratings of improved ease in brushing, and improved carer knowledge of dental disease. Outcomes for the individual with intellectual disabilities included decrease in bleeding, and improved plaque index. Only one of the studies (Lange et al., 2000) included a control group. However, it only had a short-term follow-up. The Faulks & Hennequin (2000) study included a year long intervention with an immediate follow-up.

Conclusions

Generally, this review indicated some evidence for fitness and psychosocial benefits of community - based physical activity and exercise programs for adults with intellectual disability. When combined with a more comprehensive health behavior education program incorporating exercise and nutrition information some evidence exists for reductions in weight. More targeted nutrition interventions can result in weight gain for adults with intellectual disabilities who are underweight.

Some promising research exists on benefits of in-home health services and need - based pop-up health clinics. However, the research is still exploratory without control or comparison groups. In regard to health communications, video and in person training appears to be effective in improving communications for staff and people with intellectual disabilities. However, written communications may only serve to confuse the person with mild intellectual disabilities.

Implications

Based on the numerous descriptive studies that have documented low levels of physical activity and high levels of obesity in this population, a significant need exists for community-based interventions that lead to improved health outcomes. Promising programs that include comprehensive health behavior education curricula geared to adults with intellectual disabilities, such as the “*Exercise and Nutrition Health Education Curriculum for Adults with Developmental Disabilities*” (Heller et al., 2004) and *Steps to your Health* (Mann, Zhou, McDermott, & Poston, 2006) show promise as interventions that can improve the health of people with disabilities. However, neither of the studies that included these curricula reported evidence of long-term health benefits.

We need to develop and test interventions that address issues of staff training, knowledge and motivation of people with intellectual disabilities regarding health promotion, and

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ways to increase the organizational capabilities of community-based organizations to promote healthy behaviors and health promotion programs.

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