



Factors associated with meeting physical activity guidelines by adults with intellectual and developmental disabilities



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ABSTRACT

Background: Many individuals with intellectual and developmental disabilities (IDD) have sedentary lifestyles.

Aims: (a) compare adults with IDD with the general adult population on adherence to U.S. physical activity (PA) guidelines, and (b) determine what factors predict adherence to PA guidelines by adults with IDD.

Methods: We compared adults with IDD from the 2011–2012 National Core Indicators Adult Consumer Survey (NCI-ACS) with the general U.S. population on meeting PA guidelines. We examined the association of demographic, diagnostic, mobility, health and community participation variables with meeting PA guidelines by adults with IDD.

Results: The rate for adults with IDD meeting PA guidelines (13.5%) was less than half that of the general population (30.8%). Among adults with IDD, at-risk groups included those with more severe disability, Down syndrome, mobility impairments, obesity, poor health, mental illness, no independent access to community exercise, and less frequent participation in community exercise. Going out for exercise was the only form of community participation associated with meeting PA guidelines. People who accessed the community for exercise independently (i.e., alone) were more likely to meet PA guidelines.

Conclusions: Interventions aimed at increasing PA for people with IDD should consider these factors in their design.

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What this paper adds

We showed that for NCI-ACS PA data for adults with IDD, the most appropriate comparisons are with general community data based on the 1995 CDC-ACSM PA guidelines. Our study is the first to show that going out into the community for exercise alone is independently associated with more frequent such exercise and with meeting PA guidelines. We also showed that the only form of community participation significantly associated with meeting PA guidelines was going out for exercise. This finding represents an important refinement of previous research that reported an association between PA and community participation generally.

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1. Introduction

Many individuals with intellectual and developmental disabilities (IDD) have sedentary lifestyles and do not meet the minimum recommendations for physical activity (PA) (Emerson, 2005; Draheim, Williams, & McCubbin, 2002; Hsieh, Heller, Bershadsky, & Taub, 2015). Being sedentary is a significant risk factor for cardio-metabolic conditions, Type II diabetes, bone mineral content, and premature mortality (Dunstan, Howard, Healy, & Owen, 2012; Tremblay, Colley, Saunders, Healy, & Owens, 2010). Physical activity is simply any movement that burns energy, with exercise, being an important subset of PA. Reviews (Bartlo & Klein, 2011; Johnson, 2009) have found that PA interventions increase aerobic capacity, improve gross motor function, balance, muscle strength and quality of life for people with IDD.

1.1. Factors associated with and barriers to physical activity

Individuals with IDD face a number of barriers to being physically active, including transportation issues, financial limitations, lack of social support, low levels of awareness and self-efficacy, lack of access to equipment or other environmental resources for physical activities, and service providers' lack of clear policies about physical activities (Bodde & Seo, 2009; Howie et al., 2012; Peterson et al., 2008).

Using National Core Indicators Adult Consumer Survey (NCI-ACS) 2009–10 data, Hsieh et al. (2015) examined the PA of adults with IDD who live in the community and factors that predicted whether the individual met the Physical Activity Guidelines for Americans (U.S. Department of Health and Human Services, 2008). They found that 86.6% of participants did not meet these guidelines. Significant predictors of not meeting the PA guidelines were: personal characteristics (female, Hispanic, non-ambulatory, use of psychotropics), living arrangements (family home, foster home) and less community participation. Obesity, overall health, and the nature of community participation were not evaluated. Hsieh et al.'s (2015) reported rate for meeting PA guidelines (13.4%) was similar to the 9% rate identified by Dairo, Collett, Dawes and Oskrochi (2016) based on a systematic review of 15 studies involving participants with ID. However, Dairo et al. (2016) noted that most participants in these studies had mild or moderate ID. They recommended that “there is an urgent need for future PA studies in awID population to include all disability severity levels” (p. 219). The NCI-ACS data used in the current study amply meet that need, in that 28% of the participants were individuals with severe or profound ID.

Using 2011–12 NCI-ACS data, the current study extends Hsieh et al.'s (2015) findings by examining specific types of community participation, and by comparing supported versus independent community participation for exercise. In Hsieh et al.'s (2015) analysis, the seven NCI-ACS community-participation items were aggregated into a single scale. However, many of these items (e.g., going out to a restaurant, or to a religious service) are sedentary, unless a significant amount of walking is required to reach the community venue. Going out for exercise is seemingly the only community activity consistently involving significant PA. A more fine-grained analysis of the nature of community participation should provide a clearer understanding of the relationship with PA. We expect that going out into the community for exercise will be most strongly related to meeting PA guidelines.

The NCI-ACS also reports data on who (e.g., disability staff) accompanied the person on community activities such as community exercise, but Hsieh et al. (2015) did not analyze these data. van Schijndel-Speet, Evenhuis, van Wijck, van Empelen and Echteld (2014) found that dependence on staff, road safety, transportation, and lack of staff time all served as barriers to participation in PA. We contend that adults with IDD who can go out for exercise independently may do so more frequently because they do not have to wait for others to be available to provide transportation or support. Therefore, we also analyzed the relationship between meeting PA guidelines, going out into the community for exercise, and who accompanied the person, with a particular focus on going out for exercise alone (i.e., independently).

1.2. Social support, community participation, and physical activity

Matthews et al. (2016) noted the need for caregiver support of PA in people with IDD. Going into the community with disability staff or family usually involves provision of instrumental support by the staff or family member. However, in the case of going out for exercise, it rarely means that this person also serves as an exercise partner. Bodde and Seo (2009) noted that social support for PA “for people with ID often takes on a different form than that for the general population. Social support for people with ID may require tangible aid to facilitate PA participation such as planning and transportation” (p. 62). This distinction is important because exercise science research involving the general population shows that social support in community environments increases physical activity (Kahn et al., 2002). Such social support can involve a buddy system with monitoring and encouragement from the buddy to help attain PA goals and maintain participation. Social support can also involve group PA with other participants offering support and companionship (e.g., Stanish & Temple, 2012).

1.3. Comparison with the U.S. general community

A primary challenge to understanding how people with IDD compare to the general population is the lack of national data about health behaviors and outcomes for people with IDD, including participation in physical activities (Anderson et al., 2013). Comparison of health outcomes to other groups is needed to better understand the health, wellness and health disparities of people with IDD (Schrojenstein Lantman-de Valk, 2005). The NCI-ACS provides data, based on random samples

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