



ELSEVIER

Contents lists available at SciVerse ScienceDirect

# Research in Developmental Disabilities



## Physical activity levels in older adults with intellectual disabilities are extremely low

Thessa I.M. Hilgenkamp<sup>a,b,\*</sup>, Debora Reis<sup>a</sup>, Ruud van Wijck<sup>c</sup>, Heleen M. Evenhuis<sup>a</sup>

<sup>a</sup> Intellectual Disability Medicine, Department of General Practice, Erasmus Medical Center Rotterdam, P.O. Box 2040, 3000 CA Rotterdam, The Netherlands

<sup>b</sup> Abrona, Amersfoortseweg 56, 3712 BE Huis ter Heide, The Netherlands

<sup>c</sup> Center for Human Movement Sciences, University Medical Center Groningen, P.O. Box 196, 9700 AD Groningen, The Netherlands

### ARTICLE INFO

#### Article history:

Received 5 October 2011

Received in revised form 12 October 2011

Accepted 12 October 2011

Available online 24 November 2011

#### Keywords:

Physical activity

Older adults

Intellectual disabilities

Pedometers

### ABSTRACT

This study measures physical activity levels in a representative population-based sample of older adults (aged  $\geq 50$  years) with intellectual disabilities. For this, the steps/day of all 1050 participants of the Healthy Ageing and Intellectual Disabilities study (HA-ID; a study conducted among three Dutch healthcare providers in 2009–2010), were measured with a pedometer. Largely due to physical limitations ( $n = 103$ ), walking speed  $< 3.2$  km/h ( $n = 252$ ), limited understanding or non-cooperation ( $n = 233$ ), only 257 of the group were able to participate in valid measurements with pedometers. Of these 257 participants, only 16.7% (95% CI 12.2–21.3) complied with the guideline of 10,000 steps/day, 36.2% (95% CI 30.3–42.1) took 7500 steps/day or more, and 39% (95% CI 32.6–44.5) was sedentary ( $< 5000$  steps/day). Because the measured sample was the more functionally able part of the total sample, this result is likely to be a considerable overestimation of the actual physical activity levels in this population. This realistic study shows that physical activity levels are extremely low in adults aged 50 years and over with intellectual disabilities. Focus on lifetime promotion of physical activity in this specific, but rapidly growing population, is recommended.

© 2011 Elsevier Ltd. All rights reserved.

### 1. Introduction

Although the life expectancy of people with intellectual disabilities (ID) is increasing due to improved health care (Patja, Iivanainen, Vesala, Oksanen, & Ruoppila, 2000), it is unknown whether these extra years are healthy or unhealthy, and prevention in this group has received little attention. Low levels of physical activity have been consistently demonstrated in adolescents and adults with ID (Temple, Frey, & Stanish, 2006). Prevention research has shown the positive effects of physical activity on physical and psychological health (DHHS, 2008; WHO, 2003, 2009) and such effects are also seen in the ageing population (Chodzko-Zajko et al., 2009; DiPietro, 2001). Considering these health benefits, the World Health Organisation's (WHO) recommendation concerning physical activity is equally as important to vulnerable populations with chronic illness and disability, such as intellectual disability (ID) (Tudor-Locke, Hart, & Washington, 2009). Because older populations are generally less active than younger adults (Caspersen & Merritt, 1995; Chodzko-Zajko et al., 2009), we expect older adults with ID to be at particular risk for low levels of physical activity. In addition to the personal health and wellbeing of older adults with ID, the consequences of inactivity may increasingly influence required levels of support and future health care

\* Corresponding author at: Erasmus Medical Center, Department of General Practice, Intellectual Disability Medicine, Postbox 2040, 3000 CA Rotterdam, The Netherlands. Tel.: +31 6 21587628.

E-mail address: t.hilgenkamp@erasmusmc.nl (Thessa I.M. Hilgenkamp).

costs of this population. Therefore, more insight into their physical activity levels is urgently required; this is the first aim of the present study.

Relevant subgroups at risk for low levels of physical activity have been identified in the general population, based on demographic and biological factors. A positive relationship was shown between physical activity and education level, heredity and income; and a negative relationship between physical activity and older age, female gender and race (non-white) (Troost, Owen, Bauman, Sallis, & Brown, 2002). In the population with ID, negative relationships have repeatedly been found for older age (Finlayson et al., 2009; Peterson, Janz, & Lowe, 2008), more severe level of ID (Peterson et al., 2008), epilepsy (Finlayson et al., 2009), and living in more supported settings (Finlayson et al., 2009; Robertson et al., 2000) or, contradictorily, living in a group home (Rimmer, Braddock, & Marks, 1995); whereas, in contrast with the general population, no difference in physical activity levels was found between men and women (Draheim, Williams, & McCubbin, 2002; Peterson et al., 2008; Stanish & Draheim, 2005b), with the exception of one study (Emerson, 2005). Because of such inconsistencies, together with the small number of factors investigated and the inclusion of young/healthy participants with only mild to moderate ID, the second aim of this study was to examine which subgroups are at higher risk of physical inactivity among the older population with ID.

## 2. Methods

### 2.1. Study design and participants

This study was part of the large cross-sectional study 'Healthy ageing and intellectual disabilities' (HA-ID), conducted by a Dutch consortium of three healthcare providers (Abrona at Huis ter Heide; Amarant at Tilburg; and Ipse de Bruggen at Zwammerdam), in collaboration with two university institutes (Intellectual Disability Medicine, Erasmus Medical Center at Rotterdam; and the Center for Human Movement Sciences, University Medical Center at Groningen).

All 2150 clients with ID (aged  $\geq 50$  years) in the three organisations providing care were invited to participate, resulting in a near-representative sample of 1050 clients (specifically, an underrepresentation of the most independent living clients). Details on recruitment, consent procedures and representativeness of the sample, as well as diagnostic methods, have been published elsewhere (Hilgenkamp et al., 2011). Data collection took place in 2009 and 2010. Part of the HA-ID study was the measurement of physical activity with pedometers.

The study was approved by the Medical Ethical Committee of Erasmus Medical Center (MEC 2008-234) and by the ethical committees of the participating care providers. Informed consent was obtained from all participants; however, unusual resistance was a reason for aborting measurements at all times (WMO, 1999).

### 2.2. Materials

#### 2.2.1. General characteristics

Gender and age were collected from the records of the care providers. Professional caregivers provided information about residential status (facility with intensive care and support, community-based, independent with ambulatory support or with relatives) and mobility impairment (independent, with walking aid, or wheelchair-bound). Level of ID was categorized by psychologists or behavioural therapists as: borderline (IQ = 70–84), mild (IQ = 50–69), moderate (IQ = 35–49), severe (IQ = 20–34) or profound (IQ < 20) (according to ICD-10 criteria). The presence of Down syndrome was collected through the medical files.

#### 2.2.2. Physical activity measurement

Physical activity was measured with the NL-1000 pedometer (New Lifestyles, Missouri, USA), which has the same piezo-electric mechanism as the widely studied NL-2000 pedometer, and takes reliable measurements at a minimal walking speed of 3.2 km/h and in overweight/obese participants (Crouter, Schneider, & Bassett, 2005; Grant, Dall, Mitchell, & Granat, 2008; Marsh, Vance, Frederick, Hesselmann, & Rejeski, 2007; Pitchford & Yun, 2010).

#### 2.2.3. Risk group assessment

In the HA-ID study, characteristics with a significant association with low physical activity levels in the ID population (gender, age, residential status, level of ID, Down syndrome and epilepsy), and characteristics with a higher prevalence in the ID population than in the general population which could be associated with physical activity levels, were collected through the medical files (epilepsy, hearing impairment, vision impairment, spasticity and scoliosis), through physical assessment (body mass index; BMI), and the files of the psychologist or behavioural therapist (behavioural disorder, autism, depression, anxiety and dementia).

### 2.3. Procedure

Inclusion criteria for the study were: no resistance of the participant (or his/her professional caregiver) to wearing the pedometer, and a comfortable walking speed of 3.2 km/h or more in at least one of three recordings.

As part of a physical fitness assessment (including height/weight to calculate BMI), participants were asked to walk a marked distance of 8 m three times, to assess their comfortable walking speed (Hilgenkamp, van Wijck, & Evenhuis, 2010).

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات