Title: Body Mass Index and Physical Activity among Special Olympics Athletes Worldwide

Authors: Lindsay DuBois¹, Iulia Mihaila², & Molly Sadowsky³

¹Special Olympics International, ²University of Illinois at Chicago

Introduction: Compared to the general population, individuals with intellectual disability (ID) are more likely to exhibit unhealthy lifestyles, characterized by sedentary behaviors, physical inactivity, and higher rates of obesity (Factor, Heller, & Janicki, 2012; Yamaki, 2005). Lack of physical activity is a risk factor for global mortality (World Health Organization, 2018) and has long-term health consequences, including increased risk of chronic health conditions (e.g., diabetes, ischemic heart disease, and high blood pressure). Furthermore, obesity is associated with higher health care costs, with one study indicating that obese adults with ID in the United States incur an average $2516 in medical expenses per year beyond their normal-weight peers with ID (Li, Fujiura, Magana, & Parish, 2018). Yet, research from the general population suggests that even a low level of physical activity is associated with a reduced risk of mortality. Indeed, one study of adults in the general population found that being physically active and having an obese body mass index (BMI) was associated with a gain of 3.1 years of life compared to being physically inactive and having a normal BMI (Moore et al., 2012). The present study examined BMI status and level of physical activity for 17,695 adult Special Olympics (SO) athletes with ID, worldwide.

Method: Between 2011 and 2017, 17,695 SO athletes worldwide attended a SO Health Promotion event. Health Promotion is a discipline of SO Healthy Athletes that seeks to promote healthy lifestyles for individuals with ID through health education and health screenings. SO athletes were aged 20-86 years (M = 31.7, SD = 10.8) and 62.1% were male. SO athletes were from 131 countries worldwide (7 regions: Africa – 7.5%, Asia Pacific – 8.8%, East Asia – 3.9%, Europe Eurasia – 34.4%, Latin America – 11.0%, Middle East North Africa – 1.5%, and North America – 32.8%). Measures of height and weight were obtained to calculate BMI and athletes reported the number of days per week they exercised for at least 30 minutes.

Results: Descriptive statistics indicated that globally, 6.7% of SO athletes had underweight BMI, 37.0% had normal BMI, 17.5% had overweight BMI, and 28.8% had obese BMI. A one-way analysis of variance analysis indicated a significant difference in BMI by region ($F(6,17688) = 476.11, p < .01$). Bonferroni post-hoc analyses indicated that average BMI of SO athletes from North America was significantly higher than average BMI of SO athletes from all other regions and average BMI of SO athletes from Africa and Asia Pacific was significantly lower than average BMI of SO athletes from all other regions. Average BMI of SO athletes from Africa and average BMI of SO athletes from Asia Pacific did not significantly differ. Globally, 5.8% of SO athletes engaged in no exercise each week, 40.7% engaged in 30 minutes of exercise 1-2 days a week, 25.1% engaged in 30 minutes of exercise 3-6 days a week, and 28.4% engaged in 30 minutes of exercise daily. Over 60% of overweight and obese SO athletes engaged in 30 minutes of exercise 3+ days a week.

Discussion: Findings indicate that 46.3% of SO athletes worldwide are overweight or obese (with regional differences), likely resulting in high added health care costs. Yet, promisingly, the majority of these SO athletes reported being moderately physically active, potentially reducing their risk for later life adverse health outcomes and resulting in years of life gained despite the health risks associated with obesity. Findings point to the need for fitness programming for individuals with ID to promote physical activity.

References/Citations: