Physical Activity and Disability

Alan Beck, PhD, CHES, ACSM-CEP, Prevention Research Center, Washington University in St. Louis, St. Louis, MO and **Joseph Lightner, PhD, MPH**, School of Nursing and Health Studies, University of Missouri, Kansas City, Kansas City, MO

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Abstract

Relationship of exercise and hospital readmission rates in individuals with spinal cord injury: A secondary data analysis

Stephanie Kubiak, PhD Candidate, OTR/L, CLT Nova Southeastern University, Fort Lauderdale, FL

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Background: The prevalence rate of spinal cord injuries (SCI) is estimated to be 288,000 of individuals living in the United States today (National Spinal Cord Statistics Center, 2018). Following a traumatic SCI, the first-year post-injury has the highest risk of hospital readmission, with readmission rates of up to 45% during the first year post-SCI (Skelton et al., 2015). Engagement in regular physical activity and exercise has been shown to reduce hospital readmissions in other diagnoses and in the general population (Esteban et al., 2014; Courtney et al., 2009). Currently, there is limited evidence about the relationship of engagement in routine exercise by traumatic SCI patients specifically and hospital readmissions first-year post-discharge from an inpatient rehabilitation facility (IRF).

Purpose: The purpose of this study is to understand whether there is a relationship between intensity and duration of exercise and hospital readmission rates during the first year following discharge from an IRF, post-SCI.

Methodology: A secondary analysis will be conducted utilizing a publicly available de-identified data set that was collected as part of a prospective longitudinal cohort study by the SCIRehab Project. The primary data source recruited a sample size of 1376 individuals aged 12 and older who sustained an acute traumatic SCI and was admitted into one of six IRF in the United States, from 2007-2009 (Whiteneck, 2018). Out of the 6,000 variables collected between 2007-2010, two variables from this data set will be analyzed using an inferential correlational statistical test to determine whether there is a relationship between hospital readmission rates and routine exercise in SCI participants, one-year post-IRF discharge. Upon IRB approval, the data will be analyzed in March 2020.

Outcomes: If a negative relationship exists between engagement in exercise and hospital readmissions, then future research studies could be designed to determine whether a cause-and-effect relationship exists between these variables. If exercise is found to reduce hospital readmissions following a SCI, then healthcare providers such as occupational therapists, physical therapists, or recreational therapists can prioritize treatment to include patient independence in an adapted exercise program before discharge from an IRF.

Assessment of individual and community needs for health education Chronic disease management and prevention Other professions or practice related to public health Public health or related research

Abstract

Factors associated with meeting the physical activity guidelines of children with autism.

Vijay Vasudevan, PhD, MPH and Arun Karpur, MD, MPH

Autism Speaks, Princeton, NJ

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Background: Currently among the 11 CDC Autism and Developmental Disabilities Monitoring Network, the prevalence of autism was one in 59 children who were eight years old. According to the Physical activity Guidelines for Americans, youth should do 60 minutes of moderate to vigorous activity daily, regardless of their autism status. However, no known study has explored the likelihood of meeting the physical activity guidelines by autism status, using a nationally representative sample.

Methods: This study used data from the 2016 to 2018 National Survey of Children's Health. Autism status was self-reported by parents. Physical activity was measured by asking how many days the child exercised, played a sport, or was physically active for at least 60 minutes. We ran weighted chi-square analysis and calculated prevalence ratios (PR) to assess the likelihood of meeting the physical activity guideline.

Results: Nationally, approximately three percent of the population has autism. When comparing physical activity (inactive, insufficiently active, and active) by autism status, children with autism were significantly more likely to be inactive than children without autism (χ^2 =142, p<0.001). When controlling for the child's race, sex, and insurance status, children with autism were significantly less likely to meet the physical activity guideline (PR=0.67, p<0.05).

Conclusion: This study is the first of its kind to explore likelihood of meeting physical activity guidelines from a nationally, representative sample of youth with autism. Inactivity could be explained by a lack of inclusive school or sport programs and inaccessible neighborhoods. Two primary limitations of this study are self-report of physical activity and autism.

Epidemiology Public health or related education Social and behavioral sciences

Abstract

"skiing is a phenomenal experience!" adaptive snowsports impact for people with disabilities

Delphine Labbé, **PhD**¹, William C. Miller, PhD, CAOT², Staci Manella², Krista L. Best, PhD³, Andrea Bundon, PhD², Jeff Sauve⁴ and Christopher B. McBride, PhD⁵ (1)University of Illinois at Chicago, Chicago, IL, (2)University of British Columbia, Vancouver, BC, Canada, (3)Université Laval, Quebec City, QC, Canada, (4)BC Adaptive Snowsports, Vancouver, BC, Canada, (5)Spinal Cord Injury BC, Vancouver, BC, Canada

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Introduction. Participating in leisure-time physical activities (LTPA) contributes to the physical, psychological and social well-being of people with disabilities. Unfortunately, they are typically less engaged in LTPA compared to the general population, and even less during winter, due to additional environmental barriers and a paucity of seasonal programming. Participation in adaptive snowsports represent an excellent way for people with disabilities to stay active in winter. Aim. This project aimed to examine the quality of the participation in adaptive snowsports and the most efficient strategies to support meaningful engagement in winter LTPA for people with disabilities of all ages. In order to measure this quality of participation, we used The Quality Parasport Participation Framework (QPPF), which comprised 6 dimensions: autonomy, belongingness, challenge, engagement, mastery, and meaning. Method. This project was conducted in collaboration with a non-profit organization, British Columbia Adaptive SnowSports (BCAS). This presentation will focus on the results of an online survey (currently on-going) completed by skiers and snowboarders with disabilities participating in the various BCAS programs. The survey included the validated Measure of Experiential Aspects of Participation and items on the resources and strategies used to support participation as well as the resources needed to increase it. The findings of this research will help understand how quality of participation is experienced by people with disabilities in adaptive snowsports, using a novel and comprehensive framework. Moreover, it will allow the identification of key conditions that support the quality of participation in LTPA for people with disabilities.

Abstract

Relationship between community affordances and community participation of individuals with serious mental illnesses

Eugene Brusilovskiy, MUSA¹, Louis Klein, MPH², Greg Townley, PhD³, Gretchen Snethen, PhD², Bryan McCormick, PhD² and Mark Salzer, PhD²

(1)Temple University, PHILADELPHIA, PA, (2)Temple University, Philadelphia, PA, (3)Portland State University, Portland, OR

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Introduction: Greater community mobility and participation among individuals with disabilities are associated with better health-related outcomes. Tools like Global Positioning Systems (GPS) allow objective measurement of mobility and participation, overcoming the limitations of subjective, self-report measures. However, there is limited research that examines whether community participation and mobility are associated with objective community affordances such as neighborhood walkability and availability of various community amenities. Methods: The current study aims to examine whether different mobility and participation constructs calculated with GPS for individuals with disabilities are associated with neighborhood walkability, as well as availability of community amenities, and whether these associations differ by urbanicity and car access. 120 individuals with serious mental illnesses residing in the greater Philadelphia area were tracked with GPS-enabled cell phones at 1-minute intervals over a two-week period. We used a spatiotemporal data mining algorithm to identify the total 1) number of destinations; 2) number of unique destinations; 3) time spent outside of home; and 4) activity space area, from their GPS data. We determined the walkability of each individual's residential neighborhood by obtaining their WalkScore (walkscore.com). Furthermore, the total number of community amenities (locations obtained through Bradstreet & Dun) within a half mile radius of each individual's address was calculated as a measure of amenity availability. Pearson correlations will be calculated between GPS variables and the WalkScore and amenity availability, and Fisher r-to-z transformations will be used to compare these correlations by urbanicity and car access. **Results:** Analyses will be completed by April 2020. Preliminary results show moderate and statistically significant associations between various GPS constructs and the WalkScore and amenity availability. Implications: Results will provide recommendations for using GPS to measure mobility and participation. In addition, the results inform our understanding of environmental characteristics (i.e., Walkscore and amenity availability) that are most conducive to community participation and mobility.

Other professions or practice related to public health Public health or related public policy Public health or related research Social and behavioral sciences