Assessing Fall Risk in People with Intellectual Disability: A Community Based Pilot Study

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Opportunity:

Abstract

Background: Intellectual disability (ID) is a permanent impairment acquired by 18 years of age that can result in cognitive impairment and difficulties in adaptive functions. Adults with ID experience an increased risk of falls which is greater than that of adults without ID due to comorbidities of their condition and decreased levels of physical activity. Reliability of common standardized outcome measures has not yet been established to assess fall risk in this vulnerable population.

Purpose: To determine test-retest reliability of selected measures of fall risk in community-dwelling adults with ID.

Methods: Approximately 10 adults with ID will complete four selected tests from the CDC initiative to screen fall risk in older adults. These performance-based tests will be administered again within two weeks to determine test-retest reliability. Two-Way Random Intra-class Correlation Coefficients and Chi-Squared Tests will be used for analysis.

Results: A partnership has been developed with a community-program for adults with ID. IRB approval is pending.

Discussion: This study is likely one of the first to examine reliability of well-established measures of fall risk in community-dwelling adults with ID.

Conclusion and Clinical Relevance: People with ID are growing as an aging population which experience vulnerabilities and healthcare disparities. This project offers tremendous opportunity to add to the evidence regarding the validity and reliability of assessment instruments for balance and fall risk for this unique population. This is the first step in developing and implementing effective and appropriate exercise programs for this at-risk population.

Introduction

• Adults with Intellectual Disability (ID) are growing as an aging population which experience vulnerabilities and healthcare disparities.
• They experience a higher risk of falls with higher injury rates than adults without ID.
• To develop effective and feasible community-based programs which address modifiable risk factors, measures of balance and fall risk that are valid and reliable for adults with ID are needed.

Goals of Project

• Establish a partnership with community organization for people with ID.
• To determine the test-retest reliability of selected measures of fall risk in community-dwelling adults with ID.

Approach:

Methods

• Community Partnership: Developed through Special Olympics of Massachusetts Healthy Athletes with Belmont S.P.O.R.T. (Special Programs Organized for Recreation Time)
• Measures: Three performance-based measures were selected from the Centers of Disease Control STEADI (Stopping Elderly Accidents, Deaths and Injuries) Initiative: Timed up and Go, 30 Second sit to stand, and Modified Romberg. One self-reported measure (Falls Efficacy Scale) was selected based on the literature.
• Subjects: Approximately 10 community-dwelling adults with ID; consent provided by subject or guardian; assent by subject
• Testing: Balance measures to be administered twice, within a 2 week time frame.
• Data analysis: Two-way random Intra-class Correlation Coefficients and Chi-Squared tests to assess test-retest reliability
• Northeastern University’s IRB approval is pending.

Data:

Testing is pending IRB approval.

Standardized Cut off Scores for Fall Risk

<table>
<thead>
<tr>
<th>Test</th>
<th>Purpose</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timed Up and Go</td>
<td>Assess mobility, balance, walking ability and fall risk</td>
<td>&lt;10.9</td>
</tr>
<tr>
<td>30 Second Sit to Stand</td>
<td>Assess functional lower extremity strength</td>
<td>&lt;15.1</td>
</tr>
<tr>
<td>Modified Romberg</td>
<td>Assess static balance in a sensory integration taxing condition</td>
<td>&gt;21.9</td>
</tr>
<tr>
<td>Falls Efficacy Scale</td>
<td>Assess perception of balance and stabilization during activities of daily living and to assess fear of falling</td>
<td>&gt;16.6</td>
</tr>
</tbody>
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Impact:

• Falls are a major public health concern for individuals with ID, in particular those over the age of 65. However, there is little evidence regarding the validity and reliability of assessment instruments for balance and fall risk for adults with ID.
• Establishment of reliable tests and measures of fall risk in community-dwelling adults with ID is essential to the development of effective and appropriate prevention programs for this at-risk population.
• This evidence will allow physical therapists to create appropriate exercise programs, which in turn will improve fitness - a risk factor correlated with early advances in disability for those with ID.

Special thanks to Belmont S.P.O.R.T. members, families, and administrators!