The aim of this study was to validate the 
Phase 3 
The CRA and PRA are valid and reliable tools for differentiating high-risk individuals with disabilities from low risk individuals with IDD. The study groups formed were: Positive Choking Group (PCG), n=45; Negative Pneumonia Group (NPG), n=526; and Negative Fatal Pneumonia Group (NFPE). The study cohort who had experienced non-fatal choking was n=227.

The objective of the study was to validate the Choking Risk Assessment (CRA) and the Pneumonia Risk Assessment (PRA), two tests developed to predict individual vulnerability for non-fatal occurrences of choking and pneumonia.

METHODS

This is a three phase retrospective cohort study conducted at two residences for people with severe and profound IDD. The CRA and PRA were administered to their residents. The study groups formed were: Positive Choking Group (PCG), n=45; Negative Choking Group (NCG), n=526; Positive Pneumonia Group (PPG), n=45; and Negative Pneumonia Group (NPG), n=227.

The study groups formed were: Positive Choking Group (PCG), n=45; Negative Choking Group (NCG), n=526; Positive Pneumonia Group (PPG), n=45; and Negative Pneumonia Group (NPG), n=227.

Phase 3 The CRA and PRA were administered to their respective study groups. Clinical dysphagia diagnosis was determined using the Dysphagia Disorder Survey (DDS) and the Dysphagia Management Staging Scale (DMSS) [8]. The psychometric properties of the CRA and PRA were determined by comparing the results for the PCG and the NCG and the PPG and the NPG, respectively.

STATISTICAL ANALYSIS

Data for the CRA and PRA were subjected to statistical assessments for reliability and validity using Cronbach’s Coefficient Alpha, bivariate analysis and logistic regression.

EVALUATING RISK ASSESSMENTS USING CHOKING AND PNEUMONIA RISK ASSESSMENT TOOLS

OBJECTIVES

Managing choking and pneumonia, respiratory risks associated with swallowing in adults with intellectual and developmental disability (IDD), has been challenging for both disability and health service providers [1, 2]. Their physiologic, behavioral, and developmental impairments that impact swallowing functions are compounded by high prevalence of gastrointestinal, cardiac and respiratory disorders, long term polypharmacy, difficulties with communication, and dependence on caregivers for recognizing their particular needs [3–5]. Both choking and aspiration (as a contributing cause for pneumonia) occur as a consequence of failure in airway protection associated with swallowing and may be resolved as a non-fatal but harmful event or can be fatal [6].

The aim of this study was to validate the Choking Risk Assessment (CRA) and the Pneumonia Risk Assessment (PRA), two tests developed to predict individual vulnerability for non-fatal occurrences of choking and pneumonia.

RESULTS

<table>
<thead>
<tr>
<th>CHOKING RISK ASSESSMENT PREDICTOR VARIABLES</th>
<th>PNEUMONIA RISK ASSESSMENT PREDICTOR VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 40 years and older</td>
<td>Age 40 years and older</td>
</tr>
<tr>
<td>Clinical dysphagia diagnosis*</td>
<td>Clinical dysphagia diagnosis*</td>
</tr>
<tr>
<td>Meds w/ effects of reduced alertness or muscle tone, dry mouth or TDS</td>
<td>Required assisted feeding*</td>
</tr>
<tr>
<td>Mealtimes actions (table, food stealing and/or mania)*</td>
<td>Required assisted oral care*</td>
</tr>
<tr>
<td>Mealtimes behaviors (distractibility, lethargy)</td>
<td>Poor oral or dental status*</td>
</tr>
<tr>
<td>Reduced chewing ability and was on a chewable diet*</td>
<td>Multiple medical diagnoses or medications*</td>
</tr>
<tr>
<td>Rapid rate of eating *</td>
<td>History of tobacco use for smoking</td>
</tr>
<tr>
<td>Excessive size mouthfuls*</td>
<td>Dry mouth or excess oral secretions*</td>
</tr>
<tr>
<td>One or more: ability to sit; PICA; rapid breathing during eating; recurring seizures</td>
<td>One or more: gastrointestinal, cardiac and pulmonary diagnoses*</td>
</tr>
</tbody>
</table>

RESULTS

Pneumonia probability reduced by 81% in absence of clinical dysphagia dx (Exp[B]=0.191)

Choking probability reduced by nearly half in absence of clinical dysphagia dx (Exp[B]=0.503)

Choking probability reduced by nearly half in absence of excessive size mouthfuls for solid and/or liquid (Exp[B]=0.513)

Figure 1. Distributions of Choking and No Choking Scores on Choking Probability

Figure 2. Distributions of Pneumonia and No Pneumonia Scores on Pneumonia Probability

REFERENCES