

10th Congress of  
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# Stronger together

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LATVIJAS LOGOPĒDU  
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## **Interpersonal communication in older adults with risks of voice and swallowing disorders in residential care centers**

Simona Maule, Professional Bachelor of Speech and Language Therapy  
Linda Konovalenko, Professional Bachelor of Speech and Language Therapy  
Baiba Trinite, PhD, Professor of Speech and Language Therapy

Riga Technical University Liepaja Academy, Voice and Speech Research  
Laboratory, Liepaja, Latvia

## SHORT INTRODUCTION

Voice and swallowing disorders are known to affect older adults and may negatively influence communication and quality of life (Ekberg et al, 2002; Lindstorm et al., 2023).

Among residents of social care centers, the prevalence of swallowing disorders (dysphagia) reaches 70 %. Despite high risk of life-threatening complications, dysphagia frequently remains undetected and untreated (Melgaard et al., 2021). Mealtimes are the main daily event for interaction among residents (Watkins et al., 2017).

The swallowing function is negatively affected by age; however, aging itself does not cause dysphagia (Cichero, 2006).

As the proportion of older adults grows — with over 22 % of Latvia's population aged 65 (Oficiālās statistikas portāls, 2025) and above — preserving voice and communication function in geriatric settings has become increasingly important. Age-related voice changes (presbyphonia) gradually affect vocal fold structure and muscle mass, leading to reduced loudness, vocal fatigue, and diminished speech clarity (Zehnhoff-Dinnesen et al., 2020).

However, this issue has not been investigated among residents of social care centers in Latvia.

## PRESBYPHAGIA & PRESBYPHONIA: AGE-RELATED CHANGES

### PRESBYPHAGIA — What happens to swallowing as we age?

Physiological and structural changes	Impact on quality of life	Clinical and functional consequences
<ul style="list-style-type: none"> <li>• Muscle strength, fiber count &amp; mass decrease</li> <li>• Appetite decreases; olfactory nerve changes diminish smell</li> <li>• Saliva production &amp; amylase activity reduced</li> <li>• Soft palate, tongue, lips &amp; jaw function weakens</li> <li>• Tongue hypertrophy from increased connective tissue</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces quality of life</li> <li>• Causes embarrassment, social isolation &amp; fear of choking</li> <li>• Risk of aspiration pneumonia, lung disease &amp; GERD</li> <li>• Increased need for long-term care; reduced life expectancy</li> <li>• Severe cases may require enteral feeding</li> </ul>	<ul style="list-style-type: none"> <li>• Conscious swallowing required; meals take longer</li> <li>• Diet adjustment needed — avoid liquids, dry or sticky foods</li> <li>• Risk of malnutrition &amp; dehydration</li> <li>• Frequent coughing, vomiting &amp; aspiration</li> <li>• Voice/speech disorders; cachexia</li> </ul>

### PRESBYPHONIA — What happens to the voice as we age?

Anatomical and functional changes	Acoustic changes	Functional impact
<ul style="list-style-type: none"> <li>• Laryngeal cartilage ossification</li> <li>• Vocal fold atrophy (thinner, stiffer)</li> <li>• Reduced vocal fold muscle mass</li> <li>• Incomplete glottal closure</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in fundamental frequency</li> <li>• Increased jitter and shimmer</li> <li>• Breathily, rough, weak voice quality</li> <li>• Reduced loudness and vocal range</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty to produce voice in noisy environments</li> <li>• Experience of vocal fatigue</li> <li>• Reduced maximum phonation time</li> <li>• Social withdrawal &amp; isolation risk</li> </ul>

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## OBJECTIVES AND METHODS

**Objectives:** The aim of the study was to determine the incidence of voice and swallowing disorder risk among older adults living in residential care centers and to examine the relationship between these risks and interpersonal communication.

**Methods:** The study included 60 Latvian-speaking residents of social care centers, aged 65-94 years old (70 % female) with no diagnosed history of stroke, aphasia or dysphagia. Participants were assessed using the Eating Assessment Tool-10 (EAT-10), the Voice Handicap Index-10 (VHI-10), and the Interpersonal Communication Inventory (ICI; Bienvenu, 1971). As part of the study, the ICI was translated and culturally adapted into Latvian. Associations between swallowing and voice disorder risks and interpersonal communication were examined using Spearman's rank correlation analysis.

# ASSESSMENT INSTRUMENTS

## VHI-10 (Voice Handicap Index)

- 10-item self-report questionnaire (Moy, 2015)
- Assesses perceived voice impact on daily life
- 3 subscales: Functional, Physical, Emotional
- Score 0-40 points (>11: voice disorder)

## ICI (Interpersonal Communication Inventory)

- 40-item questionnaire (Bienvenu, 1971)
- 5 components: self-perception, listening, clarity, emotion management, self-disclosure
- Score 0-120

## EAT-10 (Eating Assessment Tool)

- 10-item swallowing self-assessment (Belafsky, 2008)
- Score 0-40 (>3: dysphagia risk)

## ICI ADAPTATION

### Step 1: Contact licence holder (Oxford University Press)

Licence granted 14.07.2025

### Step 2: Two independent Latvian translations

### Step 3: Expert reconciliation

### Step 4: Back-translation to English

### Step 5: Multi-disciplinary comparison

### Step 6: Final version deployed

Used with all 60 participants in the study

### Step 7: Result

ICI is now available in Latvian for future research

## RESULTS (1)

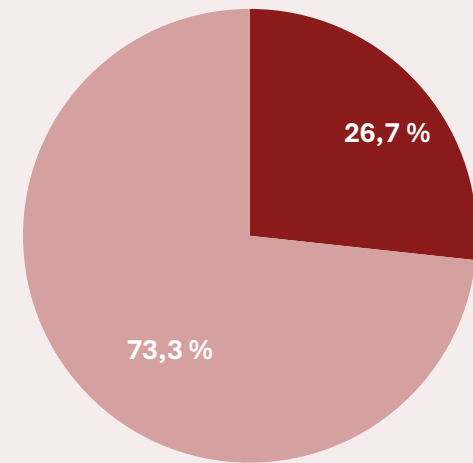
Based on EAT-10 scores, 26.6 % of participants reached or exceeded the cut-off value ( $\geq 3$ ), indicating an increased risk of swallowing disorders. In contrast, 11.7 % screened positive for voice disorders based on the VHI-10.

A statistically significant negative correlation was found between EAT-10 and total ICI scores ( $r = -0.386$ ,  $p = 0.002$ ), indicating that greater swallowing difficulty was associated with lower levels of interpersonal communication.

No statistically significant association was observed between VHI-10 and ICI scores ( $r = -0.159$ ,  $p = 0.226$ ).

A small-to-moderate positive correlation was identified between VHI-10 and EAT-10 scores ( $r = 0.388$ ,  $p < 0.01$ ), suggesting that increased swallowing difficulty was associated with greater perceived voice-related handicap.

**Prevalence of swallowing disorder risk among seniors in social care centers (N=60)**





## RESULTS (2)

### EAT-10

Most frequently (30 %), respondents reported that swallowing solid food requires additional effort.

Sixteen respondents (26.7 %) reported coughing while eating.

Thirteen respondents (21.7 %) indicated that food becomes stuck in the throat during swallowing.

### VHI-10

The highest average score was recorded for the item "*People have difficulty understanding me in noisy environments*" (M = 0.93, SD = 1.15), indicating that this was the most prevalent communication difficulty (functional subscale).

The second most prominent item was "*My voice is unpredictable in quality*" (M = 0.57, SD = 1.20), reflecting instability in voice production (physical subscale).

The third highest-rated item was "*My voice makes me feel handicapped*" (M = 0.55, SD = 1.08), highlighting the emotional impact of voice difficulties (emotional subscale).

# CONCLUSIONS

## Voice disorders and communication in the geriatric population

1	Voice disorders were not commonly perceived in the geriatric population (88.3 % below VHI-10 threshold).	4	Age alone did not influence perceived voice disorders or communication skills.
2	Interpersonal communication skills were well preserved (ICI mean: 77.5).	5	Environmental factors (noise) were the main source of communication difficulty.
3	No significant relationship was found between voice handicap and communication abilities.	6	Communication difficulties in older adults are influenced more by environmental conditions than by voice disorders.

## Key findings from swallowing disorder risk screening in social care centers (N=60)

1	Almost one third of seniors living in the social care centers had dysphagia risk.
2	Higher EAT-10 scores are associated with lower interpersonal communication competence — particularly self-evaluation and emotion regulation.
3	Swallowing disorders significantly impact social status, psychological well-being, and quality of life.
4	Ageing highlights communication barriers that directly affect quality of life and may contribute to social isolation.
5	Eating and swallowing are vital physiological, social, and emotional processes. Mealtimes in social care centers support seniors' mental health and quality of life.

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