

# Normative EAT-10 scores are significantly higher in older adults versus younger populations. The threshold value of EAT-10 should be re-examined in older adults.

## Eating Assessment Tool–10 (EAT-10) Scores in Older Adults: A Systematic Review & Meta-Analysis

### Background

- Swallowing changes are common in older adults due to both normal aging and pathologic changes to swallow.
- The EAT-10 is a brief patient-reported outcome measure designed to capture dysphagia symptom severity.
- EAT-10 threshold values were originally defined in a relatively young population<sup>1</sup>, yet it is unclear whether the same threshold value (>3) should be used for older adults.
- The **purpose** of this study was to synthesize EAT-10 values reported in the literature for older adults via systematic review and meta-analysis.

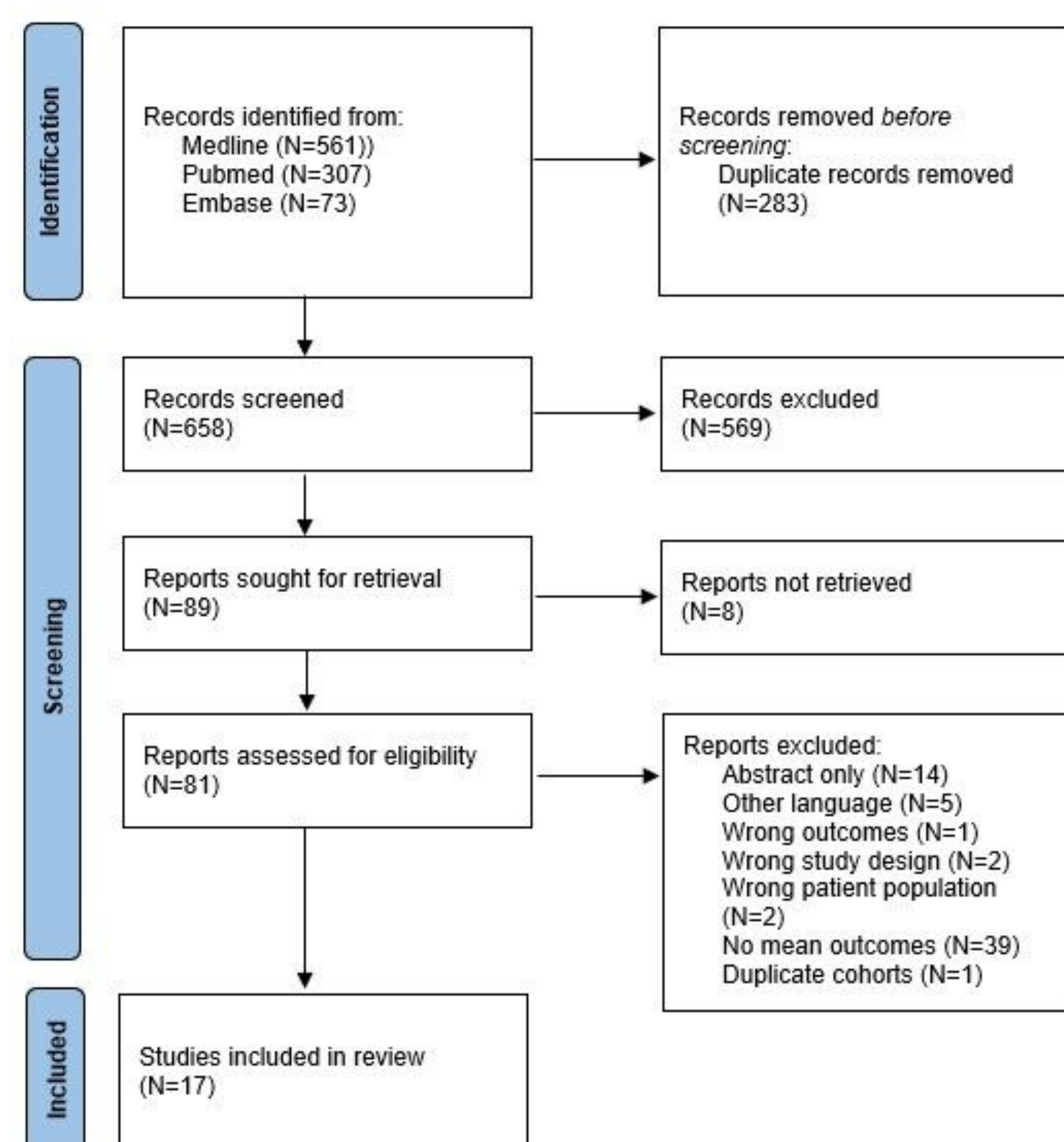


Figure 1. Study Selection Flow Diagram

### Statistical Analysis

- Meta-analysis of mean EAT-10 scores was performed via a random effects model due to significant study heterogeneity.
- We compared our calculated mean EAT-10 score to the original 0.4 +/- 1.01 found by Belafsky et al<sup>1</sup>
- Post-hoc analyses was performed of studies only providing the percentage of patients above or below a threshold value of 3, and of papers providing only a median EAT-10 value.

### Methods

- PubMed, Medline and Embase were systematically searched with the assistance of a librarian.
- Inclusion criteria: Studies of community-dwelling adults aged 60 years or older that excluded patients with dysphagia-predisposing diagnoses with mean EAT-10 scores available.
- Study review and data extraction was performed independently by two authors, disagreement resolved by consensus discussion.

### Results

- 17 studies were included (Figure 1) and a total of 6633 subjects was included in the meta-analysis.
- Across studies, the mean EAT-10 score was 1.91 (SD=1.00), which was significantly greater than the values originally reported by Belafsky et al<sup>1</sup> (mean difference: 1.43 ([1.22 to 1.64], p<0.001).
- On post-hoc analyses, we found that 9.8% of patients were above a threshold value of 3, and median EAT-10 scores reported ranged from 0 to 3.

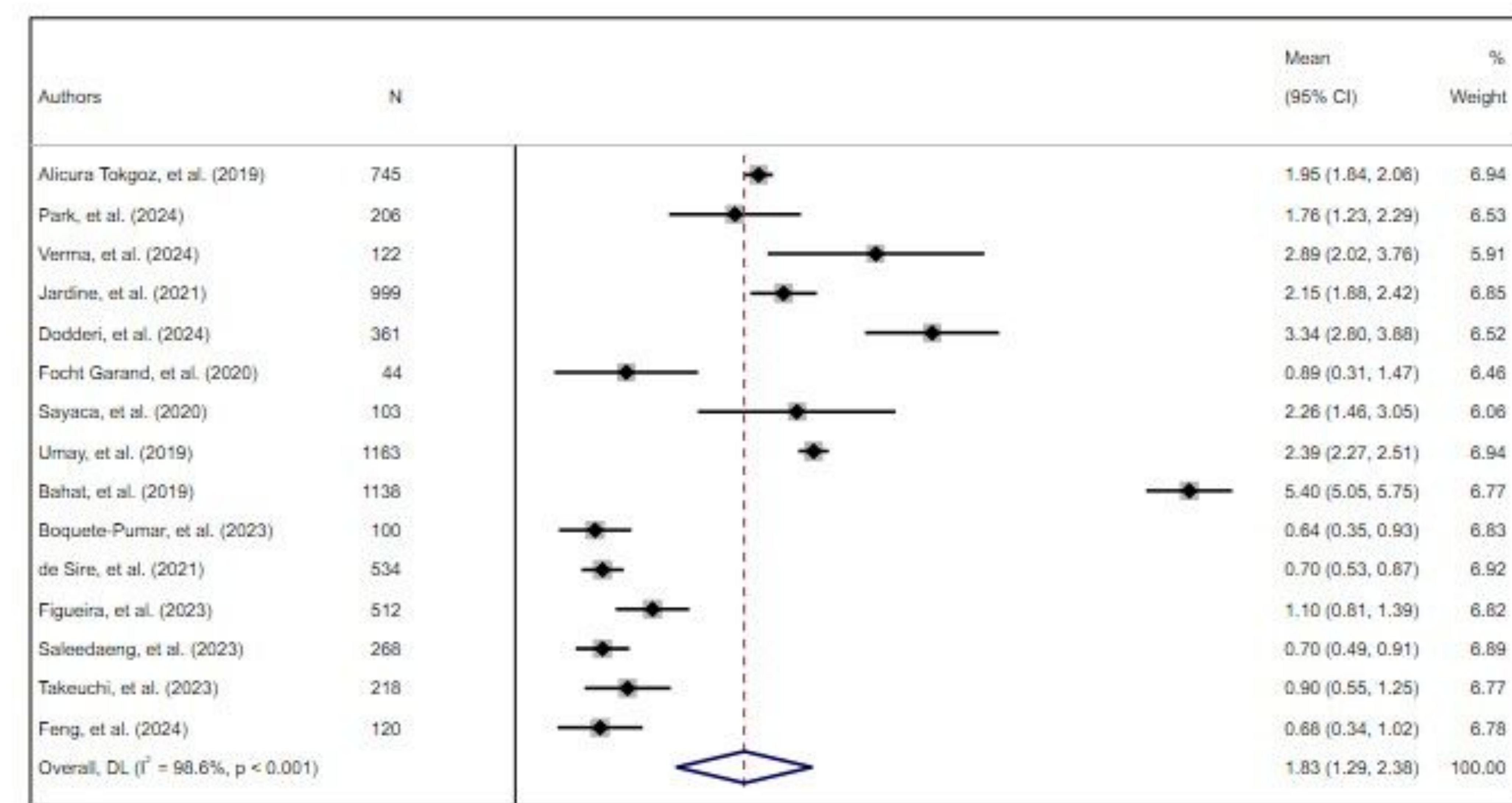


Figure 2. EAT-10 Scores of Included Studies

### Conclusion

Normative EAT-10 scores in the extant literature appear significantly higher in older adults compared with the younger population. Defining a threshold value of mean + 2SD, as done in the original Belafsky et al (2008)<sup>1</sup> paper, would suggest a cutoff score of 4 may be more appropriate in the older adult (60+) population, compared with the cut-off of 3 in the original dataset.

### References

1. Belafsky PC, Mouadeb DA, Rees CJ, Pryor JC, Postma GN, Allen J, Leonard RJ. Validity and reliability of the Eating Assessment Tool (EAT-10). Ann Otol Rhinol Laryngol. 2008 Dec;117(12):919-24.