

INSTRUMENTS FOR EVALUATION OF SWALLOWING IN ADULTS: AN INTEGRATIVE REVIEW OF THE LITERATURE

INSTRUMENTOS DE AVALIAÇÃO DA DEGLUTIÇÃO EM ADULTOS: REVISÃO INTEGRATIVA DA LITERATURA

INSTRUMENTOS DE EVALUACIÓN DE LA DEGLUCIÓN EN ADULTOS: REVISIÓN INTEGRADORA DE LA LITERATURA

Luciana Sofia Ascensão Salvador¹
Rui Pedro Silva²
Tânia Marisa Pinto Rodrigues³
Inês Alves da Rocha e Silva Rocha⁴

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Objective: analyzing the evidence related to the instruments of evaluation of swallowing in adults. **Method:** integrative literature review, whose data collection was performed in December 2022, in the EBSCO Host aggregator. **Results:** the final sample consisted of seven articles, and its analysis allowed to verify that the scale most mentioned in the articles found was the 10-Item Eating Assessment Tool. **Final considerations:** the instruments of evaluation of the deglutition are fundamental for the early identification of the disorders of the deglutition, reflecting in a reduction of the complications inherent to this condition of health.

Descriptors: Nursing. Deglutition Disorders, Surveys and Questionnaires. Quality of Health Care. Review Literature as Topic.

Objetivo: analisar a evidência relativa aos instrumentos de avaliação da deglutição em adultos. *Método:* revisão integrativa da literatura, cuja colheita de dados foi realizada em dezembro de 2022, no agregador EBSCO Host. *Resultados:* a amostra final foi composta por sete artigos, sendo que a sua análise permitiu verificar que a escala mais mencionada nos artigos encontrados foi a 10-Item Eating Assessment Tool. *Considerações finais:* os instrumentos de avaliação da deglutição são fundamentais para a identificação precoce dos distúrbios da deglutição, repercutindo numa diminuição das complicações inerentes a esta condição de saúde.

Descritores: Enfermagem. Transtornos de Deglutição. Inquéritos e Questionários. Qualidade da Assistência à Saúde. Literatura de Revisão como Assunto.

Corresponding author: Luciana Sofia Ascensão Salvador, lluciana.salvador@gmail.com

¹ Santa Casa da Misericórdia de Vila do Conde, Vila do Conde, Portugal. <https://orcid.org/0009-0001-3934-472X>.

² Unidade de Cuidados Continuados Vallis Longus, Valongo, Portugal. <http://orcid.org/0000-0003-4731-339X>.

³ Escola Superior de Saúde de Santa Maria, Porto, Portugal. <http://orcid.org/0000-0003-4785-3783>.

⁴ Escola Superior de Enfermagem do Porto/ CINTESIS@RISE, Porto, Portugal. <http://orcid.org/0000-0002-3036-0002>.

Objetivo: analizar la evidencia relativa a los instrumentos de evaluación de la deglución en adultos. Método: revisión integradora de la literatura, cuya recolección de datos fue realizada en diciembre de 2022, en el agregador EBSCO Host. Resultados: la muestra final fue compuesta por siete artículos, siendo que su análisis permitió verificar que la escala más mencionada en los artículos encontrados fue la 10-Item Eating Assessment Tool. Observaciones finales: los instrumentos de evaluación de la deglución son fundamentales para la identificación precoz de los trastornos de la deglución, repercutiendo en una disminución de las complicaciones inherentes a esta condición de salud.

Descriptor: Enfermería. Trastornos de Deglución. Encuestas y Cuestionarios, Calidad de la Atención de Salud. Literatura de Revisión como Asunto.

Introduction

The swallowing process is designated as a complex mechanism that requires the coordination of a series of motor, sensory and psychological behaviors⁽¹⁾. Swallowing implies the coordinated participation of anatomical areas that, through movements and pressures, allow the food to be conducted efficiently and safely through the digestive tract⁽²⁾. Thus, this is considered a fundamental activity for the maintenance of life, since it ensures the transport of food from the oral cavity to the stomach⁽³⁾. Although swallowing is considered a continuous process, it can be divided into phases, taking into account the active anatomical and functional structures, as well as the voluntariness or involuntariness of the act. The most consensual division refers to three phases: oral, pharyngeal and esophageal⁽²⁾.

The presence of a swallowing disorder characterized by difficulty in the oral preparation of the bolus or in the movement of food from the mouth to the stomach is called dysphagia⁽⁴⁾. It is estimated that dysphagia will affect one in 17 people throughout their lives, causing signs and symptoms such as voice alteration, increased secretions, sialorrhea and cough during and/or after the meal⁽⁵⁻⁶⁾.

Dysphagia is a prevalent condition that is often associated with congenital and acquired neurological impairment and structural disorders that affect oropharyngeal function⁽⁷⁾. In this way, it leads to complications such as malnutrition/dehydration, aspiration pneumonia, hospital readmissions and fear of socially eating meals, resulting in a decrease in the person's quality of

life⁽²⁶⁾. This can be divided into oropharyngeal and esophageal dysphagia. The first is usually diagnosed through a detailed anamnesis, which evaluates aspects such as immediate aspiration, the presence of cough after swallowing, or changes in the voice⁽⁸⁾. Esophageal dysphagia refers to the difficulty in the passage of the bolus through the esophagus, being common in people with esophageal stenosis, esophagitis and achalasia⁽⁹⁾.

Early diagnosis of dysphagia and its intervention are crucial for safer and higher quality care⁽¹⁰⁾.

Thus, the first stage of the evaluation corresponds to the application of an instrument for evaluation of swallowing and the observation of signs and symptoms of dysphagia. In addition to being non-invasive, these assessment instruments are quick to apply, producing reliable results even when applied by different health professionals⁽¹¹⁾.

The objective of this integrative review is to analyze the evidence related to instruments for evaluating swallowing in adults.

Method

This is an integrative review of the literature, which had as a guiding question: *What is the available evidence on the instruments for evaluating swallowing in adults?* We used the peak strategy, in which: participants (P) are adults; intervention (I) are the instruments for evaluating swallowing; comparison (C) does not apply; and finally, Outcomes (o)/results refer

to the available evidence on this subject. The research was carried out during the month of December 2022 in the databases that include the EBSCOhost aggregator, namely: CINAHL Complete, MEDLINE Complete, Nursing & Allied Health Collection: Cochrane Central Register of Controlled Trials, Cochrane Methodology Register, Library, Information Science & Technology Abstracts, MedicLatina, Cochrane Clinical Answers. As a research strategy, we used the Boolean expression: (“adult” OR “aged” OR “elderly”) AND (“weights and measures” OR “surveys and questionnaires” OR “assessment tool”) AND (“deglutition” OR “deglutition disorders” OR “swallowing”), with the following filters full text available and in English, Portuguese and Spanish languages and in adults.

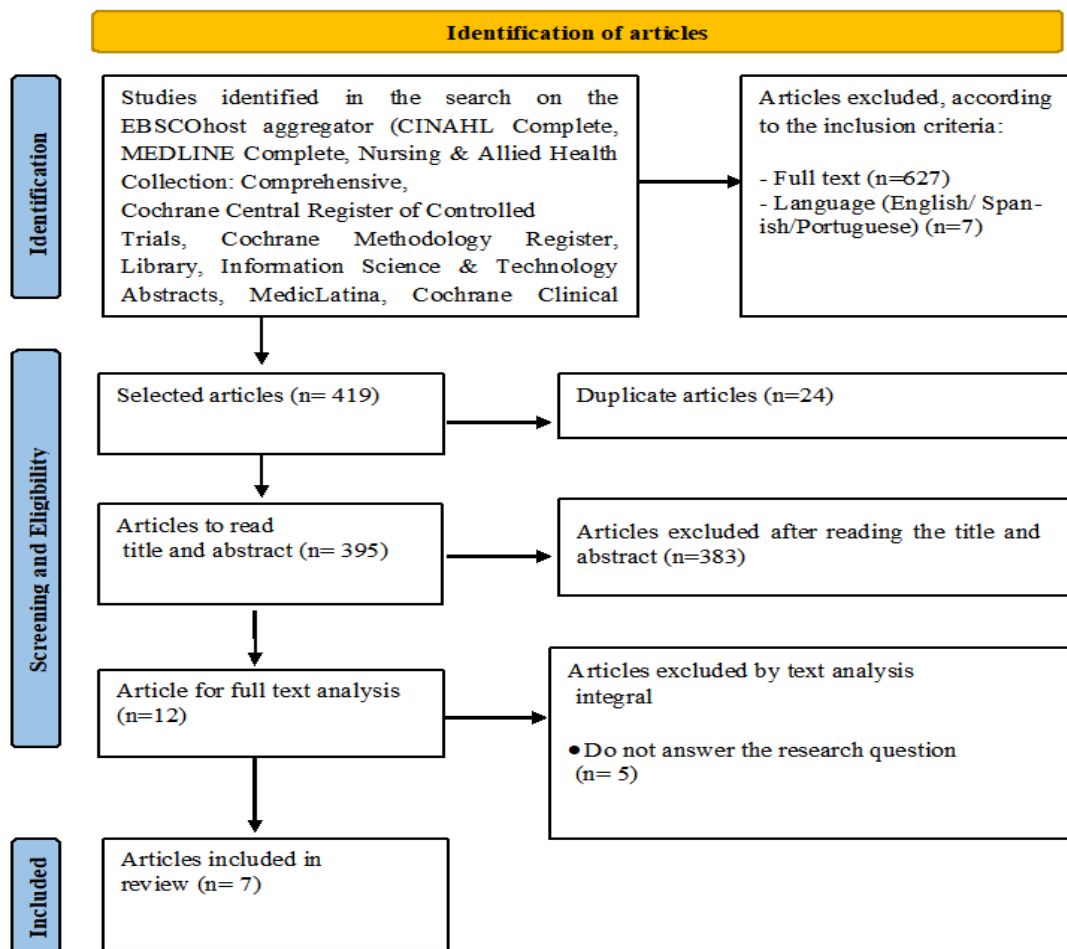
The research resulted in the identification of 419 articles, of which 24 were excluded

because they were duplicated. Initially, a critical and reflective analysis of the titles and abstracts of each article was performed, and of the 395 articles, 383 were excluded.

Subsequently, the full text of 12 articles was read, and 5 articles were excluded because they did not answer the question of the investigation. The reasons for exclusion are related to the cultural adaptation and validation of instruments in languages other than Portuguese and the specific applicability of the instrument to a given pathology.

Because it is an integrative review of the literature, it was not necessary to obtain the authorization of the Health Ethics Committee. Diagram 1 represents the identification and selection process performed.

Diagram 1 – Study identification process: PRISMA diagram flow



Source: created by the authors.

Results

After the analysis of the selected articles, in order to synthesize the results found, the following boards were elaborated. Chart 1 shows

the title of the article, the type of study and the main objectives of the studies included in this integrative literature review. Chart 2 shows the main results of the selected articles.

Chart 1 – Characterization of studies included in the integrative review according to article title, type of study and objectives.

Article title	Type of study	Objective
Measuring Outcomes for Dysphagia: Validity and Reliability of the European Portuguese Eating Assessment Tool (P-EAT-10) ⁽¹²⁾	Qualitative	To evaluate the validity and reliability of the European Portuguese version of the EAT-10 (P-EAT-10).
Utility of the EAT-10 in the detection of dysphagia in high-risk hospitalization units at a university hospital: A cross-sectional study ⁽²⁾	Qualitative	To evaluate the usefulness of applying EAT-10 to users at high risk of dysphagia, in Neurology and Internal Medicine services, in the first 24-48 hours of hospitalization.
Development and validation of the Brief Esophageal Dysphagia Questionnaire (BEDQ) ⁽⁹⁾	Qualitative	Build and validate the BEDQ instrument.
Prevalence of Oropharyngeal Dysphagia in the Netherlands: A Telephone Survey ⁽¹³⁾	Qualitative and quantitative	General objective: to understand the magnitude of the prevalence of oropharyngeal dysphagia in the Dutch population, through the application of the EAT-10 in telephone consultation.
Survey of suspected dysphagia prevalence in home-dwelling older people using the 10-Item Eating Assessment Tool (EAT-10) ⁽¹⁴⁾	Qualitative	To determine the prevalence of dysphagia and its characteristics in independent and dependent elderly people living at home, in the city of Tokyo, Japan, using the EAT-10.
Validation of the Mayo Dysphagia Questionnaire (MDQ) ⁽¹⁵⁾	Qualitative and quantitative	Build and validate the MDQ instrument.
Dysphagia assessed by the 10-item Eating Assessment Tool is associated with nutritional status and activities of daily living in elderly Individuals requiring long-term care ⁽¹⁶⁾	Qualitative	Evaluate the associations between the score obtained through the application of the EAT-10, state nutrition and activities of daily living in elderly people who require long-term care.

Source: created by the authors.

Chart 2 – Description of the main results of the articles selected in this study. (continued)

Article title	Results
Measuring Outcomes for Dysphagia: Validity and Reliability of the European Portuguese Eating Assessment Tool (P- EAT-10) ⁽¹²⁾	After application of P-EAT-10 and analysis statistical results, it can be concluded that this instrument is valid and has internal consistency (Cronbach's alpha of 0.952).

Chart 2 – Description of the main results of the articles selected in this study. (conclusion)

Article title	Results
Utility of the EAT-10 in the detection of dysphagia in high-risk hospitalization units at a university hospital: a cross-sectional study ⁽²⁾	The application of the EAT-10 is useful in the assessment of users with dysphagia, as it was found that the prevalence of dysphagia risk was higher in the Internal Medicine service than in the Neurology service.
Development and validation of the Brief Esophageal Dysphagia Questionnaire (BEDQ) ⁽⁹⁾	The study was carried out with 1613 participants, and after statistical analysis of the results obtained, the BEDQ demonstrated internal consistency, reliability and construct validity.
Prevalence of Oropharyngeal Dysphagia in the Netherlands: A Telephone Survey ⁽¹³⁾	2600 people participated in this study (38.8% of people contacted by telephone), of which 219 (8.4%) scored three or more on the EAT-10, indicating changes in swallowing and an increased risk of oropharyngeal dysphagia for The age.
Survey of suspected dysphagia prevalence in home-dwelling older people using the 10-Item Eating Assessment Tool (EAT-10) ⁽¹⁴⁾	The EAT-10 instrument was applied to 1000 people from each group: 510 were obtained valid responses from independent elderly people aged 65 or over, and 886 responses from dependent elderly people with a mean age of 82.3 +/- 6.7. The prevalence of suspected dysphagia was 25.1% and 53.8%, respectively, demonstrating a significant increase with increasing age.
Validation of the Mayo Dysphagia Questionnaire ⁽¹⁵⁾	148 participated in the validation of the MDQ individuals. Through its application, there was a statistically significant agreement between the anamnesis and the MDQ for the presence of dysphagia and its onset, as well as for frequency and severity of dysphagia.
Dysphagia assessed by the 10-item Eating Assessment Tool is associated with nutritional status and activities of daily living in elderly individuals requiring long-term care ⁽¹⁶⁾	237 elderly people participated in this study, of which 89 were part of geriatric health services, 28 were hospitalized and 120 were community residents. After applying the EAT-10, it was found that 101 individuals had dysphagia. The MNA-SF revealed that 81 participants were malnourished, 117 at risk of malnutrition and 39 in nutritional status adequate (the frequency of malnutrition was minor in the community). He also verified that the EAT-10 has an independent effect of the Barthel index and MNA-SF varying according to age and gender.

Source: created by the authors.

Discussion

Through the analysis of the articles found, it is understood that there are several instruments for evaluating the swallowing of adults. However, these authors intend that these instruments have the following characteristics: to be quick and easy to apply, non-invasive, and to have robust psychometric properties. In this way, they ensure that these instruments are reliable, resulting in greater demand and selection by health professionals.

In fact, it was found that the instrument for evaluating swallowing that was mentioned in most of the selected articles (5 articles) in this integrative literature review is the 10-Item Eating Assessment Tool (EAT-10). This instrument is self-reported, and the user must answer how he feels about the following 10 items: ⁽¹⁾ weight loss; ⁽²⁾ social isolation (related to the difficulty in swallowing, which prevents the user from eating out); ⁽³⁾ difficulty in swallowing different liquid or ⁽⁴⁾ solid consistencies; ⁽⁵⁾ effort to swallow the tablets or ⁽⁶⁾ increased difficulty in swallowing; ⁽⁷⁾ interference in the pleasure of eating food; ⁽⁸⁾ own difficulty in swallowing; ⁽⁹⁾ cough attacks during the meal; and ⁽¹⁰⁾ fear of swallowing ⁽¹²⁾. For each item, the user should be positioned on a Likert scale, ranging from 0 (no problem/no difficulty swallowing) to 4 (severe swallowing problem). The maximum score is 40 points, and a score equal to or greater than 3 points indicates that swallowing is compromised ⁽¹³⁾. In this sense, it can be stated that the EAT-10 stands out from the other instruments of evaluation of swallowing by having a more intuitive application, requiring only 8 minutes to be completed, thus constituting a valid and reliable instrument for the evaluation of swallowing. These characteristics make it useful not only for clinical practice, but also for research ⁽¹²⁾.

Regarding the Brief Esophageal Dysphagia Questionnaire (BEDQ), the authors mention that this instrument has the particularity of evaluating the severity of dysphagia and the frequency of self-reported symptoms, such as

gastroesophageal reflux, visceral hypersensitivity and psychological suffering ⁽⁹⁾.

The Mayo Dysphagia Questionnaire (MDQ) is an instrument that has the particularity of evaluating esophageal dysphagia more concisely ⁽¹⁵⁾. Regardless of the instrument used, it is essential to perform the early assessment of swallowing in order to implement interventions that, in a systematic way, contribute favorably to the prevention of complications. Only through methodical practice and continuous evaluation can the quality and safety of care be ensured.

The study presented as a limitation the lack of evidence on the various instruments for evaluating swallowing in adults. Thus, it is necessary to develop more evidence on this subject, to obtain more results on the applicability of these instruments.

The accomplishment of this study contributed to the increase of the knowledge about the different instruments of evaluation of the swallowing in adults, as well as to the promotion of a safer clinical practice, aiming at the reduction of the inherent complications.

Conclusion

The analysis of the articles found allowed verifying the existence of several instruments of evaluation of swallowing in adults. Although the selection of instruments takes into account the context and clinical situation of the patient, all of them have as common objective the early identification of swallowing disorders.

However, despite the existing scientific evidence, it is still necessary to develop research on this subject, in order to adapt the selection of the swallowing assessment instrument to the context and clinical situation of the patient, contributing to the exercise of a safe and quality clinical practice.

Collaborations:

1 – conception and planning of the project: Luciana Sofia Ascensão Salvador, Rui Pedro Silva and Inês Alves da Rocha and Silva Rocha;

2 – analysis and interpretation of data: Luciana Sofia Ascensão Salvador and Inês Alves da Rocha and Silva Rocha;

3 – writing and/or critical review: Luciana Sofia Ascensão Salvador, Tânia Marisa Pinto Rodrigues and Inês Alves da Rocha and Silva Rocha;

4 – approval of the final version: Luciana Sofia Ascensão Salvador, Rui Pedro Silva, Tânia Marisa Pinto Rodrigues and Inês Alves da Rocha and Silva Rocha.

Interest conflicts

There are no conflicts of interest.

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