

# Association between Nursing and Speech, Language and Hearing Sciences in identifying risk for dysphagia: analytical cross-sectional study

Associação entre a Enfermagem e a Fonoaudiologia na identificação de risco para disfagia: estudo transversal analítico

Asociación entre Enfermería y Fonoaudiología en la identificación de riesgo de disfagia: estudio transversal analítico

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#### ABSTRACT

**Objective:** to investigate and demonstrate the association between the self-perceived swallowing assessment carried out by nurses and the dysphagia risk classification carried out by speech therapists in hospitalized elderly patients. **Method:** an analytical cross-sectional study using the Eating Assessment Tool and the Speech and Hearing Therapy Protocol for Dysphagia Risk Assessment in 52 elderly patients in a medical clinic, as well as collecting sociodemographic data and health conditions. Fisher's exact test and logistic regression for odds ratios were used for statistical analysis. **Results:** there was an association (p=0.01) between the nurse's assessment and that of the speech therapist, with an odds ratio of a hospitalized elderly person exposed to the risk of dysphagia by the Eating Assessment Tool presenting a change in the Speech Therapy Protocol for Dysphagia Risk Assessment (OR 3.89 95% CI: 1.10-13.68). **Conclusion and implications for practice:** the findings indicate that there is an association between the nurse's assessment and that of the speech therapist in swallowing disorders and that Nursing can act to identify risks, prevent and rehabilitate dysphagia.

Keywords: Deglutition; Dysphagia; Nursing; Aging; Multiprofessional Team.

#### RESUMO

**Objetivo**: investigar e demonstrar a associação entre a avaliação de autopercepção da deglutição realizada pelo enfermeiro e a classificação de risco de disfagia realizada pelo fonoaudiólogo em idosos hospitalizados. **Método**: estudo transversal analítico realizado com a aplicação dos instrumentos *Eating Assessment Tool* e do Protocolo Fonoaudiólógico de Avaliação de Risco para Disfagia em 52 idosos em clínica médica, além da coleta de dados sociodemográficos e de condições de saúde. Para a análise estatística foi utilizado o teste exato de *Fisher* e a regressão logística para a razão de chances. **Resultados:** houve a associação (p=0,01) entre a avaliação do enfermeiro e a do fonoaudiólogo, com razão de chances de um idoso hospitalizado exposto ao risco de disfagia pelo *Eating Assessment Tool* apresentar a alteração no Protocolo Fonoaudiológico de Avaliação do Risco para Disfagia (OR 3,89 IC 95%: 1,10-13,68). **Conclusão e implicações para a prática:** os achados apontam que há uma associação entre a avaliação do enfermeiro e a do fonoaudiólogo nas alterações da deglutição e que a Enfermagem poderá atuar na identificação de riscos, prevenção e reabilitação em disfagia.

Palavras-chave: Deglutição; Disfagia; Enfermagem; Envelhecimento; Equipe multiprofissional.

#### RESUMEN

**Objetivo:** investigar y demostrar la asociación entre la evaluación de la autopercepción de la deglución realizada por enfermeros y la clasificación del riesgo de disfagia realizada por el audiólogo en ancianos hospitalizados. **Método:** estudio analítico transversal realizado con la aplicación de los Eating Assessment Tool y del Protocolo de Evaluación del Riesgo de Disfagia por Logopedas en 52 pacientes ancianos de una clínica médica, además de la recogida de datos sociodemográficos y condiciones de salud. Para el análisis estadístico se utilizó la prueba exacta de Fisher y la regresión logística para el odds ratio. **Resultados:** hubo asociación (p=0,01) entre la evaluación del enfermero y del logopeda, con odds ratio de un anciano hospitalizado expuesto al riesgo de disfagia por la Eating Assessment Tool presentar una alteración en el Protocolo Logopédico de Evaluación del Riesgo de Disfagia (OR 3,89 IC 95%: 1,10-13,68). **Conclusión e implicaciones para la práctica:** los hallazgos indican que existe una asociación entre la valoración de enfermería y logopedia en los trastornos de la deglución y que la Enfermería puede actuar en la identificación de riesgos, prevención y rehabilitación en la disfagia.

Palabras clave: Deglución; Disfagia; Enfermería; Envejecimiento; Equipo multiprofesional.

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#### INTRODUCTION

The swallowing process involves the voluntary and reflex activities of more than 30 nerves and muscles. It plays a vital role in everyone's daily life, transporting nutrients and the necessary energy from the oral cavity to the stomach, ensuring that no substance gets into the airway.<sup>1</sup>

Swallowing is divided into the oral, pharyngeal, and esophageal phases, but the process begins with the selection of the food to eat. Colors and smells help make this choice, as food is first appreciated through the eyes before it reaches the oral cavity. This is when the respiratory mechanism changes to the digestive one, as salivation occurs first, even before the food reaches the mouth. In the oral phase, the food is chewed and mixed with saliva to form a food bolus of suitable consistency in the mouth, then the food bolus is propelled into the pharynx by the tongue. Other structures simultaneously seal the nasopharynx and larynx to prevent regurgitation or aspiration, and the lower esophageal sphincter begins to relax. In the esophageal phase, the food bolus passes through the upper esophageal sphincter and enters the esophageal body, where it is propelled by involuntary contractions into the stomach.<sup>2,3</sup>

In view of this swallowing process, it can be verified that the structures involved may be subject to alterations, such as missing teeth, ill-fitting prostheses, altered saliva production, loss of muscle strength in the lips, tongue, pharynx, cheeks, and larynx, and respiratory incoordination. As a result, lip sealing, food handling, bolus formation, propulsion, and direction of the bolus are impacted, which can lead to flow deviations, delays in triggering the pharyngeal phase, residues in the recesses, even laryngotracheal penetration or aspiration and consequent broncho-aspiration.<sup>4</sup>

The natural aging process, associated with geriatric syndromes, affects the stomatognathic system: its structures - tongue, cheeks, mandible, lips, occlusal area, and palate, and its functions - sucking, breathing, chewing, speaking, and swallowing. This impairment in the elderly population is manifested by difficulty in chewing or starting the swallowing process, with the presence of coughing, choking, heartburn, chest pain, and nasal regurgitation during meals, and the sensation of food stuck in the throat after meals. These changes in swallowing functionality can be classified as dysphagia, which is a condition involving perceived or actual difficulty in forming or moving a bolus of food safely from the oral cavity to the stomach.<sup>5</sup>

The prevalence of dysphagia is not well defined in the literature, as it will depend on the assessment tool and the clinical profile of the individuals assessed. A systematic review showed that the prevalence of dysphagia is 27% in community-dwelling elderly people, 47.5% in elderly patients in intensive care, 51% in nursing home residents, and 91% in elderly patients hospitalized for community-acquired pneumonia. However, a percentage of individuals with dysphagia are not routinely identified, because they spontaneously adapt to food texture and their chewing abilities and exclude foods that are difficult to chew from their diet and/or because they suffer from silent aspiration.<sup>6</sup>

The associated risk factors do not clarify the potential confounding factors and mediators of dysphagia. Most of the studies are subject to reverse causality and do not confirm what comes first, the alteration in swallowing or the health problem, such as sarcopenia, frailty, and psychological state.<sup>7</sup>

In order to avoid the fragmentation of care, the professional approach to dysphagic patients should be multidisciplinary/ interdisciplinary, but nurses play a special role in observing and monitoring these patients through their continuous follow-up. The Nursing team's assessments provide data that is often not observed during the speech therapy, nutritional, or medical examination, since it is the nursing professionals who are with the patients during oral medication administration, diet administration, and general care.<sup>8</sup>

Currently, few studies have demonstrated the work of nursing in dysphagia in conjunction with speech therapy, and the relationship between the Eating Assessment Tool<sup>9,10</sup> (EAT-10) and the Speech Therapy Protocol for Assessing Risk of Dysphagia<sup>11</sup> (PARD). This relationship could become an ally for the multi-professional team in the process of monitoring and preventing complications in a hospital environment. In this context, the aim of this study was to investigate and demonstrate the association between the self-perceived swallowing assessment carried out by nurses using the EAT-10 and the dysphagia risk classification carried out by speech therapists in hospitalized elderly patients.

#### METHOD

This is an analytical cross-sectional study, carried out between September and December 2021, at the medical clinic of the *Samambaia* Regional Hospital (SamRH), belonging to the Federal District State Health Department (SED/DF).

Sampling was by convenience, i.e. non-probabilistic, as it is easy to access and has obvious advantages in terms of cost and logistics, as well as being useful for checking whether the research problem exists in the universe in which they are inserted.<sup>12</sup> The sample size thus comprised all the elderly hospitalized in the medical clinic who met the inclusion criteria during the data collection period.

Volunteers aged 60 or over and admitted to the medical clinic were included in the study. Participants who were unable to answer the EAT-10 instrument or who were on a suspended oral diet were excluded.

The study was approved by the Research Ethics Committee of the *Ceilândia* College of the University of Brasília (REC/CEC), under opinion number 3.749.828, CAAE: 18188219.0.0000.8093 and the Research Ethics Committee of the Foundation for Teaching and Research in Health Sciences of the Federal District Health Department (REC/FTRHS), under opinion number 3.820.960, CAAE: 18188219.0.3001.5553. All the individuals who agreed to take part in the study signed the Free and Informed Consent Term (FICT).

After signing the FICT, sociodemographic and health data was collected by means of a structured survey, accessing the participant's medical records through the TrakCare® health

information system of the Federal District Health Department and through questions answered by the participant.

The assessment using the EAT-10 instrument was carried out by the main researcher (a nurse) who was trained to use it (1st phase of the study). The PARD assessment was carried out by the auxiliary researcher (speech therapist) who was trained to apply it (2nd phase of the study). The PARD was applied after the main researcher's initial assessments. The results of the evaluations were not communicated by the main researcher to the assistant researcher, either before or after the evaluations were carried out.

The printed instrument (EAT-10) was not given to the participants but was read out for them to answer. The reason for this approach was the risk of paper contamination by COVID-19, as the lead researcher needed to take the records out of the hospital environment for their analysis.

The first assessment for dysphagia risk screening was carried out using the EAT-10 instrument, which assessed the participant's feeding process. Each question has a score from 0 (no problem) to 4 (serious problem), with a maximum score of 40 points and cohort scores < 3 points without risk of dysphagia and greater than or equal to 3 with risk of dysphagia.9,10 The instrument asks the participant "how much of a problem are these situations for you? Mark the number that best fits your case", and continues with the following questions: "My problem with swallowing makes me lose weight: my problem with swallowing doesn't let me eat out; I have to force myself to drink liquids; I have to force myself to swallow food (solid); I have to force myself to swallow medication; it hurts to swallow; my problem with swallowing takes away the pleasure of eating; I get food stuck in my throat; I cough when I eat and swallowing makes me stressed." After the participant responded, the values of the corresponding responses for each item were added up, where a result greater than or equal to three was an indicator of alteration.

At another point, the participants were assessed using the PARD protocol<sup>11</sup> by the speech therapist. The application of the PARD protocol requires the speech therapist to be aware of the participant's clinical condition. The following materials were needed: a stethoscope, pulse oximeter, 15ml of drinking water, 54ml of pasty food, 5ml and 10ml syringes, and a dessert spoon. Before starting the tests, previous vital signs were checked: Heart Rate (HR), Respiratory Rate (RR), and Oxygen Pressure Saturation (OPS<sub>2</sub>).

The first test was the water test, in which the speech therapist gradually offered the participant between 1 and 5ml in a syringe, asking them to suck the water out of the syringe while the assessor gently pushed the plunger. Afterwards, the participant was instructed to swallow in order to assess: anterior oral escape, oral transit time, nasal reflux, number of swallows, laryngeal elevation, cervical auscultation, oxygen saturation, vocal quality, coughing, choking, cyanosis, bronchospasm and changes in HR and RR.

The second test was the swallowing of pasty food, which began with the food being divided into 3, 5, and 10 ml using a

10 ml syringe. Once the food had been fractionated, it was placed in a dessert spoon and the participant was instructed to pick it up and swallow; this procedure was repeated three times for each volume, observing the uniformity of performance. This test also assessed: anterior oral escape, oral transit time, nasal reflux, number of swallows, laryngeal elevation, cervical auscultation, oxygen saturation, vocal quality, coughing, choking, cyanosis, bronchospasm, and changes in HR and RR.

After performing the tests, the speech therapist classified the participant's swallowing as normal, functional, mild dysphagia, mild to moderate dysphagia, moderate dysphagia, moderate to severe dysphagia, or severe dysphagia. The procedures were as follows:<sup>11</sup>

- Level I: normal swallowing. No extra strategy or time is needed. Full oral feeding is recommended.
- Level II: functional swallowing. May be abnormal or altered, but does not result in aspiration or reduced swallowing efficiency, and adequate nutrition and hydration can be maintained orally. Thus, spontaneous compensation of mild difficulties is expected, in at least one consistency, with no signs of aspiration risk. Complete oral feeding is recommended, but additional time may be required for this task.
- Level III: mild oropharyngeal dysphagia. Swallowing disorder present, with the need for specific guidance from the speech therapist during swallowing. Need for minor dietary modifications; spontaneous and effective coughing and/or throat clearing; slight oral alterations with adequate compensations.
- Level IV: mild to moderate oropharyngeal dysphagia. There is a risk of aspiration, but it is reduced with the use of therapeutic maneuvers and techniques. Need for occasional supervision to carry out therapeutic precautions; signs of aspiration and restriction of one consistency; weak reflex cough and strong voluntary cough. Feeding time is significantly increased and nutritional supplementation is indicated.
- Level V: moderate oropharyngeal dysphagia. Significant risk of aspiration. Oral feeding supplemented by an alternative route, signs of aspiration for two consistencies. The patient can feed on some consistencies, using specific techniques to minimize the potential for aspiration and/or facilitate swallowing, with the need for supervision. Weak or absent cough reflex.
- Level VI: moderate to severe oropharyngeal dysphagia. Tolerance of only one consistency, with maximum assistance to use strategies, signs of aspiration requiring multiple requests for clearing, aspiration of two or more consistencies, absence of reflex cough, weak and ineffective voluntary cough. If the patient's lung condition is compromised, oral feeding should be suspended.
- Level VII: severe oropharyngeal dysphagia. Inability to eat orally. Choking with difficulty recovering; presence of

cyanosis or bronchospasm; silent aspiration for two or more consistencies; ineffective voluntary coughing; inability to initiate swallowing.

Microsoft Excel 2018 and the Statistical Package of Social Sciences (SPSS) version 19.0 were used to analyze and interpret the results. The main descriptive measures were used for quantitative variables and absolute (n) and relative (%) frequencies for qualitative variables. After the exploratory data analysis, statistical inference techniques were used. The association between the EAT-10 classification variable and PARD was verified using Fisher's exact test. The odds ratio was calculated using logistic regression, which assessed the relationship between the chance of an exposed individual (change in EAT-10) having the condition of interest (change in PARD), compared to that of a non-exposed individual. The confidence level adopted in this study was equivalent to 95%.

#### RESULTS

Of the total of 57 participants in the first phase of the study, five were lost in the second phase due to hospital discharge, which made it impossible to apply the PARD. The sample therefore consisted of 52 individuals with an average age of 73 years (minimum 61 years and maximum 94 years). The length of hospitalization, in relation to the day of the 1st phase of the study, averaged 5.5 days (minimum of 1.0 day and maximum of 15.0 days).

The detailed sociodemographic and health characterization of the elderly who made up the sample in this study is described in a previous study, also carried out by the same researchers.<sup>13</sup> As a summary of the participants, gender was balanced in the sample (female 53.85%; male 46.15%), the majority were white (61.54%), married (40.38%) and there was a predominance of incomplete Primary Education (50.00%). The main reason for hospitalization was respiratory problems (76.92%). *Diabetes Mellitus* (DM) and Systemic Arterial Hypertension (SAH) were the most prevalent comorbidities (DM 42.31%; SAH 65.38%). The route of diet administration was predominantly oral (94.23%).

The total sum of the EAT-10 classified the elderly person as being at risk ( $\geq$ 3) or not at risk (<3) of dysphagia. Table 1 shows the scores of these elderly people and the absolute and relative number of each score. In addition, the PARD protocol classification levels presented in each EAT-10 score and classification can also be verified. Score four was predominant in four elderly people at risk of dysphagia and in the classification without risk of dysphagia score zero was predominant. The PARD protocol classification level showed variations within the EAT-10 classification, with level I (normal swallowing) predominating in the elderly with no risk of dysphagia and level I (normal swallowing) and level II (functional swallowing) maintaining the same predominance in those with a risk of dysphagia. The other definitions of the PARD-level classifications can also be seen in the table.

Table 2 shows, statistically (p<0.05), the association between the EAT- 10 variable and the PARD variable. The data shows that 11 of the 16 participants who were at risk of dysphagia on the EAT-10 were also classified as having swallowing disorders on the PARD, the most frequent classification being functional swallowing. With regard to the 36 participants who were not at risk of dysphagia on the EAT-10, the majority were also classified as having normal swallowing on the PARD.

The Odds Ratio was also calculated for a hospitalized elderly person exposed to the risk of dysphagia by the EAT-10 to have a change in PARD (OR 3.89 95% CI: 1.10-13.68).

#### DISCUSSION

Among the signs that indicate a risk of dysphagia, cough was present in 25.0% of the elderly; this manifestation may also be related to the reason for hospitalization (respiratory). Some studies carried out in China and the United States have shown that cough was present in 76.0% and 88.0% of individuals hospitalized for respiratory reasons, respectively.<sup>14,15</sup> A lower number of elderly people with coughs in the study may be related to the time, type, and improvement of care interventions they were already receiving at the time the instruments were applied since it was at the time considered to be the second wave (COVID-19), and health professionals were already better

Table 1.	EAT-10 sco	re and class	ification alor	ng with the	PARD-leve	classificatio	ns in hospit	alized elde	rly (n=52)	. Brasília, I	DF, 2022.

EAT-10 classification	EAT-10 Score											
	0	1	2	3	4	5	6	7	13	18	20	Total
Risk of dysphagia				2 (12.50%)	4 (25.00%)	2 (12.50%)	1 (6.25%)	2 (12.50%)	2 (12.50%)	1 (6.25%)	2 (12.50%)	16 (100.00%)
No risk of dysphagia	21 (58.31%)	10 (27.77%)	5 (13.92%)									36 (100.00%)
PARD level <sup>(11)</sup>	I (16) II (4) III (1)	I (4) II (6)	I (3) II (2)	l (1) IV (1)	I (1) II (3)	(1)    (1)	III (1)	I (1) IV (1)	(1) V (1)	IV (1)	II (1) VII (1)	52 (100.00%)
					No risk of dysphagia	At risk of dysphagia	Not scored					

PARD level of dysphagia: I Normal swallowing; II Functional swallowing; III Mild oropharyngeal dysphagia; IV Mild to moderate oropharyngeal dysphagia; V Moderate oropharyngeal dysphagia; VI Moderate to severe oropharyngeal dysphagia; VII Severe oropharyngeal dysphagia. Source: Research data (2022).

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EAT-10	PARD											
	Normal *Deg.	Functional *Deg.	Light <sup>†</sup> OD	Light/ <sup>‡</sup> mod. <sup>†</sup> OD	<sup>‡</sup> mod. <sup>†</sup> OD	<sup>‡</sup> mod./ severe <sup>†</sup> OD	Severe <sup>†</sup> OD	Total	Fisher's exact test			
Risk of dysphagia	5 31.3%	5 31.3%	1 6.3%	3 18.8%	1 6.3%	0 0.00%	1 6.3%	16 100%				
No risk of dysphagia	23 63.9%	12 33.33%	1 2.8%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	36 100%	p-value 0.01			
Total	28 53.8%	17 32.7%	2 3.8%	3 5.8%	1 1.9%	0 0.00%	1 1.9%	52 100%				

**Table 2.** Absolute and relative frequency of EAT-10 classification according to PARD classification in hospitalized elderly (n=52). Brasília, DF, 2022

Source: Research data (2022).

\*Deg= Deglutition; †OD= Oropharyngeal dysphagia; ‡mod= moderate

prepared for the interventions. The other signs and symptoms of risk for dysphagia were rarely expressed or reported by the elderly: choking (10.0%), lack of appetite (2.0%), and 63.0% did not express or report any symptoms of risk.

The exclusive oral feeding route was used by 94.23% of the hospitalized elderly, showing that feeding was being offered voluntarily and without contraindications. Only 5.77% had two simultaneous feeding routes, oral and enteral, via a mesenteric catheter. This dual route was used by elderly people who at the time of hospitalization were malnourished and had poor acceptance of the oral diet.

It should be noted that the doctor should indicate the route and type of feeding, and the nutritionist should make the dietary prescription. And in the absence of a nutritionist's prescription in the institution, the nurse can order the meal according to the doctor's prescription.<sup>16</sup> However, this does not prevent the route and type of feeding from being assessed by a team, including the speech therapist and other health professionals.

The study's guiding instrument was the application of the EAT-10 self-reported dysphagia risk assessment by nurses. From the statistical results (Table 2), it can be said that there is evidence that the risk of dysphagia (EAT-10) is dependent on the classification of swallowing and risk of dysphagia (PARD), and there was an association between the two instruments (p=0.01).

The risk of dysphagia was found in 30.77% of the sample, with a minimum score of 3 and a maximum of 20 points. When comparing the scores of the elderly at risk of dysphagia on the EAT-10 with the classification of the PARD result (Table 1), it can be seen that the range of scores between three and seven points was predominantly classified as PARD I (normal swallowing) and II (functional swallowing) and scores ≥13 points were classified as PARD for dysphagia (V, VI, VII). Thus, it can be proposed, not statistically, that hospitalized elderly people with an EAT-10 score of less than 10 points may have normal or functional, swallowing and that EAT-10 scores of more than 10 points may already have dysphagia.

Other studies carried out with hospitalized elderly people showed discrepant values for the risk of dysphagia using the EAT-10. This discrepancy in results may be due to differences in the characterization of the sample and the presence of neurological alterations in some.<sup>17-19</sup>

When comparing the EAT-10 score (Table 1) of the elderly who were not at risk of dysphagia (69.23%) with the PARD classification, it can be verified that of the 36 (100.0%) elderly, 23 (63.88%) had a classification of I (normal swallowing) between scores zero and two on the EAT-10. Thus, it can be hypothesized, non-statistically, that elderly people who score below three on the EAT-10 may have normal swallowing according to the PARD.

A study on the factors associated with self-reported dysphagia in the elderly using the EAT-10 found that 67.0% of participants with an EAT-10 score  $\geq$  15 did not report a previous diagnosis of dysphagia. These results suggested that the elderly may not be aware of their swallowing problems or that dysphagia may not have been identified as a persistent concern by health professionals.<sup>20</sup> This was also verified in this study, since when asked on the EAT-10 "talk about your swallowing problem", the elderly reported that they had no problems, but when the other questions on the EAT-10 were introduced, they began to express swallowing difficulties.

Nursing staff need to recognize the signs and symptoms of swallowing disorders. A fundamental aspect of this recognition is the way in which the elderly patient is approached because they need clear, objective, patient language that involves their family and/or caregiver. And, that after the approach, the result is the transformation of passive listening into resolving and welcoming listening.

In this study, hospitalized elderly people exposed to the risk of dysphagia by the EAT-10 were 3.89 times more likely to have an altered PARD classification (including functional swallowing and dysphagia) compared to those who were not at risk of dysphagia. Therefore, exposure to risk (EAT-10  $\geq$  3 points) increases the occurrence of the outcome of altered PARD. The association between the identification of risk by the nurse and the classification of the degree of dysphagia by the speech therapist (p=0.01) demonstrates an integration of skills and knowledge between the two professional categories. This interaction demonstrates the possibility of preventing or minimizing swallowing alterations and their possible complications, promoting effective communication between the team and improving the quality of services.

No studies were found in the literature that carried out comparative tests between the EAT-10 applied by a nurse and the PARD applied by a speech therapist with a cut-off score. It should be remembered that the EAT-10 is a self-reported screening instrument and the PARD is a test applicability protocol in which the analysis will determine the swallowing classification.

# CONCLUSION AND IMPLICATIONS FOR PRACTICE

It can be said that there was an association between the findings of the EAT-10 nurse assessment and the PARD speech assessment in hospitalized elderly patients.

This study shows that nurses can act to identify swallowing risks as a nursing practice and suggests that nurses can also be considered rehabilitation professionals.

Further studies between Nursing and Speech Therapy should be carried out, demonstrating the importance of interaction and multi- and interdisciplinary care.

In this study, the COVID-19 pandemic was an epidemiological limitation encountered by the participants, and for the sake of prevention and control, some issues had to be delimited.

Instruments that are easy to apply and have a low financial cost could help to screen for the risk of dysphagia, seeking to control and rationalize the financial resources used, without losing the quality of the services provided by the nursing team.

This study proposes that swallowing assessment be included as a factor in the identification of risk of frailty and safety in the elderly by nursing staff and that the subject be included in the ongoing education of these professionals in order to improve the nursing diagnosis of "impaired swallowing" and its relationships. In this way, understanding dysphagia and its consequences can lead to better care strategies during hospitalization.

# **AUTHOR'S CONTRIBUTIONS**

Study design. Ronivaldo Pinto Ferreira. Laura Davison Mangilli. Data acquisition. Ronivaldo Pinto Ferreira. Luana Marsicano Alves. Laura Davison Mangilli.

Data analysis and interpretation of results. Ronivaldo Pinto Ferreira. Luana Marsicano Alves. Laura Davison Mangilli.

Writing and critical review of the manuscript. Ronivaldo Pinto Ferreira. Luana Marsicano Alves. Laura Davison Mangilli.

Approval of the final version of the article. Ronivaldo Pinto Ferreira. Luana Marsicano Alves. Laura Davison Mangilli.

Responsibility for all aspects of the content and integrity of the published article. Ronivaldo Pinto Ferreira. Luana Marsicano Alves. Laura Davison Mangilli.

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