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Nurses' satisfaction with the implementation of a deglutition assessment procedure: cross-sectional study

Satisfacción de los enfermeros con la implementación de un procedimiento de evaluación de la deglución: estudio transversal

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ABSTRACT

Introduction: dysphagia increases the risk of aspiration in patients, making it essential to assess patients' swallowing abilities. In January 2024, the swallowing assessment procedure was published at the Professor Doutor Fernando Fonseca Hospital (HFF) of the Amadora-Sintra Local Health Unit.
Objective: to identify the degree of satisfaction of nurses from the Neurology Service and the Adult Emergency Service at HFF regarding the implementation of the swallowing assessment procedure.
Method: this is a cross-sectional study. The participants were Nurses from the Neurology Service and the Adult Emergency Service at HFF, after procedure training. A specific questionnaire was created on Qualtrics online platform that was used to collect the data between June 3 and July 3, 2024. Quantitative data analysis was conducted.
Results: 38,46 % of nurses working in these services responded to the questionnaire. The average age of the participants was 31,86 years old, with the majority working in the Adult Emergency Service. Satisfaction with the implementation of the procedure was 76,36 % while satisfaction with training was 81,25 %. The reported benefits of implementing the procedure were: simplicity and easy application (75,51 %), easy interpretation of the result (85,71 %) and facilitating the provision of an adequate diet (89,8 %). These findings are evident in other studies on this topic.
Conclusions: nurses expressed satisfaction with the implementation of the procedure, as it enhances the quality of nursing care and facilitates patients' functional readaptation.

Keywords: Deglutition; Dysphagia; Methods; Nursing; Personal Satisfaction.

RESUMEN

Introducción: la disfagia aumenta el riesgo de aspiración en pacientes, por lo que es imprescindible evaluar la deglución. En enero de 2024 se publicó el procedimiento de evaluación de la deglución, en el Hospital Profesor Doutor Fernando Fonseca (HFF) de la Unidad Local de Salud de Amadora-Sintra.
Objetivo: identificar el grado de satisfacción de los enfermeros del Servicio de Neurología y del Servicio de Emergencia del Adulto del HFF con la implementación del procedimiento de evaluación de la deglución.
Método: es un estudio transversal. Los participantes fueron Enfermeros del Servicio de Neurología y del Servicio de Emergencia del Adulto del HFF, previa formación del procedimiento. Se creó un cuestionario específico en la plataforma online Qualtric, que se cumplimentó entre el 3 de junio y el 3 de julio de 2024. Se realizó análisis de datos cuantitativos.

Resultados: respondieron al cuestionario 38,46 % de los enfermeros que trabajan en estos servicios. La edad promedio fue de 31,86 años, trabajando la mayoría en el Servicio de Emergencia del Adulto. La satisfacción con la implementación del procedimiento fue 76,36 % y de la formación fue 81,25 %. Los beneficios de implementar el procedimiento son: simplicidade y fácil aplicación (75,51 %), fácil interpretación del resultado (85,71 %) y facilitar la provisión de la dieta adecuada (89,8 %). Estos hallazgos son evidentes en otros estudios sobre este tema.

Conclusiones: los enfermeros expresaron satisfacción con la implementación del procedimiento, mejorando la calidad de la atención de enfermería y facilita la readaptación funcional de los pacientes.

Palabras clave: Deglución; Disfagia; Métodos; Enfermería; Satisfacción Personal.

INTRODUCTION

Dysphagia is a condition that affects approximately 129 million people in Brazil,[1] 40 million people in Europe, 16 million people in the United States of America and 8 million people in Japan.[2] Oropharyngeal dysphagia is the most common, occurring in about 60 % of cases.[3] The incidence of dysphagia is higher in the elderly population, in individuals with community-acquired pneumonia, in patients with head and neck cancer, in individuals with dementia and those who endured a stroke.[4] Dysphagia has several consequences, namely aspiration pneumonia, malnutrition and decreased quality of life.[5] Aspiration pneumonia and mortality are the main consequences.[6]

A worldwide meta-analysis of studies published between 1987 and 2021 found that dysphagia in stroke patients increases the risk of aspiration pneumonia by 4,08 times and the mortality rate by 4,07 times.[7] In another study carried out in a Medium-Term Continuing Care and Rehabilitation Unit in Portugal reported a 15,79 % incidence of aspiration pneumonia, 50,87 % prevalence of malnutrition, an additional 17,81 days of hospitalization and an increase in costs of 87954,55€.[4]

The early identification of patients with dysphagia is essential to prevent complications. To achieve this, it is necessary to use a valid swallowing assessment instruments.[2,8,9] The Volume-Viscosity Swallow Test (V-VST) is a screening tool applied by nurses that allows the rapid identification of dysphagia.[10] This instrument has a sensitivity of 100 % for preventing food aspiration into the tracheobronchial tree and for complete assessment of all consistencies. However, its specificity for diagnosing dysphagia is only 64,7 %.[10,11] The V-VST provides two possible results: changes in swallowing or no changes in swallowing. When swallowing impairment is identified, it leads to the adaptation of liquid intake to nectar, liquid or pudding consistencies.[2,10,11]

The V-VST is used at the Professor Doctor Fernando Fonseca Hospital (HFF) of the Amadora-Sintra Local Health Unit (ULSASI) in Portugal. In January 2024, a swallowing assessment procedure was developed and published by Nurses Specialists in Rehabilitation (NSR) for use across all inpatient services. Training for HFF Nurses on the application of the V-VST began in April 2024, with the Neurology Service and the Adult Emergency Service being the first to have all nurses trained. During the training, the nurses identified some obstacles to implementing the procedure, including concerns about increased workload, the time required to carry out the assessment, difficulty to interpret the results, challenges to provide an adapted diet to patients in the Adult Emergency Department and doubts about the immediate benefits for patients.

The Portuguese Order of Nurses has defined several criteria for evaluating Nursing care and specialized care in Rehabilitation Nursing, focusing in the following criteria: development of processes for continuous improvement of the quality of nursing care, ongoing training processes,[12] and nurses' satisfaction with the quality of specialized care.[13] Based on the challenges shared by nurses during training, several research questions emerged, leading to the main research question: What is the level of satisfaction among nurses in the Neurology Service and the HFF Adult Emergency Department regarding the implementation of the swallowing assessment procedure?

The purpose of this study is to identify the degree of satisfaction among nurses from the Neurology Service and the Adult Emergency Service at HFF regarding the implementation of the swallowing assessment procedure. Four specific objectives were formulated: to characterize the sociodemographic data of the sample; to identify the level of satisfaction of nurses from the Neurology Service and the Adult Emergency Service at HFF in relation to training received; to identify areas of improvement in training; and, to evaluate the perceived benefits of implementing the swallowing assessment procedure in nursing practice.

METHOD

A prospective cross-sectional study was conducted, complying with the STROBE guidelines. Approval was obtained from the ULSASI Ethics Committee (Opinion n°030/2024). The study protocol was registered in the Open Science Framework on January 28, 2025, under a CC-By Attribution 4.0 International license: https://doi.org/10.17605/OSF.IO/MR5NX.

A specific questionnaire was created on the Qualtrics online platform, anonymized, and made available for free for response by the 143 Nurses from the designated services (11 from the Neurology Service and 132 from the Adult Emergency Service) at ULSASI HFF, as all nurses had undergone training. The questionnaire was open for responses from June 3, 2024 to July 3, 2024.

The first part of the questionnaire consisted of information about the study's scope, allowing nurses to give informed consent. Nurses were informed that submitting their responses would imply automatic consent. Subsequently, the questionnaire was directly related to the research question (table 1).

Table 1. Questions about nurses' level of satisfaction	
Q1	Was the training sufficient to apply the swallowing assessment procedure?
Q2	Do you have any suggestions for improving the training?
Q3	Before learning about this procedure, did you consider swallowing assessment relevant in nursing practice?
Q4	Have you already carried out a swallowing assessment?
Q5	Is the swallowing assessment procedure simple?
Q6	Is the V-VST Swallowing Screening Test easy to administer?
Q7	Is interpreting the V-VST result easy?
Q8	Is selecting the type of diet for people with dysphagia easy?
Q9	Does implementing the procedure make it easier to provide an adequate diet for people with dysphagia?
Q10	After becoming aware of this procedure, did you consider swallowing assessment relevant in nursing practice?
Q11	How satisfied are you with the implementation of the Swallowing Assessment Procedure?

The questions addressed the obstacles identified by nurses during training on the swallowing assessment procedure. Most of these questions used an odd-point Likert scale (Q5 to Q9), with the neutral option being replaced by "No Opinion" to eliminate the possibility of a neutral response, reduce bias and minimize confusion in data analysis. Q4 was used as an exclusion question, to prevent answers to questions Q5 to Q9 by nurses who had not carried out the swallowing assessment, avoiding result distortion. Q11 was directly related to the study's objective and was answered by all nurses, as they had direct and/or indirect contact with the procedure.

The final section of the questionnaire concerned the sociodemographic, professional and academic characteristics of the Nurses, giving the option "I prefer not to answer" in all questions.

Quantitative data analysis was conducted using the analysis features of Microsoft Office Excel. Emphasis was placed on analysis measures: absolute frequency, relative frequency, mean and standard deviation. Only submitted questionnaires were considered for analysis, excluding the ones of the Nurses that did not press the "Submit" button, as they were incomplete and lacked consent.

RESULTS

The overall response rate to the questionnaire was 38,46 % (55 nurses), with specific adherence of the Neurology Service of 90,9 % and the Adult Emergency Service of 34,09 %. The average age of respondents was 31,86 years (±7,53 years). Among them, 74,55 % nurses were from the Adult Emergency Service, 18,18 % from the Neurology Service and 7,27 % preferred not to disclose their service. Regarding gender, 80 % of nurses were female, 12,73 % were male and 7,27 % preferred not to answer. The length of professional experience of Nurses is shown in table 2, while the professional experience of Nurses specifically in the Neurology Service and/or Adult Emergency Service is presented in able 3.

Table 2. Period of Nurses' Professional Experience						
1 year	2-3 years	4-6 years	7-9 years	10-12 years	>13 years	No Answer
12,73 %	23,64 %	16,36 %	9,09 %	14,55 %	14,55 %	9,09 %

Table 3. Period of Professional Experience of Nurses in the Neurology Service and/or Adult Emergency Service						
1 year	2-3 years	4-6 years	7-9 years	10-12 years	>13 years	No Answer
23,64 %	23,64 %	12,73 %	20 %	3,64 %	7,27 %	9,09 %

The data obtained regarding professional categories were as follows: Nurse (87,27 %), Specialist Nurse (7,27 %), Nurse Manager (1,82 %), and no response (3,64 %). The representativeness of the study degrees was as follows: Bachelor's degree (50,91 %), Postgraduate degree (23,64 %), Post-degree (10,9 %), Master's degree (10,9 %) and no response (3,6 Notably, 53,84 % of Nurses who completed a Postgraduate degree specialized in

the critically care area, all Nurses who completed a Post-Degree specialized in rehabilitation, and 66,67 % of Nurses who completed a Master's degree were in the medical-surgical.

All nurses responded to Q1, with the relative frequency of responses reflected in figure 1. Some nurses considered that the training was insufficient to efficiently apply the procedure. However, only 4 participants provided suggestions for improvement, each providing a different approach: simplification of the training methodology; inclusion of more practical cases to help with the application of V-VST during training; conducting training in a real clinical setting; post-training follow-up with trainers for ongoing support in a daily practice.
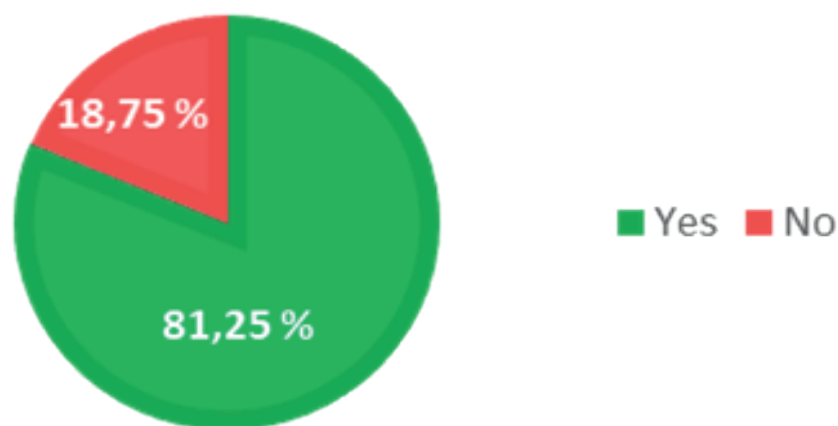

Figure 1. Graphic with answers to "Q1 – Was the training sufficient to apply the swallowing assessment procedure?"

Regarding the swallowing assessment, 49 nurses (89,09 % of the sample) had performed the procedure before answering the questionnaire. Consequently, only these 49 nurses answered the questions regarding the use of the procedure (Q4 to Q8). Table 4 shows the relative frequencies of responses to questions Q4 to Q8.

Table 4. Nurses' answers to questions Q5 to Q9				
Q5 – Is the swallowing assessment procedure simple?				
Totally agree	Agree	Disagree	Totally disagree	No opinion
22,45 %	53,06 %	20,41 %	4,08 %	-
Q6 – Is the V-VST Swallowing Screening Test easy to administer?				
Totally agree	Agree	Disagree	Totally disagree	No opinion
20,41 %	55,1 %	18,37 %	6,12 %	-
Q7 – Is interpreting the V-VST result easy?				
Totally agree	Agree	Disagree	Totally disagree	No opinion
22,45 %	63,27 %	14,28 %	-	-
Q8 – Is selecting the type of diet for people with dysphagia easy?				
Totally agree	Agree	Disagree	Totally disagree	No opinion
16,33 %	61,22 %	18,37 %	2,04 %	2,04 %
Q9 – Does implementing the procedure make it easier to provide an adequate diet for people with dysphagia?				
Totally agree	Agree	Disagree	Totally disagree	No opinion
34,7 %	55,1 %	8,16 %	-	2,04 %

Q3 and Q10 addressed Nurses' perception of the relevance of swallowing assessment. Before learning about the swallowing assessment procedure, 85,45 % of nurses considered it "relevant" and 14,55 % considered it "not relevant". However, after becoming familiar with the swallowing assessment procedure, all nurses began recognised its importance in nursing practice.

The relative frequency of responses referring to Q11 is presented in figure 2.
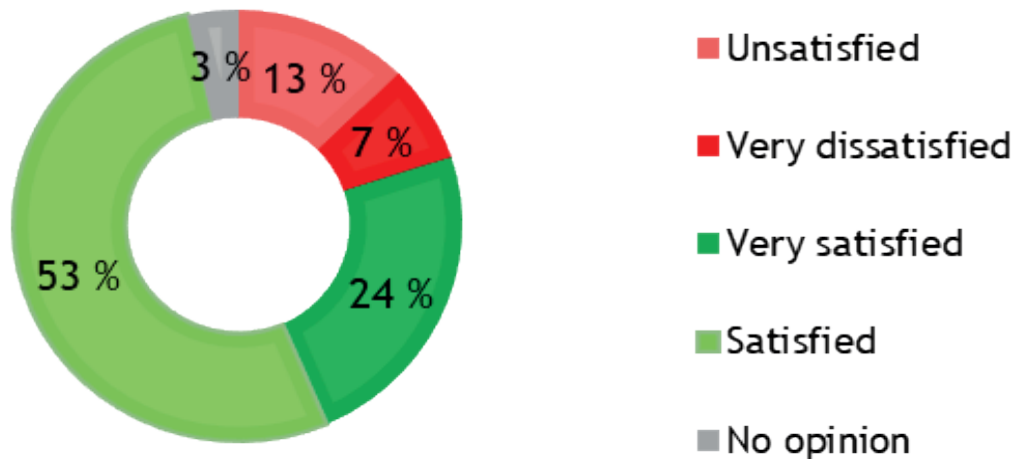
Figure 2. Graphic with answers to "Q11 – How satisfied are you with the implementation of the Swallowing Assessment Procedure?"

DISCUSSION

The response rate among nurses to the questionnaire from the Adult Emergency Service was approximately one-third of the total number of nurses working in this service, wich negatively impacted the generalizability of the results. No studies were found for direct comparison, however the study by Midje et al.[14] allowed us to understand that Nurses' response adherence may be influenced by negative Work Engagement factors, such as the absence of a direct reward or the perception of increased workload due to answering the questionnaire.

Approximately 80 % of nurses in this study were female, and 74,55 % had either a bachelor's degree or a postgraduate qualification as their highest level of education. These findings align with the 2024 Statistical Yearbook of the Order of Nurses in Portugal.[15]

Regarding professional experience, 36,37 % of Nurses had less than 3 years of overall professional experience, and 47,28 % of Nurses had worked in these specific services for less than 3 years. The limited experience of nurses in these services may have affected their ability to perceive differences in care before and after the implementation of the procedure. These findings can be analysed in the context of the Benner's Model of Professional Competence Development, which describes how nurses need progress through several stages, from beginner to expert, before acquiring fundamental skills in a given clinical setting.[16] Consequently, nurses with limited professional experience in these services may not yet have the ability to fully and effectively assess the impact of the care provided.

Many nurses felt that the training was sufficient to apply the procedure, leading to a positive result. Nurses who did not consider their training sufficient offered several suggestions for improvement, which makes it challenging to assess the relevance and validity of the procedure's practical application, as well as establish a basis for comparison with other studies.

Most nurses had previously conducted swallowing assessments, which added value to their responses. Nurses considered that the implementation of the procedure improved the quality of nursing care and introduced several benefits for patients. At least 75 % of nurses responded "Agree" or "Totally Agree" to questions Q5 to Q9, with particular emphasis on Q7 ("Is the interpretation of the V-VST result easy?") and Q9 ("Implementation of the procedure facilitates the provision of an adequate diet for people with dysphagia?"), as positive responses exceeded 85 %. These results align with the data presented by the creators of V-VST,[10] as it has been shown that the application of the procedure and V-VST is quick and easy. Recent studies have validated the importance of conducting swallowing assessment early, such as in the Emergency Department, which can help to improve functional capacity and reduce rates of aspiration pneumonia, readmission and mortality rates.[9,17] Furthermore, in the study by Perez et al.[18] it was noted that the development of procedures and training by NSR in Emergency Services helps to improve the quality of care and prevent complications.

Nurses expressed satisfaction with the implementation of the swallowing assessment procedure with 77 % of positive responses to Q11. Additionally, all nurses considered swallowing assessment relevant to nursing practice after becoming aware of the procedure. The literature on professional satisfaction is extensive, particularly within the Nursing profession. Two recent studies support these findings, as nurses typically report

higher satisfaction when initiatives are implemented to improve the quality of care, providing opportunities for professional development through the introduction of best practices, education, and training.[19-21]

Several limitations were identified during the study, including:

- The decision not to use a scientifically validated questionnaire;
- The use of positively worded questions, which may have led to a higher number of positive responses;
- Failure to present a question to suggest improvements to the procedure;
- The discrepancy in the percentage of participants from each service;
- The high rate of nurses with limited professional experience in the services;
- The difficulty in finding literature to compare the data.

CONCLUSIONS

Nurses from the Neurology Service and the Adult Emergency Service of HFF expressed satisfaction with the implementation of the swallowing assessment procedure. Furthermore, they considered that the procedure improves the quality of nursing care and benefits patients, particularly by enhancing their functionality. These conclusions contrast with the negative perceptions that nurses had informally shared before the study. However, there are several data that require validation through additional research, especially regarding aspects of training improvement. It is suggested to conduct out a validation study and/or reformulation of the prepared questionnaire, as well as to carry out a satisfaction study involving all Nurses of HFF to enable generalization of the findings.

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