

Challenges and Best Practices in Managing Swallowing Difficulties in Post-Extubation ICU Patients: A Multidisciplinary Approach

Nouf S. Almulaik¹, Abdullah M. Alboaimi², Abdulrahman R. Alruwaili³,
Nouf M. Alshayea⁴, Nouf M. Alshayea⁵, Hani M. Alenezi⁶,
Shatha F. Aldhawi⁷

Health Affairs at the Ministry of National Guard

Abstract

Swallowing difficulties, or dysphagia, are a frequent issue for patients in the intensive care unit (ICU) after extubation, and they come with significant risks like aspiration pneumonia, malnutrition, and longer hospital stays. This study explores the challenges and best practices for handling dysphagia in post-extubation patients in a tertiary hospital ICU. Using a mixed-methods approach, including data analysis and interviews with healthcare professionals, we found that early intervention, teamwork, standardized procedures, and sufficient resources are essential for better patient outcomes. However, communication gaps, resource constraints, and a lack of standardization create obstacles that need to be addressed to improve care and reduce complications.

Keywords: Dysphagia, Post-extubation, ICU, Multidisciplinary care, Aspiration pneumonia, Early intervention

Introduction

Dysphagia, or difficulty swallowing, is a common problem among ICU patients after they are extubated. This condition can lead to serious complications, including aspiration, malnutrition, and pneumonia, which may extend the length of hospital stays and increase healthcare costs (Skoretz et al., 2010). The frequency of dysphagia after extubation varies significantly, ranging from 3% to 62%, depending on the patient population and evaluation methods (Barker et al., 2009). Given these potential complications, effective dysphagia management is crucial for ensuring safe swallowing and improving patient recovery.

Proper management of dysphagia in post-extubation ICU patients requires a multidisciplinary approach. Physicians, nurses, and swallowing therapists all contribute in different but complementary ways. Physicians oversee medical management and identify patients at risk, nurses perform early screenings and provide continued care, and swallowing therapists conduct detailed evaluations and lead specialized rehabilitation efforts (Martino et al., 2000). These collaborative efforts help in early detection, timely intervention, and reducing the risk of complications linked to swallowing issues.

Despite the clear benefits of a team-based approach, challenges in the ICU setting persist. Factors like high patient acuity, limited resources, and communication difficulties can hinder effective collaboration. Variability in staff training and inconsistent management protocols can also lead to gaps in care (Ryan et al., 2017). To improve outcomes for ICU patients after extubation, it is essential to address these challenges

with standardized practices and strong interprofessional teamwork. This paper explores the obstacles faced by ICU teams in managing dysphagia following extubation and offers recommendations for best practices to overcome these challenges.

Literature Review

Dysphagia is a prevalent issue in ICU patients, especially those who have been intubated for long periods. Research has shown that dysphagia following extubation is linked to higher risks of aspiration, malnutrition, and pneumonia, all of which can lead to longer hospital stays and increased costs (Skoretz et al., 2010). A systematic review by Skoretz et al. (2010) highlighted the high incidence of dysphagia among patients who have been extubated, underlining the need for effective management to reduce complications.

A team-based approach is essential for dysphagia management. Physicians, nurses, and swallowing therapists each play a critical role. According to Martino et al. (2000), comprehensive screening protocols and early identification of dysphagia are crucial to improving outcomes. Nurses are often the first to identify signs of swallowing difficulty, while swallowing therapists perform thorough assessments and develop specialized treatment plans (Martino et al., 2000).

Effective collaboration among healthcare providers is key to managing dysphagia. However, challenges such as high patient acuity, resource limitations, and communication issues often hinder the implementation of a cohesive care plan. A study by Ryan et al. (2017) explored the barriers to effective teamwork in dysphagia management and found that variability in training, lack of standard protocols, and communication gaps between team members were significant challenges. Addressing these challenges through consistent training and better communication can enhance patient care.

Several best practices have been identified for managing dysphagia in ICU patients. Early screening and timely intervention are critical for reducing risks such as aspiration pneumonia (Barker et al., 2009). Standardizing management protocols helps ensure that all team members follow a coordinated approach. Barker et al. (2009) emphasized the importance of validated screening tools and the early involvement of swallowing therapists to improve patient outcomes.

While the benefits of a multidisciplinary approach are well-known, further research is needed to determine the most effective ways to overcome ICU-specific barriers. Studies suggest that interprofessional education and standardized protocols can enhance collaboration and lead to better patient care (Ryan et al., 2017). Defining roles clearly and ensuring consistent communication can also help streamline the dysphagia management process and reduce variability in care.

Methodology

This study was conducted in a tertiary hospital ICU to investigate the challenges and best practices for managing dysphagia among patients who had recently been extubated. We used a mixed-methods approach, combining quantitative data collection with qualitative interviews to provide a thorough understanding of multidisciplinary dysphagia management.

Study Design

The study utilized a cross-sectional design, involving both quantitative and qualitative components. Quantitative data were collected on the incidence of dysphagia, patient outcomes, and timing of

interventions. Qualitative data were gathered through semi-structured interviews with ICU physicians, nurses, and swallowing therapists to understand their experiences, challenges, and views on dysphagia management.

Participants

The study included ICU physicians, nurses, and swallowing therapists working in the hospital's ICU. Participants had at least one year of experience in the ICU and were directly involved in managing post-extubation patients. We used purposive sampling to ensure each professional group was well represented.

Data Collection

Quantitative data were collected from patient medical records over a six-month period, focusing on patients who were extubated. We recorded demographics, intubation duration, dysphagia occurrence, and related complications, such as aspiration or pneumonia. We also documented the timing of dysphagia screening and interventions.

For qualitative data, we conducted semi-structured interviews with 15 healthcare professionals (five physicians, five nurses, and five swallowing therapists). The interviews explored their challenges, current practices, and suggestions for improving patient outcomes. Interviews were audio-recorded and transcribed for analysis.

Data Analysis

Quantitative data were analyzed using descriptive statistics to determine dysphagia rates and intervention outcomes. We used correlation analysis to examine the relationship between intervention timing and patient outcomes.

The qualitative data underwent thematic analysis. Transcripts were independently coded by two researchers to identify recurring themes regarding challenges, teamwork, and best practices in managing dysphagia. Themes were then reviewed for accuracy and consistency.

Ethical Considerations

Ethical approval was obtained from the ethics committee. Participants gave informed consent, and confidentiality was maintained by anonymizing transcripts and excluding identifiable information from the findings.

Findings

Quantitative Findings

We analyzed data from 150 patients who had been extubated in the ICU. Dysphagia was identified in 45% of these patients, with 68 showing signs of swallowing difficulties. The average duration of intubation for patients with dysphagia was 8.5 days. Table 1 summarizes the patient demographics and clinical characteristics.

Table 1: Patient Demographics and Clinical Characteristics

Characteristic	Dysphagia Group (n=68)	Non-Dysphagia Group (n=82)
Average Age (years)	65.2	58.7
Gender (Male/Female)	40/28	50/32
Average Duration of Intubation (days)	8.5	4.3
Incidence of Aspiration Pneumonia (%)	25	5

The incidence of aspiration pneumonia was significantly higher among patients with dysphagia (25%) compared to those without (5%). Early screening and intervention correlated with lower pneumonia rates and better overall outcomes. Table 2 shows the relationship between intervention timing and patient outcomes.

Table 2: Timing of Dysphagia Intervention and Patient Outcomes

Timing of Intervention	Number of Patients	Aspiration Pneumonia (%)	Length of ICU Stay (days)
Within 48 hours of Extubation	30	10	12.3
After 48 hours of Extubation	38	37	19.5

Patients who received dysphagia intervention within 48 hours of extubation experienced fewer complications, including a reduced incidence of aspiration pneumonia (10%) and shorter ICU stays, compared to those who received intervention later.

Qualitative Findings

Thematic analysis of interviews revealed several recurring themes: challenges in multidisciplinary collaboration, resource limitations, and the need for standardized protocols. Table 3 presents a summary of the key themes along with quotes from participants.

Table 3: Key Themes from Qualitative Analysis

Theme	Representative Quote
Challenges in Collaboration	"Communication between different teams can be inconsistent, which affects patient care." - Nurse
Resource Constraints	"We often don't have enough staff to provide timely assessments for all patients." - Swallowing Therapist
Importance of Protocols	"Standardized protocols would help ensure everyone is on the same page and improve patient outcomes." - Physician

Participants consistently emphasized the importance of early screening and good communication among healthcare professionals. Limited resources, including staffing and equipment, were identified as barriers to providing timely care. The need for standardized protocols was also highlighted as crucial for ensuring a consistent approach to patient management.

Discussion

This study highlights the significant challenges and best practices in managing dysphagia for ICU patients after extubation. The incidence of dysphagia found in this study (45%) aligns with earlier research showing a high prevalence of swallowing issues after extubation (Skoretz et al., 2010). This underscores the importance of early screening and appropriate interventions to reduce the risks of aspiration pneumonia and malnutrition.

Our quantitative analysis demonstrated the positive effects of early intervention. Patients who received dysphagia care within 48 hours of extubation had fewer complications, including lower rates of aspiration pneumonia and shorter ICU stays, compared to those who received delayed intervention. This supports previous findings that early identification and management of dysphagia can significantly improve patient outcomes (Barker et al., 2009).

The qualitative findings shed light on several barriers to effective dysphagia management, including collaboration challenges, resource constraints, and the lack of standardized protocols. Inconsistent communication between team members was frequently mentioned, which can negatively impact patient outcomes. These findings are consistent with Ryan et al. (2017), who identified communication gaps as a major barrier to effective care. Structured communication strategies, such as regular meetings and standardized handoff tools, could help improve coordination.

Resource constraints, including insufficient staffing and limited access to equipment, were also noted as major challenges. Both swallowing therapists and nurses expressed concerns about the difficulty in providing timely care due to these limitations. Addressing these resource challenges through adequate staffing and access to necessary tools is essential for better patient outcomes, especially in high-acuity ICU settings.

The need for standardized protocols was another critical theme. Participants stressed that the lack of clear guidelines led to variability in care, which could affect patient outcomes. Establishing standardized protocols would help align the entire multidisciplinary team, ensuring that everyone understands their roles and responsibilities. This would not only lead to more consistent care but also improve communication among team members.

Overall, our findings suggest that managing dysphagia in ICU patients requires a well-coordinated, multidisciplinary approach that includes early intervention, standardized protocols, and adequate resource allocation. Addressing these challenges through targeted strategies, such as enhanced interprofessional training, improved communication, and better resource distribution, could lead to improved patient outcomes and reduced complications related to dysphagia.

References

1. Ryan, T., Harrison, M., Gardiner, C., & Jones, A. (2017). Challenges in building interpersonal care in organized hospital stroke units: The perspectives of stroke survivors, family caregivers and the multidisciplinary team. *Journal of advanced nursing*, 73(10), 2351-2360.
2. Martino, R., Pron, G., & Diamant, N. (2000). Screening for oropharyngeal dysphagia in stroke: insufficient evidence for guidelines. *Dysphagia*, 15, 19-30.
3. Skoretz, S. A., Flowers, H. L., & Martino, R. (2010). The incidence of dysphagia following endotracheal intubation: a systematic review. *Chest*, 137(3), 665-673.
4. Barker, J., Martino, R., Reichardt, B., Hickey, E. J., & Ralph-Edwards, A. (2009). Incidence and impact of dysphagia in patients receiving prolonged endotracheal intubation after cardiac surgery. *Canadian Journal of Surgery*, 52(2), 119.