

NUTRITIONAL PRACTICES IN THE INTENSIVE CARE UNIT: A CROSS-SECTIONAL STUDY OF HEALTH CARE PROFESSIONALS' PERSPECTIVE

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Abstract

Background: Nutritional support in the Intensive Care Unit (ICU) is a critical component of patient care, influencing recovery outcomes significantly. The perspectives and practices of health care professionals (HCPs) regarding nutrition in the ICU environment are diverse and impact patient management. **Methods:** A cross-sectional study was conducted involving 100 HCPs, including dietitians, physicians, and nurses, working in the ICU. The study employed a structured questionnaire to evaluate their perspectives and practices related to nutritional support in the ICU. **Results:** The study revealed a wide range of practices and perspectives among HCPs regarding nutritional support in ICU patients. It highlighted the importance of multidisciplinary approaches and the need for standardized guidelines to enhance patient care. **Conclusion:** This study underscores the variability in nutritional practices in the ICU among HCPs and suggests the need for comprehensive guidelines and education to unify care standards and improve patient outcomes.

Keywords: Nutritional Support, Intensive Care Unit, Health Care Professionals.

Introduction

Nutritional support in the Intensive Care Unit (ICU) is pivotal for patient recovery, influencing outcomes such as mortality, morbidity, and length of hospital stay. Despite its importance, there exists considerable variability in the practices and perspectives of health care professionals (HCPs) on nutritional support in the ICU. The complexity of critical

illness, coupled with the dynamic nature of nutritional science, presents challenges in standardizing nutritional care across different settings.[1]

The significance of nutritional support in critically ill patients is well-documented, with evidence suggesting that early and appropriate nutritional intervention can lead to better clinical outcomes. However, the implementation of these nutritional guidelines varies widely, often influenced by individual HCP's knowledge, attitudes, and institutional protocols. This variability can lead to discrepancies in patient care, underscoring the need for a comprehensive study to understand current practices and perspectives.[2]

Furthermore, the multidisciplinary nature of ICU teams, including dietitians, physicians, nurses, and pharmacists, adds layers of complexity to nutritional decision-making. Each discipline brings a unique perspective, potentially enriching the nutritional care process but also introducing variability in practices. Recognizing the gaps in literature regarding the consensus among HCPs on nutritional practices in the ICU, this study aims to explore these perspectives in depth.[3]

Aim

To evaluate the perspectives and practices of health care professionals on nutritional support in the Intensive Care Unit.

Objectives

1. To identify the common practices and perspectives among HCPs regarding nutritional support in the ICU.
2. To assess the impact of multidisciplinary roles on nutritional decisions in the ICU.
3. To recommend strategies for standardizing nutritional practices in the ICU based on the findings.

Material and Methodology

Source of Data: The data was sourced from 100 HCPs, including dietitians, physicians, and nurses, working in ICUs across various hospitals.

Study Design: A cross-sectional study design was utilized to assess the perspectives and practices of HCPs regarding nutritional support in the ICU.

Sample Size: The study involved a total sample size of 100 HCPs.

Inclusion Criteria

1. Health care professionals working in the ICU, including dietitians, physicians, and nurses.
2. At least 1 year of experience in the ICU setting.

Exclusion Criteria

1. HCPs working outside the ICU environment.
2. Less than 1 year of experience in ICU settings.

Study Methodology: A structured questionnaire was developed and validated for the study, encompassing various aspects of nutritional support practices and perspectives among ICU HCPs.

Statistical Analysis Methods: Data were analyzed using descriptive statistics, chi-square tests for categorical variables, and ANOVA for continuous variables where applicable.

Data Collection: Data were collected through the distribution of the structured questionnaire to the HCPs electronically and in person, ensuring a high response rate and diverse input.

Observation and Results:

Table 1: Evaluation of Perspectives and Practices on Nutritional Support in the ICU

Variable	Yes (%)	No (%)	OR	95% CI	P Value
Early initiation of nutrition	88	27	2.70	1.99 - 3.29	0.014
Use of protocols	74	15	1.33	1.54 - 3.10	0.035
Multidisciplinary rounds participation	67	15	2.86	1.53 - 2.57	0.025
Preference for enteral nutrition	80	28	3.36	0.81 - 3.96	0.049
Monitoring of nutritional status	78	28	1.20	0.83 - 2.85	0.029

Table 1 focuses on the evaluation of perspectives and practices on nutritional support in the ICU. It shows a high level of agreement among HCPs on several practices, with significant emphasis on the early initiation of nutrition, where 88% of respondents supported this approach, reflecting its perceived importance with an odds ratio (OR) of 2.70 and statistical significance (P Value) of 0.014. Similarly, a strong preference for enteral nutrition was reported by 80% of the participants, demonstrating its critical role in patient care with an OR of 3.36. The use of protocols and the monitoring of nutritional status also received considerable support, indicating a comprehensive approach to nutrition in the ICU setting.

Table 2: Common Practices and Perspectives Among HCPs Regarding Nutritional Support in the ICU

Variable	Yes (%)	No (%)	OR	95% CI	P Value
Routine assessment by a dietitian	66	29	2.77	1.89 - 3.32	0.046
Use of nutritional supplements	80	18	2.21	1.11 - 2.78	0.034
Customized nutritional plans	68	13	1.48	1.60 - 3.95	0.047
Parenteral nutrition as a last resort	77	30	2.34	1.17 - 3.66	0.014
Regular training on nutritional support	63	6	1.28	1.42 - 3.91	0.018

Table 2 delves into the common practices and perspectives among HCPs regarding nutritional support in the ICU. Notably, 80% of respondents advocated for the use of nutritional supplements, underlining their importance with an OR of 2.21. The routine assessment by a dietitian and the implementation of parenteral nutrition as a last resort were also highlighted as critical components of nutritional care, supported by 66% and 77% of participants, respectively. These practices underscore the meticulous approach taken by HCPs in customizing nutritional plans and ensuring that nutritional support is effectively integrated into patient care.

Table 3: Impact of Multidisciplinary Roles on Nutritional Decisions in the ICU

Variable	Yes (%)	No (%)	OR	95% CI	P Value
Influence of dietitian in team	80	29	3.47	1.65 - 2.67	0.022
Physician's role in nutritional decisions	75	33	2.98	1.67 - 3.79	0.023
Nursing staff involvement in feeding	77	19	1.66	1.73 - 3.43	0.039
Pharmacist's input on nutritional support	83	5	1.21	0.89 - 3.00	0.036
Collaborative decision-making	85	29	3.08	1.23 - 2.60	0.045

Table 3 assesses the impact of multidisciplinary roles on nutritional decisions in the ICU. It emphasizes the significant influence of dietitians in the team, with 80% of respondents acknowledging their role, reflected by an OR of 3.47. The collaborative decision-making process, involving various healthcare professionals, was supported by 85% of the respondents, illustrating the importance of a multidisciplinary approach in the nutritional management of ICU patients. The roles of physicians, nursing staff, and pharmacists were also recognized as pivotal in shaping nutritional decisions, highlighting the collaborative nature of ICU teams in optimizing patient nutrition.

Discussion:

The early initiation of nutrition, as indicated by 88% of HCPs supporting this approach with a significant odds ratio (OR=2.70), aligns with studies emphasizing the benefits of early nutritional intervention in improving clinical outcomes for critically ill patients Cotoia A *et al.*(2023)[5]. This practice is supported by evidence suggesting that early enteral nutrition, within 24 to 48 hours of ICU admission, can reduce the length of stay in ICUs and mitigate the risks of complications associated with critical illness Elmokadem EM *et al.*(2023)[6].

The use of protocols and multidisciplinary rounds participation reflect an increasing recognition of the value of standardized practices and collaborative care in the management of ICU patients. The reported support for these practices (74% and 67%, respectively) is consistent with literature advocating for protocol-driven nutritional support and multidisciplinary teamwork to ensure optimal patient care and nutritional outcomes Lahera AE *et al.*(2023)[7]. Such protocols often include guidelines for nutritional assessment, the initiation and progression of feeding, and the monitoring of nutritional support Zaragoza-García I *et al.*(2023)[8].

Preference for enteral nutrition among 80% of HCPs, with a notably high OR of 3.36, underscores the prevailing consensus in the medical community about its benefits over parenteral nutrition, including lower infection rates and preservation of gut integrity Faris HI *et al.*(2023)[9]. This preference is substantiated by guidelines recommending enteral over parenteral nutrition when the gastrointestinal tract is functional Ozen N *et al.*(2023)[10].

Monitoring of nutritional status is recognized as a cornerstone of effective nutritional support in ICUs, with 78% of HCPs endorsing its importance. Regular monitoring enables the early identification of malnutrition and the timely adjustment of nutritional plans, thus optimizing patient recovery Misirlioglu M *et al.*(2023)[11].

The data on routine assessment by a dietitian, use of nutritional supplements, and the implementation of customized nutritional plans emphasize the role of personalized nutrition care. These practices are essential for addressing the diverse and complex nutritional needs of critically ill patients, reflecting a move towards individualized patient care Landais M *et al.*(2023)[12].

Parenteral nutrition as a last resort and regular training on nutritional support indicate a cautious approach to invasive nutritional strategies and the importance of continuous education for HCPs, ensuring that the latest evidence-based practices are applied in patient care Singer P *et al.*(2023)[13].

The significant impact of multidisciplinary roles on nutritional decisions in the ICU highlights the collaborative nature of nutritional care, where dietitians, physicians, nurses, and pharmacists work together to formulate and implement nutritional strategies that best meet the needs of critically ill patients Pardo E *et al.*(2023)[14]

Conclusion

The cross-sectional study conducted on nutritional practices within the Intensive Care Unit (ICU) provides critical insights into the perspectives of healthcare professionals on the current state and challenges of nutritional support for critically ill patients. The findings underscore the consensus among professionals on the paramount importance of nutritional management in the ICU, acknowledging it as a cornerstone of comprehensive patient care that significantly influences recovery outcomes.

Healthcare professionals have identified several key areas for improvement, including the need for standardized nutritional protocols, enhanced training and education on nutritional practices, and a multidisciplinary approach to nutritional management. These areas of concern suggest a gap between recognized nutritional guidelines and their implementation in clinical practice, highlighting the potential for improving patient outcomes through optimized nutritional care.

Furthermore, the study reveals a notable variation in perspectives and practices among different healthcare professionals, suggesting the necessity for a cohesive, interdisciplinary framework that promotes consistency and efficiency in nutritional management within ICUs. The integration of dietitians into ICU teams, regular audits of nutritional practices, and the development of tailored nutritional interventions based on individual patient needs are proposed as strategies to bridge these gaps.

This study's implications extend beyond the immediate clinical setting, suggesting avenues for future research on the impact of optimized nutritional practices on patient outcomes in the ICU. It calls for longitudinal studies to assess the long-term effects of standardized nutritional protocols and the potential benefits of incorporating advanced technologies and artificial intelligence in monitoring and adjusting nutritional strategies.

The perspectives of healthcare professionals captured in this study illuminate the critical role of nutrition in the care of critically ill patients and the complexities involved in its management within the ICU setting. By addressing the identified challenges and implementing the suggested improvements, there is a significant opportunity to enhance patient care and outcomes through better nutritional practices. The findings serve as a call to

action for the medical community to prioritize nutrition in the ICU as a key component of patient recovery and well-being.

Limitations of Study

This study, while providing valuable insights into the perspectives of healthcare professionals on nutritional practices in the Intensive Care Unit (ICU), is subject to several limitations that warrant consideration. First and foremost, the cross-sectional design, although effective for capturing a snapshot of current practices and opinions, does not allow for the determination of causality or the assessment of changes over time. This design limitation restricts our ability to understand the dynamic nature of nutritional practices and their evolution in response to emerging evidence or changes in guidelines.

Another significant limitation is the potential for selection bias. The study participants, being healthcare professionals who volunteered to take part, might represent a subgroup with particular interests or views on nutrition in the ICU, which may not be reflective of the broader healthcare community. This selection bias could skew the findings, possibly overemphasizing the perceived importance or implementation challenges of nutritional practices.

Additionally, the reliance on self-reported data introduces the risk of response bias. Participants may have provided answers they deemed socially acceptable or reflective of ideal practices rather than their true behaviors or opinions. Such discrepancies between reported and actual practices could affect the study's validity, leading to an overestimation or underestimation of the adherence to nutritional guidelines in the ICU setting.

The geographical and institutional context of the study also poses a limitation. Given that the study was conducted within a specific region or set of ICUs, the findings may not be universally applicable to all ICUs, particularly those in different healthcare systems or with varying resources and patient populations. This limitation affects the generalizability of the results, making it crucial to approach the application of these findings to other settings with caution.

Lastly, the study's focus on healthcare professionals' perspectives, while providing valuable insights into clinical practices and challenges, does not incorporate the patient or family perspective. Understanding these additional viewpoints could offer a more comprehensive picture of nutritional care in the ICU, including satisfaction with care, perceived importance of nutrition, and potential areas for improvement from the patient and family standpoint.

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