

Factors Influencing the Decision-making of Healthcare Providers Regarding the Transition of Patients from the Intensive Care Unit to the General Ward in Iran: A Qualitative Study

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ABSTRACT

Background: The process of making decisions to discharge patients from the intensive care unit (ICU) is very complex and risky, and decisions need to be made under time constraints and based on fair allocation of resources. In this situation, decision-making requires team participation, which is often accompanied by tension and conflict between team members and sometimes family members, which in turn affects patient safety and quality of care.

Objectives: The aim of this study was to explore the experiences and perceptions of physicians and nurses regarding the decision-making process in transition of patients from the ICU to the general ward.

Materials and methods: This qualitative study was conducted based on purposive sampling among six nurses and six physicians in Governmental teaching hospitals. The data collection process was conducted from July 2018 to January 2019 through a semistructured interview. Interviews were transcribed and data analysis was accomplished according to the steps proposed by Graneheim and Lundman (2004).

Results: Data analysis revealed six themes that reflected factors influencing decision-making in transition of patients from the ICU to the general ward: contingent decision-making, risky decision-making, lack of coherence in team decision-making, differences in clinical judgment, legal and ethical responsibility, and lack of clear criteria.

Conclusion: The process of decision-making regarding patient transfer from the ICU is a complex and stressful one. It is affected by situations, team participation, clinical judgment skill, legal issues, and multifactorial challenges. To improve decision-making processes, we need to develop abilities and knowledge and design proper interventions to achieve a principled and correct decision-making process.

Keywords: Decision-making, Intensive care unit, Patient, Transition.

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INTRODUCTION

To ensure the continuity of care and safety of the patient, it is necessary to assess readiness for discharge from ICU.¹ ICU survivors suffer from long-term impairments.² The transfer of patient from an ICU to the hospital ward represents various complex and harmful scenarios.³ Up to 18% of adverse events that happen to patients admitted to the ICU are during the discharge process.⁴ These events are often associated with severe adverse outcomes, medical errors, poor patient satisfaction with care, increased healthcare costs, and increased mortality.⁵ Due to the high volume of complex information,⁶ change of the provider team and transfer from a well-equipped environment to a resource-limited environment,^{7,8} the most harmful transitions occur among critically ill patients.

Determining when a patient is ready for ICU discharge has traditionally been dependent on clinical judgments.⁷ Physicians often rely on their clinical evaluations to see if the patient is ready to be discharged from the ICU.⁹ Risk assessment and stratification may contribute to clinical decision-making.⁷ The successful implementation of patient transfer from the ICU to the general ward requires close cooperation between a variety of healthcare professionals across different clinical settings.¹⁰ Care providers can facilitate transitions and continuity of care by providing guidance

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and ensuring that a right level of care is provided.¹¹ However, at the time of discharge, patients may have several functional impairments related to hospitalization in the ICU which still requires active intervention and a high percentage of patients do not return to the level of function before ICU admission.⁸

Decision-making regarding the transfer of patients from ICUs should be made with time constraints and based on fair allocation of resources due to the increased demand for ICU beds.¹² Using accurate screening criteria to support the decision-making process can prevent adverse events and improve patient outcomes. This decision is difficult without clear and objective criteria, and there are many inconsistencies in ICU discharge practices, often influenced by organizational factors.¹³

Evaluating the ICU discharge process would likely give us a better prediction of future outcomes. There have been limited studies regarding the assessment of decision-making problems that are associated with transfer of patients from the ICU. The present study was designed and conducted to address these gaps. Decision-making challenges and the factors affecting their decisions can raise awareness and improve transition care.

OBJECTIVES

The aim of this study was to explore the experiences and perceptions of physicians and nurses regarding decision-making process in the transition of patients from the ICU to the general ward.

MATERIALS AND METHODS

Design, Setting, and Participants

This qualitative study was conducted in 2018–2019 at adult ICUs and general wards of teaching hospitals affiliated to Universities of Medical Sciences in Iran. Purposive sampling was used in this study. In this type of sampling, participants are selected based on their first-hand experience and knowledge about a phenomenon, and the sampling ends when the data are saturated. Data saturation occurs when the researcher does not obtain new data by continuing sampling.¹⁴ The interviews were conducted with six nurses and head nurses, four critical care fellows and intensivists, and two physicians, who were more directly involved with processes surrounding transition care and were responsible for the transfer of patients from the ICU and were willing to participate and talk about their experiences in this study. They were recruited from Ardabil and Khalkhal Imam Khomeini hospitals, Shohada-e-Tajrish, and Taleghani hospitals, Tehran, Iran (two to three people from each hospital).

Interviews were guided using broad and open-ended questions about the decision-making process of healthcare providers regarding the transition of patients from the ICU to the general ward (Table 1).

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Conflict of interest: None

Age, gender, and years of professional experience were also considered to achieve variations in the data. Participants had to have at least 1-year experience of working in their designated environments.

Data Collection

Data were collected from July 2018 to January 2019 through 12 semistructured in-depth interviews conducted by the first author. All interviews were conducted in a pre-arranged, calm, and private meeting room in the hospitals and were digitally recorded, and each one took 30–60 minutes. First, the researcher talked to each potential participant and, while explaining the objectives and questions of the research, determined the appropriate time to conduct the interview if he/she was willing to participate in the interview. The interview guide included a few open-ended questions to allow participants to elaborate on their perceptions, experiences, and challenges about decision-making process regarding the transfer of patients from the ICU to the general ward. Interviews were conducted in Persian, which is the native language of interviewers and interviewees. At the end of each interview, participants were asked: "Is there anything you have experienced on this subject and I have not asked?" And at the end of each interview, we thanked the participant, and he/she could call again if he/she had any questions about the interview.

Data Analysis

Data analysis was concurrently performed with data collection through the five-step content analysis approach proposed by Graneheim and Lundman.¹⁴ (1) Interviews were written down through verbatim transcription and carefully read for several times to achieve a general understanding of their content. (2) The sentences related to the research topic were identified as units of meaning. (3) Initial codes were extracted. (4) The extracted codes were classified in conceptual categories based on similarities and differences. (5) We then generated more abstracted concepts by systematically comparing the different primary conceptual categories.

The analysis was mainly performed by the first author, but with continuous supervision of the coauthors. One of the supervisors analyzed parts of the data together with the first author, and thereafter, the interpretations were continuously discussed with

Table 1: Interview guide

<i>Questions for physicians</i>	<i>Questions for nursing</i>
Would you please explain your experiences of decision-making regarding the transition of patients from ICU to the general ward?	Would you please explain your experiences of decision-making regarding the transition of patients from ICU to the general ward?
What challenges/difficulties have you experienced when making decisions for the transition of ICU patients?	What challenges/difficulties have you experienced when making decisions for the transition of ICU patients?
Did your care services and conditions improve decision-making for transition of ICU patients?	What kinds of participations have you provided in decision-making for the transition of ICU patients?
In your opinion, how should these patients be prepared for transition?	

H1, Khalkhal Imam Khomeini hospital; H2, Ardabil Imam Khomeini hospital; H3, Shohada-e-Tajrish; H4, Taleghani hospital

all co-authors in all steps, such as coding, and grouping of codes and interpretative levels of themes to ensure trustworthiness. The MAXQDA software (v. 10 R250412, Verbi® Verbi, Berlin, Germany) was used to manage the data. Table 2 shows an example of data analysis.

Trustworthiness

The four criteria proposed by Lincoln and Guba: (1) credibility, (2) confirmability, (3) dependability, (4) transferability were used to ensure the trustworthiness of the data.¹⁵ The researcher attempted to increase the credibility and dependability by prolonged engagement with the data and reading interview transcripts for several times to obtain a sense of the whole, maximum sampling variation, member checking, peer checking, and external debriefing. In peer debriefing, two qualified researchers assessed the soundness of data analysis. In member checking, some participants approved the congruence between the study findings and their experiences. For transferability, clear explanations were provided about the different aspects of the study, including sampling, data collection, and setting. To ensure dependability, all documents related to the study were kept so that others can cross-check the process of the study.

Ethical Considerations

The study protocol was approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences, Tehran, Iran (IR.USWR.REC.2017.198). Verbal and written informed consent were obtained from participants and they were ensured of the confidentiality of the study data and were provided with the right to withdraw from the study.

RESULTS

The participants in this study were eight men and four women with a mean age of 39.5 years and a work experience of 10.5 years. Factors influencing decision-making of healthcare providers regarding the transition of patients from the ICU to the general ward were categorized into six themes, including contingent decision-making, risky decision-making, differences in clinical judgment, lack of coherence in team decision-making, legal and ethical responsibility, lack of clear criteria, as well as 20 subthemes that emerged from the data (Table 3).

Contingent Decision-making

The healthcare system of Iran does not integrate transition care for ICU patients. According to many physicians and nurses, when they decide to transfer the patient from the ICU, the situation, facilities, self-care capacity of the patient and family, and patients who are on the waiting list of the ICU beds must be taken into consideration. One of the factors influencing decisions about patient transfer was "contingent decision-making." The three subthemes of this theme were resources and quality of care, patients in the ICU waiting list, and existing care conditions.

Table 2: An example of data analysis

Unit of meaning	Condensed unit of meaning	Code	Subtheme	Theme
Conditions are different in different hospitals. For example, in our hospital, which is a teaching hospital, they accept the risk due to the shortage of beds, although the patient is not in a suitable condition for transfer, and they have to choose between bad and worse.	"They accept the risk due to the shortage of beds and choose between bad and worse."	Pressure to transfer patients quickly	Without preparation and emergency	Risky decision-making

Table 3: An overview of the themes and subthemes

Theme	Subtheme
1. Contingent decision-making	<ul style="list-style-type: none"> Resources and quality of care Patients in ICU waiting list Existing care conditions
2. Risky decision-making	<ul style="list-style-type: none"> Lack of patient preparation Emergency situation Being under stress Haste
3. Differences in clinical judgment	<ul style="list-style-type: none"> Skill and competence level Multi-factor decision-making Unstable condition of the patient
4. Lack of coherence in team decision-making	<ul style="list-style-type: none"> Team disagreement on patient readiness Type of ICU management Lack of a standard approach Insignificant role of patient and family Conflict of interest
5. Legal and ethical responsibility	<ul style="list-style-type: none"> Legal challenges Ethical challenges Challenges of dying patients Lack of clear rules
6. Lack of clear criteria	<ul style="list-style-type: none"> Relative criteria Differences in team members' decision criteria

Regarding contingent decision-making, physician 1 from hospital 1 stated: "Based on the patient's clinical condition, available resources, and the nursing care quality, we decide to transfer the patient. In the general ward, there is only one nurse for every 10 patients; we don't take risks and let the patient become more stable. We have to consider all issues."

Both physicians and intensivists also described that patient waiting list and prioritization of patients according to critical conditions were the complex factors in deciding for the transfer of patients from ICU.

Physician 3 from hospital 2 reported: "Shortage of ICU beds and condition of patients on the waiting list affect decisions regarding patient transfer. We usually evaluate the patients according to the medical oath and decide who needs the benefits of the ICU more?"

Risky Decision-making

Participants reported that they experienced problems such as the pressure for quick transfer of a patient, deficiencies in the transition process, transfer without preparation of patient, and emergency situations. The four subthemes of this theme were lack of patient preparation, emergency situations, being under stress and haste.

Regarding lack of patient preparation, head nurse 8 from hospital 3 reported: "Conditions are different in different hospitals,

for example in our hospital, which is a teaching hospital, they accept the risk due to the shortage of beds, although the patient is not in a suitable condition for transfer. Physicians have to choose between bad and worse to admit the patient with more critical conditions."

Some ICU nurses explained that sometimes workload among the physicians was a reason for premature and hasty transfer decisions.

Nurse 10 from hospital 4 talked about decision-making under stress: "Sometimes the workload of the nurse is as high as the workload of the physicians. For instance, the nurse has to visit 50 patients, and this is just his/her routine work. The treatments are more symptom-based, and the physicians do not try to find the cause of the disease. The physicians make decisions under stress. If I personally had to take care of a patient, I would have been more careful. They make hasty decisions in 20% of cases."

Differences in Clinical Judgment

Participants reported the need for making clinical decisions to achieve an efficient decision-making for the transfer of patients from ICU. The three subthemes of this theme were skill and competence level, multifactor decision-making, and unstable condition of the patient.

Intensivists and other physicians sometimes had different clinical judgments due to being multifactorial when deciding for the transfer of patients from ICU.

Regarding multifactor decision-making, intensivist 2 from hospital 2 said: "The treating physician decides based on the moment she/he visits the patient but the intensivist monitors the patient 24 hours/day. The intensivist and ICU nurse consider the patient's 24-hour condition. Therefore, the decisions of treating physicians are more scientific-based, but we, the anesthesiologists or ICU fellows, make decisions based on 24 hours clinical condition. At the ICU, clinical experience and clinical judgment are better because the decision-making process is highly multifactorial."

Lack of Coherence in Team Decision-making

Participants highlighted that because of the bilateral dependency of the ICU and the general ward, the collaboration among the healthcare professionals is important to ensure optimal decision-making process. This theme includes team disagreement on patient readiness, type of ICU management, lack of standard approach, insignificant role of patient and family, and conflict of interest.

Regarding team disagreement on patient readiness, physician 1 from hospital 1 reported: "The treating physician is concerned with underlying diseases such as heart failure, respiratory failure, liver and kidney disease, but the anesthesiologist also takes into account the concerns of the treating physician in addition to the airway and respiratory failure, as well as the state of consciousness. Sometimes there are disagreements between the two doctors, and of course, if the decision is criticized, it will ultimately be beneficial for the patient."

Regarding the type of ICU management, physician 2 from hospital 2 said: "Scientifically speaking, there are two types of ICU in the world: 'open' and 'closed'. In Iran and most countries, it is the open type, in which the ICU physician and other physicians treat the patient as a team. However, in the closed type, the ICU manager is responsible for the treatment of the patient, but this is more common in developed countries. In open ICU, which is common in Iran, the treatment and decision-making are done by a team."

The nurses and physicians explained that if patients were involved (actively or passively) during the transfer process, patients

and their relatives felt supportive as it gave them a feeling of safe and professional care. However, in cases where they were ignored in decision-making, they complained about why the patient was being transferred to the ward.

Regarding the insignificant role of patient and family, physician 4 from hospital 3 stated: "We have less contact with the family before the transfer. In fact, the workload is high. The decision to prepare the patient's family is based on mental perception."

Legal and Ethical Responsibility

Healthcare providers in the present study complained about the inattentiveness of the healthcare system in Iran regarding the legal and ethical issues of making decisions about the transfer of patients from the ICU to the general ward. They claimed that lack of clear legal guidelines and ethical codes for decision-making had led to many challenges and dilemmas in transition care. The legal problems were one of the challenges that most physicians were faced with, and the subthemes included legal challenges, ethical challenges, challenges of dying patients, and lack of clear rules. Both nurses and physicians found that the main challenges were associated with legal issues of patient transfer from ICU to the general ward.

Regarding legal challenges, nurse 7 from hospital 3 said: "Sometimes the patient is transferred in a good condition and cardiopulmonary arrest occurs after 2 hours, and his/her family becomes agitated. The patient had a brain tumor and was operated. They complain but do not get anywhere, and all these hassles cause lots of problems for us. There must be a support system to reduce such problems. Physicians say they cannot make correct decisions under such conditions. The families complain and we have to go to the forensics center for ridiculous things."

Participants in this study experienced a lot of challenges regarding decision-making for the transfer of dying patients from the ICU to palliative care. Findings show that inconsistencies exist in regard with the existing laws and their implementation. For example, the patient does not have an indication for hospitalization, but the physician is held accountable.

Regarding the challenges of dying patients, intensivist 2 from hospital 2 stated: "Our ICU is full of patients who do not benefit from hospitalization and were admitted to the ICU under duress and fear of legal consequences. We are afraid of transferring the patient to the palliative care unit just because of legal issues."

Physicians must also be held accountable for posttransfer events, and there are no clear rules in this regard.

Physician 4 from hospital 4 talked about lack of clear rules: "We need to have a clear guideline to make decisions based on science. The law must protect the right decision and if a problem happens to the patient after the transfer for any reason, the physician as the decision-maker should not get into trouble."

Lack of Clear Criteria

Another theme was the "lack of clear criteria" expressed by the participants, which includes the following themes: relative criteria and differences in team members' decision criteria.

Healthcare providers also highlighted that there are no clear criteria for decision-making and this usually is a matter of taste.

Regarding relative criteria, physician 3 from hospital 2 said: "There are international guidelines. However, we sometimes transfer

the patient due to the need for an ICU bed. We must write guidelines based on the resources, nursing staff, and monitoring in the ward. We need to define guidelines according to the conditions of our country, and both the nurses and the doctors must agree as a team."

DISCUSSION

The main factors influencing decision-making of healthcare providers regarding the transition of patients from the ICU to the general ward in this study included contingent decision-making, risky decision-making, differences in clinical judgment, lack of coherence in team decision-making, legal and ethical responsibility, and lack of clear criteria. The findings indicate that both physicians and nurses were concerned about issues that affect the decision-making regarding the patient transfer from ICU.

Contingent decision-making seems to be the most important factor influencing decision-making, which indicates that the decision-making process is influenced by the existing conditions. Factors such as access to resources (beds and equipment), quality of care, and communications are effective in this regard. In line with this finding, Boyd et al. found that numerous factors such as changes in care methods, communication failures, the need for beds, and limited access to resources affect the patient's transfer process.¹⁶ Earlier studies showed that the transfer from the ICU to general wards should always be carefully done. In the real world, however, this decision-making is often undermined by workload pressure, ICU bed requirement for new admission, and shortage of beds in the general ward.^{8,17}

In the present study, lack of clear criteria was one of the affective factors in decision-making process. This also emerged from the findings of the study conducted by Pin et al., according to which the decision-making process is in the hands of clinical specialists. However, there is no consensus on an ideal ICU discharge model.⁴ In a study based on mixed methods, it was shown that specific ICU discharge criteria are required and lack of clear criteria leads to disagreements between physicians regarding the patient's readiness to be transferred from ICU.¹⁸ Regardless of the framework used, each new guideline to support decision-making must accurately validate the workflow and quality of care prior to patient transfer to ensure that care is provided to prevent adverse events.¹⁶

Another finding of this study was lack of coherence in team decision-making with subthemes of consensus in decision-making for patient readiness, lack of a standard approach for team decision-making, insignificant role of patient and family, and conflict of interest. In line with these findings, a prospective observational study showed that the decision to discharge patient should be discussed by ICU nurses and physicians to enhance and generally combine all the relevant information.⁸

The patient and family in this study showed insignificant role in decision-making for transfer from ICU to the general ward. In line with these findings, Josepha et al. note that the criteria for transition of patients from the ICU to the general ward such as the need for acknowledgement and communication between physicians and patients/families at the time of ICU discharge are often suboptimal.² In a study by Ghorbanzadeh et al., fear, worry, and uncertainty were the specific reactions of the patients and their families to the transition.¹⁹

The most important factor related to healthcare providers was clinical judgment skill, while the most common factors related

to the institution were lack of beds, equipment, and quality of care. Similarly, another study reported that clinical judgment is inadequate for determining the time of discharge from the ICU.²⁰

Poor decision-making in this area is associated with longer hospital stay and increased resource consumption.⁹ Unplanned transfers from ICU may cause problems for patients and their families, such as uncertainty, and distress and anxiety before and after the transfer.²¹

According to Taniguchi et al., there is lack of solid evidence-based support for such decisions, especially regarding ICU discharge policies.⁹

Compared to other studies, we found that legal challenges such as lack of legal protection for healthcare providers regarding dying patients appeared to be more prominent in terms of transfer from the ICU to general wards. Hence, it can be concluded that more research is required in this area. Further studies are needed to provide objective criteria about decision-making regarding discharge from ICU.

LIMITATIONS

This study had some limitations. The small sample size of the study and perception and experiences of care providers in teaching hospitals in Iran can limit the generalizability of the findings. Any qualitative study carries the risk of eliciting false and socially desirable responses from the interviewees. By asking the participants to describe examples of problems they themselves experienced, we hope to have diminished this risk.

One of the strengths of this study is the inclusion of the three staff groups (nurses, intensivists, and treating physicians) involved in decision-making, which provided varied understandings of the challenges experienced in interdisciplinary collaboration in ICUs.

CONCLUSION

The process of decision-making regarding patient transfer from the ICU is a complex and stressful process. It is affected by conditions, team participative, clinical judgment skill, legal issues, and multifactorial challenges. To improve decision-making process, we need to develop abilities, knowledge, and must design proper interventions to have a principled and correct decision-making process.

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REFERENCES

- McNett M, McLaughlin D. Transitions of care for patients with neurologic diagnoses transition from the intensive care unit to the floor. *Nurs Clin N Am* 2019;54(3):347–355. DOI: 10.1016/j.cnur.2019.04.005.
- Josepha op't SAJ, Dautzenberg M, Eskes AM, Vermeulen H, Vloet LCM. The experiences and needs of relatives of intensive care unit patients during the transition from the intensive care unit to a general ward: a qualitative study. *Aust Crit Care* 2020;33(6):526–532. DOI: 10.1016/j.aucc.2020.01.004.
- de Grood C, McIntosh CJ, Boyd JM, Zjadewicz K, Leigh JP, Stelfox HT. Identifying essential elements to include in Intensive Care Unit to hospital ward transfer summaries: a consensus methodology. *J Crit Care* 2019;49:27–32. DOI: 10.1016/j.jcrrc.2018.10.001.
- Li P, Boyd JM, Ghali WA, Stelfox HT. Stakeholder views regarding patient discharge from intensive care: suboptimal quality and opportunities for improvement. *Can Respir J* 2015;22(2):109–118. DOI: 10.1155/2015/457431.
- Stelfox HT, Lane D, Boyd JM, Taylor S, Perrier L, Straus S, et al. A scoping review of patient discharge from intensive care: opportunities and tools to improve care. *Chest* 2015;147(2):317–327. DOI: 10.1378/chest.13-2965.
- Graan SM, Botti M, Wood B, Redley B. Nursing handover from ICU to cardiac ward: standardised tools to reduce safety risks. *Austr Crit Care* 2016;29(3):165–171. DOI: 10.1016/j.aucc.2015.09.002.
- Hosein FS, Bobrovitz N, Berthelot S, Zygun D, Ghali WA, Stelfox HT. A systematic review of tools for predicting severe adverse events following patient discharge from intensive care units. *Crit Care* 2013;17(3):1. DOI: 10.1186/cc12747.
- Sanson G, Marino C, Valenti A, Lucangelo U, Berlot G. Is my patient ready for a safe transfer to a lower-intensity care setting? Nursing complexity as an independent predictor of adverse events risk after ICU discharge. *Heart Lung* 2020;49(4):407. DOI: 10.1016/j.hrtng.2020.02.003.
- Taniguchi LU, Ramos FJdS, Momma AK, Martins Filho APR, Bartocci JJ, Lopes MFD, et al. Subjective score and outcomes after discharge from the intensive care unit: a prospective observational study. *J Int Med Res* 2019;47(9):4183–4193. DOI: 10.1177/0300060519859736.
- van Sluisveld N, Hesselink G, van der Hoeven JG, Westert G, Wollersheim H, Zegers M. Improving clinical handover between intensive care unit and general ward professionals at intensive care unit discharge. *Intensive Care Med* 2015;41(4):589–604. DOI: 10.1007/s00134-015-3666-8.
- Cline DD. A concept analysis of vulnerability during transitions. *Nurs Educ Perspect* 2016;37(2):91–96. PMID: 27209867.
- Cullati S, Hudelson P, Ricou B, Nendaz M, Perneger TV, Escher M. Internists' and intensivists' roles in intensive care admission decisions: a qualitative study. *BMC Health Serv Res* 2018;18(1):620. DOI: 10.1186/s12913-018-3438-6.
- Nates JL, Nunnally M, Kleinpell R, Blosser S, Goldner J, Birriel B, et al. ICU admission, discharge, and triage guidelines: a framework to enhance clinical operations, development of institutional policies, and further research. *Crit Care Med* 2016;44(8):1553–1602. DOI: 10.1097/CCM.0000000000001856.
- Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today* 2004;24(2):105–112. DOI: 10.1016/j.nedt.2003.10.001.
- Lincoln YS, Lynham SA, Guba EG. Paradigmatic controversies, contradictions, and emerging confluences, revisited. In: *The Sage handbook of qualitative research*. 4th ed. 2011. p. 97–128.
- Boyd JM, Roberts DJ, Leigh JP, Stelfox HT. Administrator perspectives on ICU-to-ward transfers and content contained in existing transfer tools: a cross-sectional survey. *J Gen Intern Med* 2018;33(10):1738–1745. DOI: 10.1007/s11606-018-4590-8.
- Tiruvoipati R, Botha J, Fletcher J, Gangopadhyay H, Majumdar M, Vij S, et al. Intensive care discharge delay is associated with increased hospital length of stay: a multicentre prospective observational study. *PLoS One* 2017;12(7):e0181827. DOI: 10.1371/journal.pone.0181827.
- van Sluisveld N, Oerlemans A, Westert G, van der Hoeven JG, Wollersheim H, Zegers M. Barriers and facilitators to improve safety and efficiency of the ICU discharge process: a mixed methods study. *BMC Health Serv Res* 2017;17(1):251. DOI: 10.1186/s12913-017-2139-x.
- Ghorbanzadeh K, Ebadi A, Hosseini M, Madah SSB, Khankeh H. Challenges of the patient transition process from the intensive care unit: a qualitative study. *Acute Crit Care* 2021;36(2):133. DOI: 10.4266/acc.2020.00626.
- Garland A, Connors AF. Optimal timing of transfer out of the intensive care unit. *Am J Crit Care* 2013;22(5):390–397. DOI: 10.4037/ajcc2013973.
- Häggröm M, Fjellner C, Öhman M, Holmström MR. Ward visits-one essential step in intensive care follow-up. An interview study with critical care nurses' and ward nurses'. *Intensive Crit Care Nurs* 2018;49:21–27. DOI: 10.1016/j.iccn.2018.08.011.