Health & Research Journal

Vol 7, No 4 (2021)

Volume 7 Issue 4 October - December 2021

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doi: 10.12681/healthresj.28159

To cite this article:

Kafantaris, S., & Kadda, O. (2021). Advantages and disadvantages of patients' hospitalization in Intensive Care Units. *Health & Research Journal*, *7*(4), 155–159. https://doi.org/10.12681/healthresj.28159

HEALTH AND RESEARCH JOURNAL
E-ISSN:2459-3192

(2021), Volume 7, Issue 4

SHORT REVIEW

ADVANTAGES AND DISADVANTAGES OF PATIENTS' HOSPITALIZATION IN INTENSIVE CARE UNITS

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Abstract

Background: An Intensive Care Unit (ICU) is a special hospital department with many advantages and disadvantages for the patient.
Aim: The aim of the present systematic review was to explore the advantages and disadvantages of hospitalized ICU patients.
Material and Method: A literature review in international databases (Pubmed, Cinahl, Google Scholar, Cochrane Library) was conducted. A time limited criteria was applied with respect to the publication of articles (articles published in the last 15 years). Ten articles were found that met the criteria for participation in the present review.
Results: Results thematic analysis revealed the following advantages and disadvantages of ICU hospitalization: Advantages related to patients care in ICU and advantages related to team work. Disadvantages related to the ICU environment (noise, lighting) that complicate the patient's hospitalization status and cause the patient's sleep disturbances and / or delirium. Additionally, it was found that financial cost of hospitalization is a very significant disadvantage for both patient and health care providers.
Conclusions: Preparation and successful implementation of significant strategies will convert disadvantages of ICU hospitalization into advantages in daily clinical practice through increased use of protocols, the maintenance of a checklist, evidenced based practice, data recording, development of interdisciplinary groups and finally the extensive application of technology for patient' s benefit.

Key words: Advantages, disadvantages, intensive care unit, hospitalization.

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Cite as: Kafantaris, S., Kadda, O. (2021). Advantages and disadvantages of patients' hospitalization in intensive care units. Health and Research Journal,7(4),155-159. https://ejournals.epublishing.ekt.gr/index.php/HealthResJ

INTRODUCTION

In recent decades the rapid development of technology has contributed significantly to the development of the Intensive Care Unit (ICU), as modern patient monitoring and treatment equipment allows the evaluation of many clinical variables without the need for many interventions by the nursing team.[1]

In the era of the 21st century, healthcare requires the intensive use of technology, information and clinical computing to obtain and manage data, the conversion of data into information and then the dissemination of this information, so that it can be used effectively to improve patient care.[2,3]

The use of technology is mentioned in the international literature as the main advantage of hospitalization of patients in the ICU. However, there are other benefits to patient care in the ICU (holistic nursing care, protocol-based nursing care and evidence-based nursing care). In addition, there are disadvantages that may create difficult conditions for the treatment of patients and the quality of care provided to them.

AIM

The aim of the present review was to explore the advantages and disadvantages of patients' hospitalization in Intensive Care Units.

METHODS

Literature search

A review of the literature was performed and articles were searched in the international databases Pubmed, Cinahl, Google Scholar, Cochrane Library but also in Greek scientific journals with the process of reviewing/evaluating the articles by reviewers during the period between January-March 2020. A time limit was set based on the date of publication of the articles (articles published in the last 15 years).

The keywords used were advantages, disadvantages, intensive care unit and patient outcome in all possible combinations.

Criteria for inclusion and exclusion of studies were set. The following were used as integration criteria:

• Language of publication: English or Greek

• Original qualitative, quantitative or mixed research

• The date of writing of the articles to extend from 2015 to 2020

The following were introduced as exclusion criteria:

• Language other than English or Greek

• Letters to the publisher or editorial articles

• Studies referring to animal experiments

RESULTS

In the present literature review, an attempt was made to present the advantages and disadvantages of hospitalization of patients in the ICU. The thematic analysis of the results revealed the following sections regarding the advantages and disadvantages of hospitalization in the ICU:

A. Advantages related to patient care in the ICU (holistic nursing care, protocol-based nursing care and evidence-based nursing care). In addition, advantages concerning the teamwork of the care team in terms of the effectiveness of the care provided to ICU patients and the length of stay of patients in the ICU.

B. Disadvantages related to the ICU environment (noise, lighting) that complicate the patient's medical condition and cause the patient's sleep disturbances and / or delirium. In addition, disadvantages related to infections, the patient's mobility and reduced contact with family members. The complexity of the ICU environment and the immediate response of the care team to emergencies, which leads to a reduction in the time of clinical evaluation of hospitalized patients is an additional disadvantage described in the international literature. Finally, the cost of hospitalization is a very significant disadvantage for both the patient and the health care providers.

More specifically, in terms of advantages, studies have been found that refer to the effective care of patients in the ICU. Khalafi et al.,[4] investigated the holistic care provided to patients preparing for mechanical ventilation release in relation to the care provided by nurses. The ICU of 6 hospitals in Iran participated in the qualitative study and the sample consisted of 25 people. From the qualitative analysis of the content of the interviews conducted, the main issues that emerged include the continuous care, the holistic overview of the patient, the strengthening of the respect for the human dignity and the physical well-being of the patient. Studies from the interna-

tional literature refer to strategies developed by the ICU to facilitate the operation and communication between the care team. They have implemented effective communication checklists between physicians in order to systematize the way in which clinicians discuss basic treatments and give guidelines so that caregiver members have common care goals.[5]

Abuejheisheh et al.,[6] in their study explored the usefulness of a nursing education program in improving evidence-based nursing practice and enhancing patient care. They pointed out in their study that university curricula should enhance students' abilities to leverage their research ideas. Rathert et al.,[7] wanted to explore staff perceptions of how teamwork affects two components of the work environment, the ethical climate and leadership for quality improvement, and begin to identify workable approaches to teamwork improvement. The sample of the study consisted of 306 health professionals working in 15 treatment units and the questionnaire was sent to be completed via e-mail. The results showed that the ethical climate influenced teamwork in emergency care and how leadership behaviors to improve quality reduced the relationship between ethical climate and teamwork. The benevolent moral climate helps people realize that it makes teamwork more effective and this was stated by the clinicians who participated in this study. Zaheer et al.,[8] in their study explored the perceptions of hospital staff about the impact that a climate of safety and teamwork can have on both staff and patient safety. The sample of the study consisted of 245 people working in the Intensive Care Unit (ICU), in the Emergency Department and in the field of mental health. The results showed that staff perceptions of leadership and its views on safety were statistically significantly related to overall perceptions of patient safety. The group climate also seemed to be statistically significantly correlated with overall perceptions of patient safety. In addition, staff perceptions of patient safety appeared to differ from department to department. Sandahl et al.,[9] in their study wanted to describe the implementation of an educational system with a simulator and the effect of this program on teamwork between the interdisciplinary team in ICU. The study lasted 2 years and its sample consisted of 152 people working in a Swedish hospital.

The results showed that participants reported that the training had raised their awareness of the importance of effective communication for patient safety. Regular staff meetings were also a very important way to improve communication between care team members. Finally, the study concludes how important it is to understand that an organizational system must be created and maintained to support training in improving teamwork. As for the disadvantages, in the international literature the studies describe the complex environment of the ICU as the main disadvantage of the ICU.

The 1999 World Health Organization guidelines for community noise are a maximum of 35 decibels, adjusted for normal hearing [dB (A)] at night and 40 dB (A) during the day for hospital environments. However, noise in ICUs often exceeds these values. Studies have reported an average noise level of 60-70 dB (A) with peaks above 90 dB (A). What is more, some researchers have found that sound pressure levels do not decrease significantly at night.[10]

The systematic review by Khademi et al.,[11] aimed to cite studies investigating noise levels in the ICU. The results showed that most studies indicate that the rate of noise pollution in the ICU was higher than the WHO recommended levels. The findings of the study showed that the same noise levels prevailed in the morning and evening and exceeded international standards. Furthermore, staff conversations were the most common cause of excessive noise in the ICU.

There are many studies that report unpleasant noise in the ICU environment. The noise from the many alarms of the biomedical machines, the constant presence of a large number of health professionals and other patients end up constantly disturbing the patient, both day and night.[12] In the past, ICU noise was considered a major environmental cause of sleep disruption. Exposure to noise can stimulate the sympathetic nervous system, thus increasing heart rate, and can also affect adversely respiratory muscle function. Excessive noise may increase the repression requirements of critically ill patients, may affect communication and may contribute to hearing loss.[13]

Lighting in the ICU is also another factor that can affect the patient during his hospital stay. In 1912 Florence Nightingale described night-day light and rhythm as the most important

factors in supporting and restoring patients' health. Additionally, lighting affects the secretion of melatonin and cortisol. A study by Engwall et al.,[14] tried to show how it can help support the circadian rhythm of patients admitted to the ICU of a Swedish hospital. The aim of the study was to evaluate the experiences of patients who were treated in two different rooms with different lighting environments. In one a lighting system from recycled material was installed in order to protect the circadian rhythm while in the other there was the usual lighting. Patients in the intervention room had a positive attitude towards the way of lighting and the levels of lighting at night were acceptable. Proper lighting during the night allowed the secretion of melatonin and this caused the patient a feeling of calmness and security. Several studies have shown that patients sleep a few hours in the ICU and the causes are mainly environmental stimuli such as increased noise.[15-19]

Admitting a patient to the ICU is one of the most stressful events one can experience, as they cause feelings of fear, insecurity and anxiety due to limited physical movement, limited visits and sleep deprivation. Patients seek the presence of their family, mainly because they simply need someone by their side. They feel that their family cares for them and makes them feel safe and protected. Families also help patients feel better and hopeful, but they also have the ability to make decisions on their own. One way to keep relatives close to the patient during their ICU stay is by visiting them. At the ICU there are specific policies for the visit, which are determined based on the size of the hospital, its geographical location, the daily movement of patients, the distance that visitors will have to travel to reach the hospital and the willingness of the medical staff to allow or not visitors to stay next to the patient. Doctors and nurses agree that a visit to the ICU has a beneficial effect on the patient, however for a specific time of day and for a specific duration. Nevertheless, there are studies that emphasize the importance of the issue and reinforce the view that the policy of visiting ICUs should be changed and the family should be given more time to visit their patient.[20,21]

Many studies in critical care services aim to reduce the length of stay in the ICU and equate this result with a "cost savings". In fact, large cost savings will only be realized if the reductions in the length of stay of the ICU result in a reduced number of total admissions and consequent reductions in the number of beds and fixed costs of care.[22] The financial constraints imposed on hospitals by the health care reform law have created an immediate need for a more efficient health system.[23,24]

CONCLUSIONS

From this review, emerge important conclusions, which help identify the need to develop strategies that will help ICU patients receive as much quality care as possible from the interdisciplinary health care team. Timely, effective, fair and patient-centered care must be a primary goal for all those in the ICU environment who strive to do their best to provide the best for the patient. The successful implementation of measures that will turn all the disadvantages of the ICU into advantages is facilitated in the daily clinical practice by the application of protocols, the maintenance of a checklist, the daily application of best practice based on evidence, data recording, creation of interdisciplinary teams and finally the use of technology for the benefit of the patient. Moreover, the improvement of the ICU environment is an important process, not only for the patients and the medical staff, but also for the family members of the ICU patients.

REFERENCES

1. Vincent JL. Critical care--where have we been and where are we going? Crit Care 2013;17 Suppl 1(Suppl 1):S2.
2. King AT, Wenstone R, Morrison J, Cloherty L, Welters ID. Equipment-related critical incidents in a general intensive care unit. Intensive Care Med Exp 2015;3(Suppl 1):A70.
3. Kelly FE, Fong K, Hirsch N, Nolan JP. Intensive care medicine is 60 years old: the history and future of the intensive care unit. Clin Med (Lond) 2014;14(4):376-9.
4. Khalafi A, Elahi N, Ahmadi F. Holistic Care for Patients During Weaning from Mechanical Ventilation: A Qualitative Study. Iran Red Crescent Med J 2016;18(11):e33682.
5. Roffey P, Thangathurai D. Increased use of protocols in ICU settings. Intensive Care Med 2011;37(8):1402.

6. Abuejheisheh A, Tarawneh O, Qaddumi JAS, Almahmoud O, Darawad MW. Predictors of Intensive Care Unit Nurses' Practice of Evidence-Based Practice Guidelines. Inquiry 2020;57:46958020902323.
7. Rathert C, Fleming DA. Hospital ethical climate and teamwork in acute care: the moderating role of leaders.Health Care Manage Rev 2008;33(4):323-31.
8. Zaheer S, Ginsburg LR, Wong HJ, Thomson K, Bain L.Importance of safety climate, teamwork climate and demographics: understanding nurses, allied health professionals and clerical staff perceptions of patient safety.BMJ Open Qual 2018;7(4):e000433.
9. Sandahl C, Gustafsson H, Wallin CJ, Meurling L, Øvretveit J, Brommels M, Hansson J. Simulation team training for improved teamwork in an intensive care unit. Int J Health Care Qual Assur 2013;26(2):174-88.
10. Wenham T, Pittard A, Intensive care unit environment. Continuing Education in Anaesthesia Critical Care & Pain 2009; 9(6):178–183.
11. Khademi Gh, Imani B. Noise pollution in intensive care units: a systematic review article. Rev Clin Med 2015;2(2):58-64
12. Simons KS, Verweij E, Lemmens PMC, et al. Noise in the intensive care unit and its influence on sleep quality: a multicenter observational study in Dutch intensive care units. Crit Care 2018;22(1):250.
13. Zaal IJ, Spruyt CF, Peelen LM, et al. Intensive care unit environment may affect the course of delirium. Intensive Care Med 2013;39(3):481-488.
14. Engwall M, Fridh I, Johansson L, Bergbom I, Lindahl B. Lighting, sleep and circadian rhythm: An intervention study in the intensive care unit. Intensive Crit Care Nurs 2015;31(6):325-335.
15. Giménez MC, Geerdinck LM, Versteylen M, Leffers P, Meekes GJ, Herremans H, de Ruyter B, Bikker JW, Kuijpers PM, & Schlangen LJ. Patient room lighting influences on sleep, appraisal and mood in hospitalized people. Journal of Sleep Research 2016;2, 236–246.
16. Pulak LM, & Jensen L. Sleep in the Intensive Care Unit: A Review. Journal of Intensive Care Medicine 2014; 1:14–23.
17. Bihari S, Doug McEvoy R, Matheson E, Kim S, Woodman RJ, & Bersten AD. Factors affecting sleep quality of patients in intensive care unit. Journal of Clinical Sleep Medicine 2012; 3, 301–307.
18. Matthews EE. Sleep disturbances and fatigue in critically ill patients.AACN Adv Crit Care 2011;22(3):204-24.
19. Naik RD, Gupta K, Soneja M, Elavarasi A, Sreenivas V, Sinha S.Sleep Quality and Quantity in Intensive Care Unit Patients: A Cross-sectional Study.Indian J Crit Care Med 2018;22(6):408-414.
20. Datta R.ICU Visitors - Is it Time for a Change in Visitation Policy?Med J Armed Forces India 2007;63(3):308.
21. da Silva Ramos FJ, Fumis RR, Azevedo LC, Schettino G. Perceptions of an open visitation policy by intensive care unit workers.Ann Intensive Care 2013;3(1):34.
22. Kahn JM, Rubenfeld GD, Rohrbach J, Fuchs BD. Cost savings attributable to reductions in intensive care unit length of stay for mechanically ventilated patients. Med Care 2008;46(12):1226–1233.
23. Wunsch H, Gershengorn H, Scales DC. Economics of ICU organization and management. Crit Care Clin 2012;28(1):25-37, v.
24. Hawari FI, Al Najjar TI, Zaru L, Al Fayoumee W, Salah SH, Mukhaimar MZ. The effect of implementing high-intensity intensive care unit staffing model on outcome of critically ill oncology patients. Critical Care Medicine 2009;37(6):1967–1971.