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Original Article

The Factors Affecting the Length of Stay in the Intensive Care Unit

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Abstract

Introduction: Length of stay in the intensive care unit (ICU) is one of the most important factors that impacts the health care resource utilization. This study aimed to identify the factors associated with prolonging the patients' stay in Nemazi Hospitals ICUs and do interventions to reduce the length of hospital stay to improve the quality of care and decrease hospital costs.

Methods: During two months, eight sessions were held with the senior physicians, head nurses, and supervisors of eight adult ICUs working in Nemazi hospital, a 850-bed university hospital in Shiraz, south of Iran. Factors contributing to the prolongation of the patients' stay in the intensive care units were examined. Based on a researcher-made questionnaire, 28 important factors were identified and ranked according to the degree of importance.

Results: The most important factors in terms of the degree of importance were unavailable bed vacancies in the step-down wards, financial problems of the families to pay for the home-based primary nursing care, ICU-acquired infections, and admission of patients too sick to benefit from the ICU due to unjustified administrative pressure. The most amendable factors were hospital-acquired infections, delay in surgical tracheostomy when indicated, unavailable beds in step-down wards, and poor interdisciplinary collaboration of the staff physicians.

Conclusion: Interventional projects have been designed to reduce ICU-acquired infections, facilitating the process of surgical tracheostomy and supporting families who are not able to pay the costs of home-based care.

Keywords: Length of stay (LOS), Intensive care unit (ICU), Health care utilization

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Introduction

Length of stay (LOS) in the intensive care unit (ICU) is one of the most important factors that impacts the effective utilization of health care resources (1). Some of the most important factors that can affect the duration of hospitalization in the ICU include clinical factors such as the type and severity of the diseases, efficiency of the care process, method of management of the ICU by the physicians, and duration of stay in the hospital before admission to the ICU (2). Organizational factors like geographical location of the hospital, type of hospital, and hospital resources are also important (2). Social factors including the type of communication between the physicians and patients, and poor communication and collaboration between the caregiver team members are also important (3). As provision of intensive care is expensive and the number of beds are limited (4), reducing the length of ICU stay to make optimal use of the resources is of paramount significance.

Many hospitals have adopted guidelines related to admission to and discharge from ICU to decrease the variability of practice between the clinicians and justify allocation of ICU beds (5). However, these guidelines could be different according to different regional availability of ICU beds and financial resources (4). Despite the regional variability, reducing the duration of ICU stay while providing adequate clinical care is a favorable initiative.

The intensive care team in Namazi hospital recently started to participate in the CORE (Center for Outcome and Resource Evaluation)

relationship between the satisfaction of the patient's companion and length of stay in the intensive care unit.

In the current study, delay in discharge from the ICU in high-risk obstetric patients and lack of high-risk obstetric ward in the hospital had a significant effect on the length of stay. Ntuli et al. (24) reported in their study, the length of stay of high-risk obstetric cases in the intensive care unit ranged between 0-163 days with a mean of 8 days, which represents a high length of stay. Also, Özçelik et al. (25) reported the length of stay of high-risk obstetric cases in the intensive care unit ranged between 3-49 days with a mean of 7 days.

After summarizing the comments of the group members, for reducing the length of the hospitalization period in the ICU, it is possible to intervene in some of the factors affecting the length of the patient's stay in the ICU; First, getting a low-cost care service and having the right to complain caused the patients' companions to insist on their patients' stay in the ICU. Second, the patient's companions insist on the patient's stay in the intensive care unit; finally, sick patients who do not benefit from the intensive care unit are admitted.

In this regard, the group members suggested that this section should overcome the prolonged hospital stay in the ICU. Post-ICU is a secondary care unit and an alternative to the ICU for moderately sick patients. This section needs less equipment than the ICU, and it admits patients who are at low risk of death but should be given special care to prevent this risk, or terminally ill patients who stay in the ICU and utilize the facilities of the sector, but it does not affect their improvement. Approval and current use of the Post-ICU in Iran is currently almost unknown, and only a few private hospitals have launched this part; however, the insurance companies do not reimburse the costs of this section. As we mentioned earlier, the results of previous studies indicate that if this section is established, many of the problems associated with the intensive care unit will be resolved, such as the constant problem of unavailable beds in step-down wards, prolongation of hospitalization, and hospital costs.

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