

A Study on the Related Factors of Readmission to Intensive Care Unit

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Objective:

The purposes of this study were to examine whether the characteristics of patients admitted to ICUs differ by admission types (single admission, planned readmission, and unplanned readmission) and determine if unplanned readmission can be a valid quality indicator

Methods:

The samples comprised 3630 patients admitted to the ICUs at a secondary university hospital from July 2003 to June 2005. Data on these patients were collected through an EMR(Electronic Medical Record) system.

Using SPSS WIN 12.0 and SAS version 9.2, t-test, chi-square, ANOVA, and multilogit regressions(CATMOD procedure) were performed.

Results:

Study findings are as follows

1. The overall readmission rate was 7.5% and the unplanned readmission rate was 3.3%.
2. The most common precipitating causes were respiratory disease (28.3%) in unplanned readmission patients, cardiovascular disease(67.8%) in planned readmission patients and cardiovascular disease(40.3%) in single admission patients.
3. Significant logit of planned readmission for single admission included female(OR:0.683), cormobid disease(OR:2.041), operation(OR:1.996), cardiac disease(OR:2.885)($p < 0.05$).
Significant logit of unplanned readmission for single admission included age(70-79 OR:2.309, over 80 OR:3.314), cormobid disease(OR:2.976), operation(OR:1.565), respiratory disease(OR:2.037), pressure sore(OR:2.689)($p < 0.05$).

Conclusions:

This study suggests that unplanned readmissions to ICUs can be an important outcomes variable as well as a quality indicator. There were significant differences in patients' characteristics between planned and unplanned readmissions in terms of demographics, types of diseases, comorbidities, and the nature of readmission. Risk factors affecting unplanned readmission were old age (over 70), the presence of respiratory diseases or bed sores, and experience of operations. Therefore, special attention needs to be paid to the patient with these types of conditions. More studies need to be done to confirm the risk factors for unplanned readmissions identified in this study and examine the relationship between unplanned readmissions and other outcomes indicators.