



KEY POINT SUMMARY

OBJECTIVES

This study aimed to identify causes, outcomes, and contributing factors associated with intrahospital transport of critically ill patients.

Incidents Relating to the Intra-Hospital Transfer of Critically Ill Patients

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Key Concepts/Context

Transportation of critically ill patients between hospitals can increase complications. Intrahospital transportation poses many of the same risks. Examining these incidents could uncover ways to improve patient safety during transportation.

Methods

Using data from the Australian Incident Monitoring Study in Intensive Care (AIMS-ICU) between 1993 and 1999, this study performed a cross-sectional analysis of 191 intrahospital transfer incidents. Established in 1993, the AIMS-ICU is an anonymous, voluntary incident reporting system for intensive care to identify incidents and determine their underlying causes and contributing factors.

Findings

The 191 incidents identified from 176 reports fell into two main areas: 116 (61%) patient/staff management issues (i.e., poor communication, inadequate monitoring, incorrect setup of equipment, artificial airway malpositioning, and incorrect positioning of patients) and 75 cases (39%) of equipment problems (i.e., battery/power supply, transport ventilator and monitor function, access to patient elevators and intubation equipment). Serious adverse outcomes occurred in 55 reports (31%). Of 900 contributing factors identified, 46% were system-based and 54% human-based. Communication problems, inadequate protocols, in-servicing/training, and equipment were prominent equipment-related incidents. Errors of problem recognition and judgment, failure to follow protocols, inadequate patient preparation, haste, and inattention were common management-related incidents. Over 900 contributing factors were identified in 176 reports, suggesting the cause of most incidents is multifactorial. The adequate provision of highly



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qualified staff, specially designed and well-maintained equipment, as well as continuous monitoring are essential to avoid/mitigate these incidents.

Limitations

The authors identified several limitations. By relying on anonymous monitoring, the true incidence of problems cannot be assessed. It is likely that there were more incidents than what was reported. Also, it is possible that there was some volunteer bias or selection bias for both the ICUs that elected to participate in the study as well as for the staff members who chose to participate.

Design Implications

The study notes that rechecking the patient and equipment, skilled assistance, and prior experience are important factors in limiting harm. Monitoring of incidents and understanding the ways in which the environment and design features contribute and/or limit harm should aid in the continuous improvement of evidence-based design for patient safety. In this case, knowing that the majority of transportation-related incidents involved transportation between the ICU and the operating room or the radiology department enables designers to pinpoint environmental analysis related to risks.