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Incidence of Falls in a General Hospital in Southern Brazil

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Abstract

Understanding the multifactorial dimension of fall risk contributes to the search for better preventive interventions. The objective of this study was to identify the events types and the most frequent causes related to falls in adults and newborns. In the included period, 378 falls occurred. Understanding the predictive factors for the occurrence of falls has the potential to guarantee better safety for the patient.

Keywords:

Nursing Informatics, Accidental Falls, Electronic Health Records

Introduction

Falls are the second leading cause of accidental or unintentional injury deaths worldwide [1]. A fall is defined by the World Health Organization (WHO) as "an event which results in a person coming to rest inadvertently on the ground or floor or other lower level" [2].

A study pointed to a drop rate of patients in hospitals in developed countries that ranged from 3 to 5 falls per 1,000 patient-days [3]. In addition, it pointed out that these falls resulted in damages for 30% to 50% of these cases, such as fractures, subdural hematomas, and bleeding, which can lead to death. This creates a negative impact on the mobility of patients, as well as anxiety, depression, and fear of falling again, which increases the risk of new falls.

In another study that sought to evaluate the risk and incidence of falls in hospitalized adult patients [4], authors have identified that if the patient has a high-risk score for falls on admission, this risk tends to remain high until hospital discharge. The incidence rate was 1.68%, with a higher percentage of patients classified as having a high risk for falls.

In this context, a study suggested there was an improvement in patient care practices associated with better nursing records after the implementation of specific protocols in electronic health records (EHR), and the prevention of falls is one of the greatest improvements [5].

Risks of falling is multifactorial. Among the most frequent are: disorientation/confusion, frequent urination, walking limitations, absence of caregiver, postoperative period, and number of medications administered within 72 hours before the fall (last dose of the classes: benzodiazepines, opioids, barbiturates, antipsychotics, antidepressants, antihypertensive, laxatives, diuretics, antihistamines, anticonvulsants, and sedatives) [6]. Thus, understanding the dimension of these events, through EHR, supports nursing clinical decision-making, which contributes to the search for the best preventive interventions and positively impacts patient safety [6].

The use of clinical decision support (CDS) associated with EHR has been widely used as a tool to provide the best evidence assisting physicians, patients, and other team members to achieve better care outcomes and to reduce costs in health systems [7]. According to the Office of the National Coordinator for Health Information Technology (ONC), these tools include computerized alerts and reminders for professionals, clinical guidelines, focused reports and summaries of patient data, documentation models, diagnostic support, and contextually relevant reference information, among other tools [8].

Thus, the questions are: How are the incidence of falls? What are the most common types and causes? The objective of this study was to identify the events related to, the types of, and the most frequent causes of falls in adults and newborns.

Methods

This was a quantitative, descriptive, and documental study, conducted in a private hospital in Porto Alegre in southern Brazil. The population is composed of all medical records of patients admitted to the institution from January 2011 to October 2018.

The EHR was implemented at the institution in 2008, and includes all items related to patient care, as well as decision support tools such as event management, quality, and other administrative functions. Through computerized record entries, nurses reported the falls of patients hospitalized in adult and neonatal units.

These units account for a total of 189 beds. For each notification, the Patient Safety Center (NSP) opens an event analysis form to identify possible causes, thereby generating actions to mitigate event damage. In addition, it promotes improvements targeting the prevention of other falls for the same reasons. Since the implementation of the NSP, the team has already promoted several actions to reduce the risk of falls and minimize damages.

Among the actions are: identify the patient at risk by the adoption of a bracelet, mandatory use of safety in wheelchairs, seat belts, transport of the newborn in crib or litter, placement of support bars in corridors and restrooms, and implementation of bedridden patient routines such as low beds with grids, among others. In addition, system alerts were implemented into the EHR, as a form of communication among the multi-professional health team.

Data was obtained through the EHR software database of the institution and descriptive statistics were used for analysis.

Results

During the study period, there were 378 falls, which represented 1.07 falls per 1,000 patient-days. Of these, 252 (66.66%) were falls from their own height and 126 (33.34%) were falls from a stretcher, chair, or armchair. The most frequent causes were: sensitivity deficit (24.94%), loss of balance and gait (14.40%), mental state alteration (12.08%), drugs that affect the central nervous system (6.68%), wet floor (6.43%), furniture and equipment interference (4.88%), inadequate footwear (3.60%), and bed without grid (3.34%). These numbers represented 76.35% of all events.

Conclusions

The study allowed the identification of the characteristics of events related to falls using a large EHR system with the aid of a clinical-decision tool specifically designed for the identification of the risk of and the event of falls. With the adoption of electronic systems and the systematization of care, it was possible to understand the predictive factors for the occurrence of falls in this field of study. From the data generated, it is possible to obtain resources to evaluate, plan, and implement actions aiming to reduce falls in the hospital environment in order to promote greater patient safety.

Although multifactorial, the findings determined the main factors that led to falls. Through critical thinking and clinical judgment, it is possible to implement a preventive care plan that is more attentive to related causes. A preventive care plan includes: to plan a safer environment with the physical structure and furniture, to evaluate the need for greater human resources, to implement patient, family, and professional educational programs, and to make use of specific instruments and protocols to prevent falls. These are some strategies to be implemented and/or optimized.

It is important to highlight the important role of the nurse in management, risk control, and hospital safety. It should also be emphasized that prevention processes should be systematically analyzed and reviewed, guided by best care practices. EHR and the standardization of nursing records, combined with information systems improvement, can contribute to the development and management of quality indicators, promoting decision-making and patient safety.

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