

Nursing iatrogenic events in hospitalized elderly patients*

ATROGENIAS DE ENFERMAGEM EM PACIENTES IDOSOS HOSPITALIZADOS

LAS IATROGENIAS DE ENFERMERÍA EN PACIENTES ANCIANOS HOSPITALIZADOS

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ABSTRACT

The purpose of this cross-sectional quantitative study was to identify iatrogenic nursing events involving elderly patients hospitalized in two nursing wards of a university hospital (Campinas, Sao Paulo, Brazil). Data was collected among 100 patient records (50 men, 50 women) using an instrument created by the authors. Data analysis was performed using descriptive statistics in addition to Mann-Whitney and Kruskal-Wallis tests. Results were significant at $p < 0.05$. Iatrogenic events in the 26 files included: loss of intravenous site (14), pressure ulcers (8) and falls (2), among others. Reports were not detailed and failed to indicate interventions to prevent new occurrences. The findings suggest the importance of creating ways to encourage nursing professionals to accurately report iatrogenic events, as well as creating wards specifically for the elderly population.

KEY WORDS

Iatrogenic disease.
Aged.
Nursing care.

RESUMO

O objetivo deste estudo foi identificar, em prontuários, as principais iatrogenias de enfermagem acometendo idosos internados em duas enfermarias de um hospital universitário (Campinas, SP). É um estudo transversal, com abordagem quantitativa. Os dados foram coletados de 100 prontuários (50 homens e 50 mulheres), por meio de um instrumento criado pelas autoras. Utilizaram-se, para análise, estatística descritiva e os testes de Mann-Whitney e Kruskal-Wallis, considerando-se os resultados significativos quando $p < 0,05$. Encontraram-se registros das seguintes iatrogenias, em 26 prontuários: problemas com acesso venoso periférico (14 prontuários), úlcera por pressão (8 prontuários) e queda (2 prontuários), entre outros. Os relatos eram pouco detalhados e não apontavam medidas para prevenção de novas ocorrências. Os achados indicam a importância de um sistema que estimule os profissionais de enfermagem a não praticar a subnotificação das iatrogenias, bem como da criação de uma enfermaria voltada para o público idoso para oferecer-lhes cuidados específicos.

DESCRIPTORES

Doença iatrogênica.
Idoso.
Cuidados de enfermagem.

RESUMEN

El objetivo de este estudio fue identificar, en fichas, las principales iatrogenias de enfermería acometiendo ancianos internados en dos enfermarias de un hospital universitario (Campinas, SP). Es un estudio transversal, con abordaje cuantitativo. Los datos fueron recolectados de 100 fichas (50 hombres y 50 mujeres), por medio de un instrumento creado por las autoras. Se utilizaron, para el análisis estadístico las pruebas de Mann-Whitney y Kruskal-Wallis, considerando los resultados significativos cuando $p < 0,05$. Se encontraron registros de las siguientes iatrogenias, en 26 fichas: problemas con acceso venoso periférico (14 fichas), úlcera por presión (8 fichas) y caídas (2 fichas), entre otros. Los relatos eran poco detallados y no apuntaban medidas para prevención de nuevas ocurrencias. Lo encontrado indica la importancia de un sistema que estimule a los profesionales de enfermería a notificar detalladamente las iatrogenias, así como a crear una enfermería dirigida para el público anciano para ofrecerles cuidados específicos.

DESCRIPTORES

Enfermedad iatrogénica.
Anciano.
Atención de enfermería.

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INTRODUCTION

The word iatrogeny comes from Greek and refers to any pathologic alteration caused to a patient by the practice of health professionals, whether right or wrong, justified or not, but which originates harmful consequences for the patient's health⁽¹⁾.

It is a fact that no hospital is exempt from this problem and that iatrogeny may result from several factors, such as excess of work and working hours, the professional's tiredness, lack of attention, lack of knowledge, the professional's stress, mental health condition, negligence, imprudence, difficulties to understand prescriptions⁽²⁾.

In teaching hospitals, for instance, there are undergraduate students who do not have ability, technical knowledge and confidence, and who may present a limited capacity to analyze and interpret present and emergent situations, as well as precipitation and slowness. These aspects may be aggravated by the high number of students in the same field, which complicates their supervision, and by the complexity of the acquisition process of varied skills, increasing the risks for care iatrogeny to happen⁽³⁾.

There are several types of iatrogeny committed by the nursing team, and the most common are related to medications: omission of doses, administration in incorrect concentration, application at inappropriate times and through the inappropriate route, medication administration to the wrong patient, as well as the application of incorrect drugs, due to inappropriate substitutions or doubts regarding the transcription or interpretation of the medical transcription⁽¹⁾. Besides those, other frequent iatrogenic events may be added, such as: pressure ulcers in bedridden patients, falls, fractures, suction and infection through nasogastric or nasoenteral tubes, phlebitis in peripheral venous catheters, infection in central venous catheters, bacteremia in indwelling urinary catheters, and others.

In several hospitals, a culture of punishment exists against professionals who commit errors, as well as fear of possible ethical-legal sanctions the occurrence of a iatrogenic event may bring about. Therefore, the underreporting of iatrogenic occurrences also needs to be taken into account, contributing to low rates of reported errors⁽³⁻⁵⁾.

Given that iatrogeny is an indicator of nursing and hospital care service quality, notification should be encouraged in case an iatrogenic event occurs, and continuing education should be used to update the professional and reduce the number of errors, aimed at improving the quality of the service delivered⁽³⁾.

Elderly patients are especially subject to the occurrence of iatrogenic events. They are generally treated as regular

adult patients, without considering the singularity of the senescence and senility process⁽⁶⁾. Therefore, the prevalence of iatrogenic events among elderly patients may be high, since these people are not receiving treatment adapted to their age and, as a result, become more vulnerable to the errors of health professionals. Many Brazilian hospitals do not provide an exclusive ward for treating elderly patients.

Therefore, after being hospitalized with a baseline disease for which the patient would need a certain number of days in hospital, once the iatrogenic cascade is initiated, this elderly patient may need to remain at the hospital for a longer period than expected at the moment he entered the institution⁽⁷⁾.

PURPOSE

In the face of these considerations, the main purpose of this study is to identify, in medical records, the main iatrogenic events occurred with patients who were 60 years old or older, hospitalized between January 2005 and December 2006 at the Emergency and Trauma Surgery Wards of a teaching hospital in the interior of the state of São Paulo, Brazil. Based on the data found, the authors proposed to: classify the most common nursing iatrogenic events that happened to elderly patients at the mentioned wards; to compare elderly patients whose medical records mentioned an iatrogenic event with those in which there was no information about such event, regarding the variables of age and hospitalization period; and to verify the measures taken to correct the iatrogenic occurrences previously mentioned, as well as to prevent possible recurrences, according to the reports of the analyzed medical records.

This study is expected generate a set of data of significant academic interest and potential application to reduce iatrogenic occurrences in nursing, as well as to implement instruments for patient classification and evaluation of nursing service quality, in the long term, since the evaluation of iatrogenic events is an indicator of quality for the hospital.

METHOD

Type of study: this is a cross-sectional study, with a quantitative approach.

Study field: the wards of the patients whose medical records were analyzed have 30 beds in total. The Trauma Surgery ward has four beds aimed at patients under intensive care and 12 beds aimed at patients under semi-intensive care. At the Emergency Ward, there are 14 beds, four of them aimed at patients under intensive care, eight for patients under semi-intensive care and two for intermediate care. There is no instrument to evaluate this classification in

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a systematic way, and the patient is designated a bed according to the evaluation of the nurse and the doctor.

Casuistic: The selection of medical records began by checking the computer system of the institution, from which the authors obtained a list with data from all patients who were born before 01/01/1944 and hospitalized between January 2005 and December 2006 at the units selected for the study field.

According to these inclusion criteria, 498 medical records were identified, 187 for patients who died during the hospitalization period and 311 for patients who were discharged or transferred internally. It was then decided to disregard the medical records of patients who had died during the hospitalization period, since they would only be available at the Service of Medical Archives (SMA) as microfilms, and it would be extremely difficult to read them, thus damaging data reliability. Similarly, the medical records of patients who had died after being discharged by the ward were also disregarded, since they were stored in dead files, with difficult access. The authors decided that, in case any of these records were indicated, they would choose the next record in the list.

The final selection contained 311 eligible medical records of patients who had been transferred internally or discharged, 177 of whom referred to male and 134 to female patients. The minimum number of medical records to be analyzed from this universe was defined considering the occurrence of the phenomenon at 15%, maximum error at 5.0% and trust interval at 90%, which resulted in 96 records. Finally, 100 medical records were selected for analysis: 50 for male and 50 for female patients.

During data collection, the authors evaluated only the period during which the patients stayed at the selected wards.

Instruments for data collection: the authors created an instrument that was used for data collection, based on references to pertinent literature. The authors registered identification data of the patients (age and sex), baseline disease, cause of current hospitalization, dates of hospitalization and discharge, transfer or death, hospital entry, iatrogenic events that happened during the hospitalization period, professional category of the person who committed the error, consequences for the patient and for the professional who committed the act, measures taken to treat the consequences of the iatrogeny as well as to prevent its recurrence. One of the authors carried out the data collection of the selected 100 medical records.

The study considered as iatrogenic occurrences in nursing, adverse events that directly resulted from nursing procedures, i.e. iatrogenic events due to the performance of the nursing team, such as therapeutic medication administration errors, suction and infection through nasogastric or nasoenteral tubes, obstruction, infiltration or phlebitis in peripheral venous catheters, infection in central venous catheters, bacteremia in indwelling urinary catheters, loss of orotracheal tube, falls, fractures and pressure ulcers^(1,4).

The authors also aimed to analyze alterations that could be prevented and to investigate eventual failures in the prevention of these errors.

This study did not consider iatrogenic events due to acts of other members of the multi-professional team who were not nurses.

Data analysis: data were typed into Microsoft® Excel 2000 for Windows (Microsoft Corporation) and analyzed through Statistica 6.0 software (StatSoft., Inc). Descriptive statistics were used to characterize the variables of interest; measures of position and dispersion for continuous variables (age, average period of hospitalization); and absolute numbers and proportions for categorical variables (gender, cause of current hospitalization, baseline disease, registered iatrogenic events, consequences of the iatrogenic event for the patient and the professional who committed the act, measures to treat the consequences of the iatrogenic event and to prevent its recurrence). The statistical tests of Mann-Whitney and Kruskal-Wallis were used to compare patients whose records mentioned a iatrogenic event with those whose records did not mention such events, considering the variables of age and period of hospitalization. The results were considered statistically significant if $p < 0.05$.

Ethical aspects of the study: this study was approved by the Research Ethics Committee of the study institution in April 2007 (protocol CEP no. 256/2007). The study was exempted from the Term of Free and Clarified Consent, since it did not involve human beings directly, but the analysis of data available in medical records.

RESULTS

The age of the patients varied from 61.6 to 98.3 years (72.0 ± 7.7 years, median 70.8) and the average period of hospitalization was 8.9 days (± 12.7), median of 5.0 days, varying from one to 92 days. The average age for male patients was $71.4 (\pm 7.2)$, median of 70.4, whereas the female average was $72.6 (\pm 8.2)$, median of 71.4. The average period of hospitalization of male patients was 7.6 days (± 13.1 days), median of 5.0, whereas the average period for female patients was 10.2 days (± 12.2) days, with a median of 5.0.

The most frequent causes for the current hospitalization were: acute cholecystitis (nine men and 16 women, 25 patients in total or 25%), incarcerated hernias (five men and five women, 10 patients in total or 10%), acute abdomen (two men and two women, 4 patients in total or 4%), abscesses, dyspnea, chronic atrial fibrillation, acute pancreatitis, and pneumonia (3 patients or 3%), among other varied causes.

Among these elderly patients, 46/100 had a baseline disease registered, varying from one to three diseases per patient. Hypertension prevailed, due to its frequency (11 men and 14 women, 25 patients in total or 25%). Less frequent cases were the coexistence of hypertension and diabetes

mellitus (seven men and five women, 12 patients in total or 12%), thyroid disorders (one man and two women, three patients in total or 3%) and diabetes mellitus (one man and one woman, two patients or 2%).

The most frequent entrance to the hospitalization in the studied wards was the emergency unit that supports the institution (82 cases or 82%).

There were records of some type of iatrogenic occurrence in 26% of the 100 studied medical records (26/100), 14 of which were from male patients and 12 female. The total number of iatrogenic events registered was 31, varying from one to three events per patient. These events, as well as their numbers and proportion according to the patients' gender, are presented in Table 1.

Table 1 - Number and proportion (%) of iatrogenic events reported in medical records according to patient gender - Campinas - 2007

Iatrogenic events reported	Gender				Total	
	Men		Women			
	N	%	N	%	N	%
Infiltration, obstruction or phlebitis in peripheral venous access before 72 hours of puncture	9	34.6%	5	19.2%	14	53.8%
Pressure ulcers	3	11.5%	5	19.2%	8	30.8%
Fall	1	3.8%	1	3.8%	2	7.7%
Loss of nasoenteral tube	1	3.8%	1	3.8%	2	7.7%
Phlogistic signs in central venous access	0	0.0%	1	3.8%	1	3.8%
Restraint lesion	1	3.8%	0	0.0%	1	3.8%
Hematomas due to incorrect administration of sodium enoxaparin	1	3.8%	0	0.0%	1	3.8%
Administration of medication through the incorrect route	1	3.8%	0	0.0%	1	3.8%
Hyperemia in the insertion of PortoVac® drainage system	1	3.8%	0	0.0%	1	3.8%
Total*	18	69.2%	13	50.0%	31	109.2%

* The total amounts are higher than the number of medical records because some patients suffered more than one iatrogenic event.

There was no significant age difference between patients whose records included a iatrogenic event (72.4 ± 8.6 years old, median of 71.0) or not (72.7 ± 7.4 years old, median of 70.6) ($p=0.90$, Mann-Whitney Test).

A significant difference was found in the period of hospitalization between cases that reported the occurrence of iatrogenic events (14.0 ± 18.3 days, median of 8.0) and cases that did not (7.1 ± 9.5 days, median of 4.0) ($p=0.03$, Mann-Whitney Test). There was also a significant difference in the period of hospitalization ($p=0.003$, Kruskal-Wallis Test) when comparing the cases divided into three groups: those that did not report iatrogenic events (7.1 ± 9.5 days, median of 4.0), those reporting pressure ulcers (27.4 ± 27.5 days, median of 8.0) and those reporting another type of iatrogenic occurrence (8.0 ± 7.6 days, median of 6.0).

Among the 46 patients who had records of baseline disease, 12 had suffered a iatrogenic event (12/46 corresponds to 26.1%). The same proportion applies to those without records of baseline disease (54 patients), as 14 patients suffered at least one iatrogenic occurrence (14/54 corresponds to 25.9%).

Among the 26 medical records that reported iatrogenic events, 76.9% (20/26) did not have detailed information about the event, and 100% of them did not identify the person who committed the act. Only 53.8% (14/26) reported

the consequences of the event for the patient, which were: the need to puncture a new venous access (38.5% or 10/26), the need to introduce the nasoenteral tube again (7.7% or 2/26), the development of hematoma on the abdominal wall (3.8% or 1/26) and the increase of sedation (3.8% or 1/26). Reports about the measures taken to treat the iatrogeny were found in 34.6% (9/26) of the medical records with iatrogenic occurrences, which were curatives with essential fatty acids or papain on pressure ulcers (30.8% or 8/26), and curatives with physiologic serum on restraint lesions (3.8% or 1/26).

No medical record reported the measures taken to prevent iatrogenic nursing occurrences.

DISCUSSION

Hospitalization may be considered a death risk factor among elderly patients, because it causes adverse effects to the health of these people, such as infections, social isolation and iatrogenic events, among others. This may contribute to the loss of independence and autonomy, and may also take them to death⁽⁸⁾.

The human factor is the most frequent cause of iatrogenic occurrences⁽⁹⁾, but problems related to the inappropriate use of equipment and its absence, to the work pro-

cess, to the excess of work and absenteeism⁽¹⁰⁾, and to the clinical condition of the patient should not be disregarded⁽¹¹⁾. In this context, all iatrogenic occurrences should be analyzed in order to improve the care given by the service, always avoiding punishing policies for the human error so that the iatrogenic events are not underreported.

It can be observed in this study that, despite the proportion of iatrogenic occurrences among the studied patients (26%), there are findings suggesting that these events and their consequences at the studied nursing wards are underreported. It was observed that most of the medical records had poorly detailed information, without precise reference to the time when the iatrogenic events took place (reporting, for instance, the occurrences of the entire shift at once, without details about the iatrogenic records) and often written by nursing technicians. It is worth highlighting that, by underreporting iatrogenic events, nursing professionals are contributing to other morbidities, or even to the death of those who came in search of cure, maybe due to the fear of being punished, in some way, by the hospital institution they are inserted in, or the fear of being submitted to ethical or legal sanctions⁽⁴⁾.

The most frequent iatrogenic events reported in this study were: infiltration, obstruction or phlebitis in peripheral venous catheters before 72h of the puncture, pressure ulcers, falls, loss of the nasoenteral tube, phlogistic signs in central venous access, restraint lesion, hematoma due to incorrect administration of sodium enoxaparin, administration of medication through the incorrect route and hyperemia in the insertion of a drainage system (PortoVac[®]), which will be analyzed separately.

The present study shows that 14 medical records reported the occurrence of phlebitis, infiltration or obstruction of the venous puncture in less than 72 hours.

The process of venous puncture is a procedure characterized by the placement of a device inside the vein, which may be fixed or not to the skin, and requires periodic control and care in case of its permanence. It is one of the most frequent activities executed by health professionals, especially by nursing professionals. Peripheral venous punctures represent approximately 85% of all activities executed by the nursing professional⁽¹²⁾.

The venous puncture procedure produces an imminent risk of death in case errors occur in medication or serum therapy preparation or administration, as well as a significant biological risk for the occupational health of the professionals⁽¹²⁾. It is worth highlighting that catheters, as they involve different purposes and periods of utilization, may represent a potential for several types of iatrogeny. The inappropriate technique for washing hands, or the contamination of the equipment due to incorrect or careless handling, for instance, may cause more complex events, such as the inflammatory process of the venous vessel - phlebitis - with or without the presence of microorganisms⁽¹³⁾. This is a common occurrence at nursing wards and, in this

study, they represented four of the 14 events related to venous puncture. The mentioned factors also corroborate infiltrations and obstruction of the peripheral venous catheter, with a total of nine events in this study. This occurrence could be prevented with more careful handling and the strict application of protocols, such as the infusion of a little quantity of physiologic serum into the catheter before and after the administration of medications. The prevention of iatrogenic occurrences with venous infusions contributes to reduce repetitive insertions, which are generally painful and damage the patient's peripheral venous network and defenses, besides causing significant discomfort and concern⁽¹³⁾. These occurrences may also extend patients' hospital stay or, in more serious cases, cause death. Therefore, protocols are necessary to prevent these negative consequences.

It was observed that eight medical records among those that reported iatrogenic occurrences referred to pressure ulcers, indicating the importance of this aggravation. The development of pressure ulcers is a serious nursing problem, since it is frequently associated to bad care quality and demands a great amount of time and money for the treatment of the lesions, especially when prevention receives less attention and there are no specific programs aimed at this problem⁽¹⁴⁾.

The pathogenesis of pressure ulcers is a complex problem and involves three main factors that are very important in this process: direct pressure, shear forces and friction. A patient who suffers a combination of predisposing factors is more vulnerable to the development of ulcers⁽¹⁴⁾. Therefore, it is necessary to prevent these conditions in order to prevent the development of pressure ulcers. A well known intervention is changing the position of the patient, with the systematic mobilization of the patient for two or three times at every shift. This intervention, in some cases, would involve the entire team to move the patients and change their position. Besides, they could use egg shell mattresses, pillows or folded sheets in order to reduce pressure in bone prominences. The hospital institution needs to have a policy so that there is no lack of instruments to prevent the lesion and the team work mentioned above may be performed periodically at the nursing wards, in which there are patients with the previously discussed risk factors.

It is worth highlighting that most authors indicate age as one of the most relevant factors involved in the pathogenesis of pressure ulcers, when associated to other factors like malnutrition, mobility and humidity⁽¹⁵⁾. Nevertheless, in this study, patients whose records reported pressure ulcers had an average age of 69.6 ± 6.3 years, whereas those who had records of other types of iatrogeny had an average age of 73.6 ± 9.4 years, and those without records of iatrogenic events were 71.9 ± 7.4 years old. These findings suggest that other factors besides age could contribute to the development of pressure ulcers in these patients. One of these factors could be the long stay at the hospital

since, in this study, patients who developed pressure ulcers had a longer period of hospitalization (average of 27.4 days) than those who had other types of iatrogeny and who did not have records of such events. This finding should be considered carefully, since several other aspects may be related to the extended period of hospitalization and, therefore, contribute to the development of the ulcer, such as the seriousness of the disease or condition that caused the hospitalization or the present baseline diseases. The data in this study do not permit statements regarding this matter, because only two of the eight patients with pressure ulcers had reports of a baseline disease in their records. Besides, the varied causes of hospitalization complicate their grouping for comparison. On the other hand, other authors⁽¹⁵⁾ observed a shorter average hospitalization time among patients who presented pressure ulcers (8.9 days), which arouses questions that go beyond the scope of this study.

Two medical records reported the occurrence of falls and, in both cases, these had happened while the patients were going to the restroom, which suggests that appropriate nursing interventions should be adopted to eliminate or reduce the patient's risk of falling during the hospitalization. The fall, which may be defined as unplanned slipping, with or without the presence of an injury⁽⁷⁾, is an event that is part of the geriatric syndrome of posture instability and falls, and represents the main cause of incapacity among the elderly. Falls in the hospital environment may not only increase the period of hospitalization and treatment costs and cause discomfort to the patient, but also result in skepticism regarding nursing service quality and professional responsibility⁽⁷⁾.

According to the literature, around 30% of falls happen when patients leave their beds, to go to the restroom or even during their hygiene⁽⁷⁾. It was observed that one of the patients who had fallen has the diagnosis of Alzheimer's disease, which means that the altered mental condition of the patient, among others, may configure a risk factor for falls, according to the reviewed literature.

A possible solution would be the development of protocols for preventive measures at this hospital since, by knowing the patients who present more risks to fall, professionals could adopt specific preventive and security measures, preserving patient health and service quality. For instance: evaluating the independence level necessary to perform everyday activities, placing personal items where patients can reach them, keeping the environment safe, placing the bed in a lower position, keeping the wheels locked and the side bars suspended, among others⁽⁷⁾.

A mechanic complication in the use of the nasoenteral tube, its displacement, was reported in two medical records and, as a result, patients suffered the discomfort of placing

the tube again to continue with the nutritional therapeutics. The cause of the displacement was not reported, suggesting that the nursing team did not give the necessary importance to the event, which compromises care quality.

In the literature, most of the complications associated to enteral nutrition have mechanic, infectious, metabolic and/or gastrointestinal origins. Among mechanic complications, the most common are the displacement and obstruction of the tube, nasal erosions and irritation of the skin at the ostomies⁽¹⁶⁾.

The displacement of the nasoenteral tube can partially be prevented by appropriate fixation and continuous evaluation of this fixation by the nursing team, repeating the procedure if necessary. It is also necessary to mark the tube with the exact measure of its exteriorization in the nostril, in order to verify partial displacements and prevent more serious problems, such as suction of the diet to the lungs⁽¹⁶⁾.

There was only one case of phlogistic signs in central venous catheter (CVC), which reported its removal and the puncture of peripheral venous access to continue the therapeutics. This event could have been prevented if preventive measures had been adopted, starting with the selection of the catheter, emphasizing the preferential use of single lumen. In order to handle the insertion and the catheter itself, it is always necessary to use the *aseptic technique*, which is the most effective and simple measure⁽¹⁷⁾.

It is worth highlighting that central catheters (arterial or venous) are one of the main predisposing factors of blood infections, representative in the context of hospital infections, both due to the high cost and mortality rate. Developing an effective control program can prevent between 20% and 40% of infections, resulting in the reduction of morbidity and mortality and, consequently, in the reduction of hospitalization costs⁽¹⁸⁾.

Another point to highlight is that most of the hospital infections associated to this type of catheter are caused by the contamination of the microbial flora of the patient's skin (generally an extraluminal contamination), causing infection of the bloodstream, frequently in the absence of local inflammatory signs (the infection happens shortly after the insertion, i.e. without phlogistic signs)⁽¹⁸⁾. It may as well be caused by contamination of the hands of the personnel who handles the system, with the penetration of bacteria into the lumen of the catheter through the connection devices (late bacteremia: 10 to 14 days after the insertion).

There was also one case of hyperemia in the insertion of a vacuum drain but, due to the lack of detailed information, it could not be identified what really happened in this particular case or the consequences for the patients. In the case of this iatrogenic occurrence, the same rule applied to pre-

Falls in the hospital environment may not only increase the period of hospitalization and treatment costs and cause discomfort to the patient, but also result in skepticism regarding nursing service quality and professional responsibility.

vent phlogistic signs in CVC needs to be followed, in other words, the aseptic technique when handling it and occlusive curative at the insertion place. It is also necessary to instruct the patient to avoid the traction of the drain insertion, using the string to transport the drain in his deambulation and asking for help for getting out of the bed⁽¹⁸⁾.

One medical record reporting restraint lesion was found in this study, but without details about the way this lesion occurred.

Extremely agitated or uncontrolled patients may need physical restraint in order to prevent them from harming their own physical integrity, that of other patients and the team, besides material damages. Considering this definition, the team needs training to perform the procedure properly, in order to act as coordinately, calmly and silently as possible⁽¹⁹⁾, and in order to prevent or minimize lesions during the act.

Restrained patient need continuous observation by the nursing team and frequent reassessment by physicians, in order to determine the continuation of the restraint or not. In case this procedure is necessary for a longer period, frequent visits should verify the general condition of the patient, with special attention to his peripheral perfusion⁽¹⁹⁾, so as to prevent or minimize the occurrence of lesions.

Anticoagulants have been more indicated as a therapeutic or prophylactic measure for thromboembolic disease, especially in patients with fractures⁽²⁰⁾. However, there was only one report of hematoma due to incorrect administration of sodium enoxaparin in this study. According to the authors' observation, this occurrence has happened with some frequency, and could be reduced by making a light compression at the end of the medication application, a measure that is easy to put in practice and is also recommended by the manufacturer of the product.

There was only one report of medication administration through an incorrect route in the medical records studied, which suggests, similarly to other cases, underreporting of the fact, maybe due to the lack of a policy to encourage this type of report since, in the literature, it is a very frequent event⁽⁴⁾. Health professionals who perform several tasks and take on varied responsibilities at work, due to the reduced number of employees at health institutions, have a great probability of committing an error in medication administration⁽²⁾. The occurrence of these errors could probably be prevented through meticulous verification of the administration route indicated on the medical prescription, a simple and extremely important procedure, which should constantly be emphasized to the entire nursing team. Therefore, suggesting new proposals and strategies to reduce medication errors is ideal.

CONCLUSION AND FINAL CONSIDERATIONS

Based on the analysis of 100 medical records of hospitalized elderly patients, the authors found reports of iatrogenic events attributed to the nursing team in 26 medical

records (26%). The most frequent iatrogenic events found in the records were: infiltration, obstruction or phlebitis in peripheral venous access before 72 hours of the puncture (53.8%), pressure ulcer (30.8%), fall (7.7%) and loss of the nasoenteral tube (7.7%).

The hospitalization period of patients whose medical records reported iatrogenic events was significantly longer than for those who did not suffer such events. By comparing the cases divided into three groups: without records of iatrogeny, with records of pressure ulcers and with records of other types of iatrogeny, it was also observed that the period of hospitalization was significantly longer for patients who had pressure ulcers. No significant difference was observed regarding the age of patients who had reports of iatrogeny or not.

Most of the notes about iatrogenic events were poor in details, without precise reference to the time of the occurrences, and without the identification of the professional who caused the event. In 53.8% of the medical records, there were reports of the consequences for the patient (for instance, the puncture of a new venous access, reintroduction of the nasoenteral tube, hematoma on the abdominal wall and increase of sedation) and, in 34.6% of the records, there were reports of the measures taken to treat the iatrogeny. No medical record reported measures aimed at the prevention of new occurrences.

Previously reported findings aroused some reflections. In the first place, it should be considered that, despite the high number (26%) of occurrences, there is a possibility of underreporting of these events. Besides, reports were poorly detailed, with several gaps and imprecise information. These failures in the reports suggest a tendency to disregard iatrogenic events, maybe due to an erroneous belief that, most of the times, they do not cause more serious repercussions for the patient. This indicates the need to instruct nursing professionals not to underreport these events. The hospital policy should make it clear to the professional that he will not be punished in any way in case he commits an iatrogenic act, valuing his education by offering courses that reinforce correct techniques and protocols to prevent iatrogenic events like the ones found in this study and contributing to prevent reporting failures.

Another important point is the creation of a nursing ward aimed at the elderly public, in order to offer specific care, which currently does not happen, since the studied nursing wards assist adults in general. It is important to remember that the organism of the elderly no longer responds to the treatments given to an adult and, if the team is not trained to assist these clients according to the response of their organism, iatrogenic events may happen.

Besides the problems inherent to care practice, the literature indicated a lack of studies that objectively focus on the iatrogenic events found here and on their consequences particularly for the elderly patient, and that address iatrogenic occurrences at other than intensive care units, which most of the studies refer to.

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