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NOTIFICATION OF ADVERSE EVENTS: CHARACTERIZATION OF EVENTS OCCURRED IN A HOSPITAL INSTITUTION

NOTIFICAÇÃO DE EVENTOS ADVERSOS: CARACTERIZAÇÃO DE EVENTOS OCORRIDOS EM UMA INSTITUIÇÃO HOSPITALAR

NOTIFICACIÓN DE EVENTOS ADVERSOS: CARACTERIZACIÓN DE EVENTOS OCURRIDOS EN UNA INSTITUCIÓN HOSPITALAR

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ABSTRACT

Objective: to characterize the main adverse events reported at a hospital in Southern of Minas Gerais in 2012. **Method:** transversal, descriptive and quantitative study, carried out by the analysis of 189 notification records of adverse events from January to December 2012, after approval of the research project by the Research Ethics Committee Protocol, 279,243. Then, the data were tabulated in Excel Windows XP®2007 program, presented in a table and four figures. **Results:** errors related to medication were most frequently mentioned by professionals according to the type of event (63%); nursing technicians committed more errors (68.5%) and at night (40.2%). The sector with the highest rate of errors was the medical clinic (47.3%). **Conclusion:** the reported adverse events are frequent in the studied institution, highlighting medication errors. Actions that may favor the reduction of these events are necessary, providing a service to qualified customers. **Descriptors:** Adverse Events; Nursing Errors; Nursing; iatrogenic.

RESUMO

Objetivo: caracterizar os principais eventos adversos notificados em um hospital do Sul de Minas Gerais no ano de 2012. **Método:** estudo transversal, descritivo e quantitativo, realizado pela análise de 189 fichas de notificações de eventos adversos no período de janeiro a dezembro de 2012, depois da aprovação do projeto de pesquisa pelo Comitê de Ética em Pesquisa, Protocolo 279.243. Em seguida, os dados foram tabulados no programa Excel Windows XP®2007 e apresentados em uma tabela e quatro figuras. **Resultados:** os erros relacionados à medicação foram os mais relatados pelos profissionais de acordo com o tipo do evento (63%); os técnicos de enfermagem cometeram mais erros (68,5%), e no período noturno (40,2%). O setor com maior índice de erros foi a clínica médica (47,3%). **Conclusão:** os eventos adversos notificados são frequentes na instituição em estudo, destacando os erros de medicação. Fazem-se necessárias ações que possam favorecer a diminuição desses eventos propiciando um atendimento qualificado à clientela. **Descritores:** Eventos Adversos; Erros de Enfermagem; Enfermagem; iatrogenias.

RESUMEN

Objetivo: caracterizar los principales eventos adversos notificados en un hospital del sur de Minas Gerais en el año de 2012. **Método:** estudio transversal, descriptivo y cuantitativo realizado mediante el análisis de 189 fichas de notificación de eventos adversos, en el periodo de enero a diciembre de 2012, después de la aprobación del proyecto de investigación por el Comité de Ética en Investigación, Protocolo 279243. A continuación, los datos se tabularon en el programa Excel Windows XP®2007, presentado en una tabla cuatro figuras. **Resultados:** los errores relacionados a la medicación, fueron los mencionados con más frecuencia por los profesionales de acuerdo con el tipo de evento (63%); los técnicos de enfermería cometieron más errores (68,5%) y en el periodo nocturno (40,2%). El sector con mayor índice de errores fue la clínica médica (47,3%). **Conclusión:** los eventos adversos notificados son frecuentes en la institución estudiada, destacando los errores de medicación. Acciones que favorezcan la reducción de estos eventos son necesarias, propiciando un servicio cualificado a la clientela. **Descriptores:** Eventos Adversos; Errores de Enfermería; Enfermería; iatrogenias.

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INTRODUCTION

The World Health Organization describes that in the world, thousands of people are affected by disabilities or deaths resulting from unsafe care of health professionals. Being that one in ten patients is the victim of injuries resulting from bad assistance provided in hospitals.¹ In Brazil, between the years 2006-2011, 118,106 notifications were registered, of these, 37,696 were related to medications, 29,880 to medical-hospital articles, 19,105 to blood and components, 27,406 to intoxications, among others.²

The professionals in direct contact with the patient, often, can make mistakes arising from lack of attention or other factors. These errors are considered as adverse events caused by care practice. Adverse events are unintended injuries or damage which may result in disability or dysfunction, temporary or permanent, and/or lengthening the duration or death as a result of caregiving.³

The care is understood as a quality of the nursing staff. It is a quality of involvement, that enriches the interpersonal relationship and, therefore, provides mutual development, of care patients and caregivers. Thus, patient care, covering their safety during hospitalization, is an ethical obligation that must be maintained by nursing professionals since their formation.⁴

Even that the professional must to maintain patient safety, errors, resulting from voluntary or not of the nursing staff, are still present in the daily health institutions. It became a present and frequent occurrence, in the assistance process of care. However, it is not identified with great frequency, due to the ability of some professionals to protect and disguise such situations.^{4,5}

The importance of notifying events is explained by the fact to provide nurses a means of communicating about the unexpected occurrences. In this way, enables the recognition of failures to promote necessary changes, and contributes to the success of assistance development.

Adverse events provide in addition of risks to patients, large financial losses to the health institutions. In Northern Ireland and the United Kingdom, the extension of time of patient stays in the hospital caused by adverse events, generates a loss of two billion pounds per year, and also the expenses incurred by the National Health System, related to litigation issues caused by adverse events can reach 400 million pounds per year; and in the

United States, the estimated annual losses are between 17 and 29 billion dollars annually.⁶

The collaboration of health professionals, especially the nursing staff, to prevent errors and to guarantee quality care, is far beyond the damage caused to the institution by the events. It is related to the competence, responsibility, knowledge and cooperation of professionals, since it can contribute to the elaboration of a database with the main errors reported, and as a result, the implementation of new rules and techniques focused on patient attendance with the highest quality and safety.

It is notorious to emphasize that nursing acts in the final process of patient care through medication system, in the preparation and administration of medications. This contributes to many undetected errors at the beginning or in the middle of hospital care, to be assigned to this team. However, increases the responsibility of the nursing staff, being the last chance to stop an error occurred in the previous proceedings, and prevent further problems to the health of the patient.⁷

The quality of care requires a control to assess the performances of nursing. Therefore, to assess the care of the sector, it is necessary to establish measures, and can be implanting quality indicators of care.⁸ Risk management is a factor that needs to be part of the daily lives of professionals and health institutions, especially the emergency sectors for its unpredictability, its fast and specialized care may increase the risk of errors.¹⁴

Adverse events have been a concern for health managers. Mainly, errors involving medications, due to their larger number of occurrences in hospitals, which may harm the patient and contribute to reduction of professional quality.⁹

According to the Code of Ethics of Nursing Professionals, professionals can face penalties based on the severity of ethics violation, may be verbally warned, censured, suspended of the professional exercise or annul the right to exercise the profession.¹⁰ When an error is found, the fear is present before the notification or non-notification. This factor raises concerns to the management of services, as regards to not reported adverse events.¹¹

When professionals engage with an error, do not report adverse events to their superiors. Many fear the reaction of managers and even staff, are afraid of being punished, reprimanded or even dismissed; others do not know the importance that exists in notifying

an adverse event, or even characterize an event. Thus, the punishment may not be a factor that collaborate for notifications, intimidate professionals. Thus, it is difficult to identify the errors to the process development of continuing education, training techniques, and evolution of care with quality.

The omission of error becomes much worse aggravating than if the professional admit it. The professional must feel the institution support through strategies of support and emotional support when experiencing an error situation, to make positive the coping measures, which contributes to the personal and professional development.¹³

The Health institutions are increasingly concerned to adopt policies that promote patient safety. Therefore, the notification and errors reporting become fundamental to know the cause, to create educational interventions, preventive and not punitive.¹²

A process that may contribute to developing the quality of health care for patients', is the anonymity of notifications of adverse events by professionals. This ensures the professional, to notify their mistakes without risk of moral damages, encouraging them for the contribution of surveys of major adverse events, and even in promoting a quality care and prevention of errors. The nursing management by adopting this approach, can ensure greater fidelity of generated data and highest number of notifications. Thus, health care institutions may trace new methods of care and recovery of health professionals.

Given the above, it is emphasized that the errors are increasingly present in health institutions, and it can jeopardize patient safety and even health of nursing professional. Therefore, it is justified the importance to characterize the notifications of adverse event reports, by allowing knowledge about the main errors and its features, to strategize error prevention of professionals to the

patient, thereby ensuring a quality care and effective.

OBJECTIVE

- To characterize the main adverse events reported at a university hospital in Southern of Minas Gerais occurred in 2012.

METHOD

Transversal and descriptive study with a quantitative approach, performed by consulting the records of handwritten notifications of adverse events, from a University Hospital in Southern Minas Gerais and occurred in 2012. Handwritten reports were included in the study, carried out in the period from January 10 to December 31, 2012. 189 notifications were analyzed during the study period. The variables analyzed were: occupation, work shift, occurrence sector, event category and consequence for the patient. Then, all data were tabulated and stored in electronic memory in Word and Excel Windows XP®2007 programs.

A table and four figures were used in the presentation of results, with absolute values and percentages, containing descriptive statistics of absolute and relative frequency, and the analysis was discussed based on the literature.

This study had a favorable opinion of the research project by the Research Ethics Committee of the José do Rosário Vellano University, protocol nº 279,243.

RESULTS AND DISCUSSIONS

Data collection in the institution resulted in a total of 189 records of notifications of adverse events, occurred in 2012. Through this, the number of notifications can be evaluated, according to the event type raised during the analyzed period. Thus, it was possible to separate occurrences for months, to better represent and analyze the data, as shown in table 1.

Table 1. Occurrence of notifications according to the type of event, in the categories of medication error, pharmacovigilance, hemovigilance, fall and other events according to the month, Alfenas, MG 2012.

	Month												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
Medication error	5	5	4	14	14	9	4	16	21	10	5	12	119
Pharmacovigilance	-	1	2	-	-	-	-	1	-	-	2	1	7
Hemovigilance	-	-	-	-	4	-	-	2	-	3	-	-	9
Fall	-	-	-	1	-	-	1	-	1	1	2	1	7
Other events	1	1	1	2	7	4	1	8	8	4	6	4	47
Total	6	7	7	17	25	13	6	27	30	18	15	18	189

Among the variables in table 1, the medication errors were the most frequently reported events by professionals in the notification reports of adverse events, accounting for 119 (63%) of the survey. Then, other events were most often mentioned by the professionals, being 47 (24.9%) of the notifications. These other events refer to: fluid extravasation, phlebitis after puncture, monitoring, loss of catheters, errors omission, burns and pressure ulcers.

Notifications of falls and pharmacovigilance, obtained the same percentage of reported events, with 3.7%. Events related to hemovigilance, had a percentage of 4.7%. Regarding months with greater number of notifications, in the second half of the year 2012 were more notifications when compared to the first half, especially the month of September (9th month) with 30 notifications.

The occurrence of errors involving medications is a problem faced by most professionals. This study is in agreement with the findings of other authors, as the most

frequent type of adverse events. Study performed in an Adult ICU in the northwest of São Paulo, identified a total of 283 adverse events related to medication, being related to the certainties in administration of medications, the medications that were not administered, the medications that were not registered properly, the drug installation at infusion pumps and syringe and inhalation.⁸

In another study conducted at the Clinical Hospital of the Faculty of Medicine of Botucatu in 2006, showed the administrative occurrences and adverse events registered in bulletins of notification of adverse events as the most frequent; these, errors related to medication obtained a total of 85 (11.3%) notifications in 30 months. The authors stated that these incidences become possible by the fact that professionals provide integral care to patients, but the low frequency of notifications may be related to sub-notifications.¹⁹

Figure 1 represents the number of handwritten notifications according to the shift occurrence in percentage.

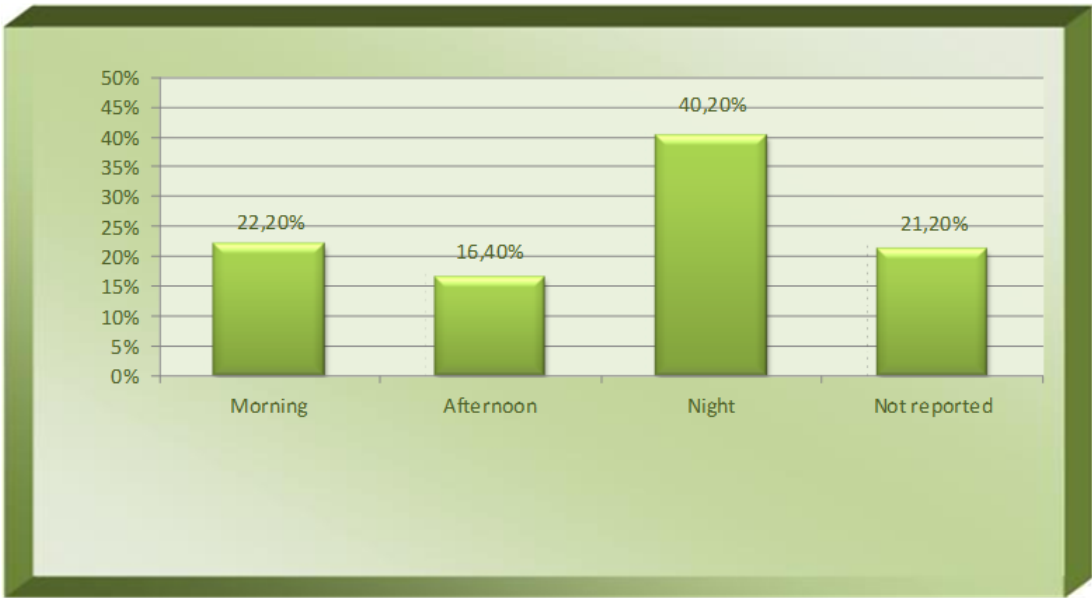


Figure 1. Distribution of notifications (in %) according to the work shift. Alfenas, MG 2012.

Regarding the work shifts of nurses, as shown in figure 1, the period when there were greater number of notifications was at night, corresponding to 76 (40.2%) of the 189 notifications. Then, the morning was the time period when there were greater numbers of incidence, with 42 (22.2%) notifications, and later, the afternoon shift, with 31 (16.4%) adverse event notifications. It is worth noting that there were still 40 notifications where work shifts were not reported.

Workers of the nursing staff who work in more than one job per day. This is one of the factors that can contribute to the nursing errors are made mostly on the night shift. However, these professionals carry tired postures for the development of work, and

end up making mistakes by the lack of rest and attention.

In a study conducted in Londrina/PR, in clinical hospital, these occurrences happen for socioeconomic difficulties that workers face because the devaluation of activities and unsatisfactory remuneration; moreover, the professional feels obliged to adjust their schedules to take days of exhaustive work.¹⁵

For the Federal Council of Nursing, the double formal employment is an indicator related to the working conditions of nursing. It is referenced to the fact that approximately 70% of the professionals work in these conditions.¹⁶ It should be considered that a profession with difficulties, from the point of view of self-esteem and professional devaluation, has many factors that make the

accident even more oppressive for these workers.¹⁵

Figure 2 shows the distribution of notifications of adverse events according to the professional category.

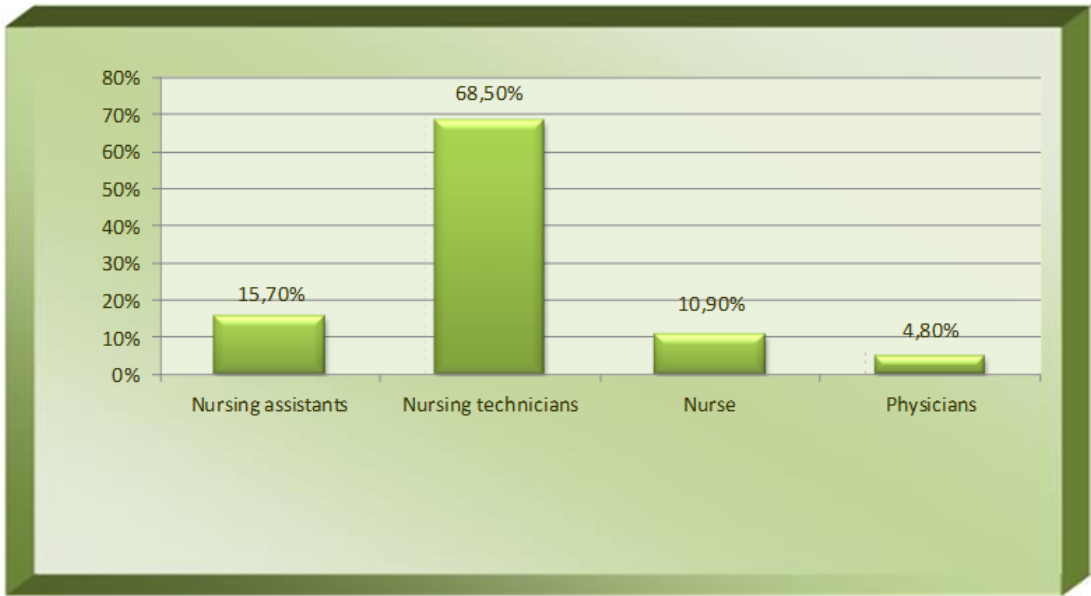


Figure 2. Distribution of notifications (in %) according to the professional category. Alfenas, MG 2012.

Another analyzed variable in this study was the professional category, which is shown in figure 2. Among the occupational studied categories, nursing technicians were the professionals that more made mistakes and reported the occurred events, and being responsible for 68.5% of notifications. Then, nursing assistants, with a percentage of 15.7% of notifications. Besides this, the nurses also made mistakes, they are responsible for 10.9% of notifications, and physicians reported 4.8% of mistakes.

Study performed in a private hospital in São Paulo in 2005, evidenced that the nursing assistants were responsible for 48.4% of ethical occurrences, followed by nurses that had 25.3% and technicians with 24.2% of occurrences.

It is important to emphasize that nursing assistants and technicians are conditioned to

greater chance of making mistakes. This is due to the fact that they are responsible for direct patient care. However, increases the responsibility of the nursing staff, being the last chance to stop an error occurred in the previous proceedings, and prevent further problems to the health of the patient.^{20, 7}

Medical errors are often related to the process of medication, at the time of prescription, by illegible calligraphy or use of nonstandard terms.¹¹ In other cases, the errors caused by doctors are not reported, as shown in a study conducted in the U.S., which found that 73 adverse events caused by doctors, only 41.1% were been documented.¹⁷

Figure 3 refers to the distribution of notifications of adverse events according to the sectors of occurrence of adverse events.

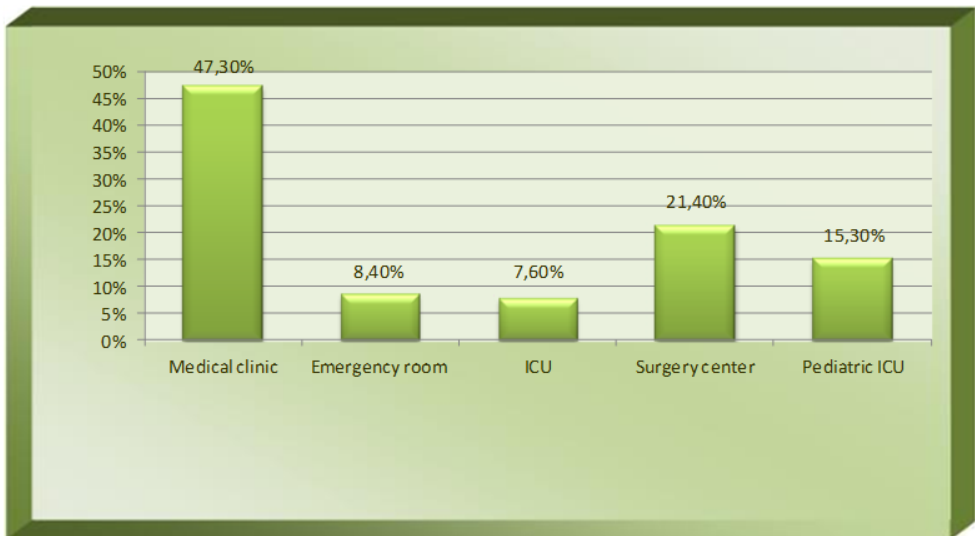


Figure 3. Distribution of notifications according to the sector of occurrence (in %). Alfenas, MG 2012.

To analyze the sectors of higher occurrences of notifications of adverse event, becomes important for managers to present

the main sectors that need to improve care, through plans and strategies of work quality.

Figure 3 shows the number of notifications in percentage according to the sector of occurrence. Thus, it can be noted that the sector with the highest occurrence of notifications was the medical clinic, this being responsible for 62 (47.3%) of notifications occurred in the hospital. The surgery center was the second sector with the highest number of notifications, corresponding to 28 (21.4%) of the notifications. Also, another sector with high number of notifications was the pediatric ICU, with 20 (15.3%) of the occurrence of adverse events. The emergency room and the ICU had close percentages, one with 8.4% (11) and the other with 7.6% (10), respectively.

The studied hospital generally has 150 operating beds, distributed in 8 assistance units: Medical Clinic, Surgical Clinic, maternity, pediatrics, pediatric ICU, Adult ICU, sector to Covenants and Private, Neonatal ICU and ER. Of this total number of beds, the majority belongs to the medical clinic, which is a hospitalization sector with

high flow of medicaments administration and ability to attend various patients on all shifts of work, with the professionals amount corresponding to the number of beds. Therefore, is justified to be the sector with the highest occurrence of adverse events in this hospital.

Study conducted at the Clinical Hospital of the Faculty of Medicine of Botucatu in 2006, analyzed the frequency of bulletins of notifications of adverse events according to the place of occurrence, where presented the medical clinic I and II as the sector with the highest number of occurrences (12.8%), followed by surgical center (12.2%).¹⁹

The quality of care requires a control to assess the performances of nursing. Therefore, to assess the care of the sector is necessary to establish measures, implanting care quality indicators.⁸

Figure 4 shows the distribution of notifications of adverse events according to the consequences caused to patients.

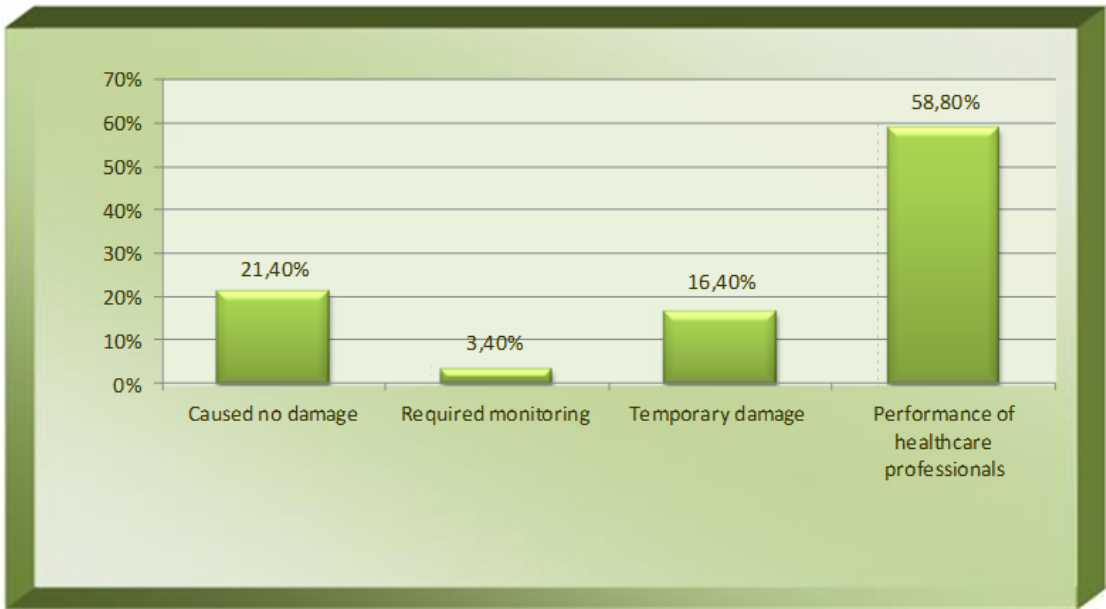


Figure 4. Distribution of notifications (in %) according to the consequences caused to patients. Alfenas, MG 2012.

Consequences caused to patients can be in small or large scales. Many of them can cause definite harm to patients. Figure 4 shows that from 189 patients reported in the notification forms, 107 required interventions related to errors, and also from the total of patients, 30 of them had temporary damage from adverse events caused by nursing professionals. From patients, 39 had no damage, and six required monitoring.

In a study conducted in a general hospital in Campinas/SP, about the consequences of errors to patients, shows that 46.2% of the errors caused harm to patients and 38.5% of errors caused no damage, and of these, 46.7% required monitoring and/or performance of healthcare professionals.¹²

The economic impact generated by the related health care errors, tends to be critical. Also, can generate several consequences such as prolonged hospitalization, expenses with disability and processes.¹ There are few reports with errors in health care, in developing countries. The risk of damage to patients tends to be higher due to limited infrastructure, technology and scarce resources.¹⁸

CONCLUSION

Handwritten records were not easy to understand, having errors and incomplete data. It was noted that notifications of adverse events were related to a punitive system in the professionals point of view,

which expands the occurrence of sub-notifications.

It was observed that errors involving medications were most frequently mentioned events by professional. Among these, the nursing staff were workers who more made mistakes in relation to other professions, and most events occurred during nightly work. Regarding to the most frequent sector, it was perceived that the medical clinic is the hospital sector with the highest rate of errors made by professionals, and of these errors, most patients required intervention.

It is necessary that health professionals adopt prevention and health promotion of patients in order to promote care based on quality and security.

The nursing management has an important role to the adverse events. Therefore, it is suggested to adopt incentives to notifications by methods of continuing education, strengthening the implementation of a computerized system less punitive. Thus, managers can ensure greater fidelity of generated data and greater numbers of notification and health institutions may trace new methods of care and valorization of health professionals, promoting the prevention of events, the quality of care and integral patient safety .

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