ANALYSIS OF ADVERSE EVENTS IN AN OUTPATIENT SURGICAL CENTER

Análise de eventos adversos em um Centro Cirúrgico ambulatorial

Análisis de eventos adversos en un centro de Cirugía Ambulatoria

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ABSTRACT: Objective: To analyze the adverse events reported in the Surgical Center for patient safety. **Method:** This is a documentary retrospective study to investigate the reporting of adverse events happened in a private outpatient Surgery Center. **Results:** Through the Epidemiology Service and Risk Management (SEGER), the survey data for the year 2014 were collected, with 250 event notifications as results. **Conclusion:** Through the survey, it was found a deficiency in the notification and recognition process by the professionals of the institution in face of situations of adverse events or failures in the care process.

Keywords: Patient safety. Operating room nursing. Perioperative care.

RESUMO: Objetivo: Analisar os eventos adversos notificados no Centro Cirúrgico para a segurança do paciente. **Método:** Trata-se de um estudo documental retrospectivo para investigar as notificações dos eventos adversos acontecidos em um Centro Cirúrgico ambulatorial privado. **Resultados:** Por meio do Serviço de Epidemiologia e Gerenciamento de Risco (SEGER), foram coletados os dados da pesquisa, durante o ano de 2014, tendo como resultados 250 notificações de eventos. **Conclusão:** Mediante a pesquisa constatou-se uma deficiência no processo de notificação e reconhecimento pelos profissionais da instituição diante das situações de eventos adversos ou falhas no processo de cuidados.

Palavras-chave: Segurança do paciente. Enfermagem de centro cirúrgico. Cuidados perioperatórios.

RESUMEN: Objetivo: Analizar los eventos adversos reportados en la Sala de Operaciones para la seguridad del paciente. **Método:** Se trata de un estudio retrospectivo documental para investigar los informes de eventos adversos ocurrió en un Centro De Cirugía ambulatoria privada. **Resultados:** A través del Servicio de Epidemiología y Gestión de Riesgos (SEGER) se recogieron los datos de la encuesta para el año 2014, con los resultados de 250 notificaciones de eventos. **Conclusión:** A través de la encuesta era una deficiencia en el proceso de notificación y reconocimiento por parte de los profesionales de la institución frente a situaciones de eventos adversos o fallas en el proceso de atención.

Palabras clave: Seguridad del paciente. Enfermería del quirófano. Cuidados perioperatorios.

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INTRODUCTION

The Surgical Center (SC), due to its complexity, demands a different perspective on patient care, working with different professionals and the integration of multiple units. Their specificity needs attention in the processes surrounding the patient. Based on this premise, it is understood the activity in the SC involves complex tasks, full of changes and uncertainty, carried out under ambient conditions dominated by pressure and stress. Therefore, these activities require extra professional attention in the processes involving the patient[1].

In this context, we may emphasize the many surgeries carried out daily, explaining the safety of the patient in the perioperative preparation. The hospital environment has many health risks to the patients, which may lead to the worsening of the recovery process. Therefore, it is considered an important role of the professional in the identification of factors which may affect the safety of the patient and the evaluation of prevention measures to the exposure to risks and damages caused by the care service[2].

The hospitals are increasingly concerned about ensuring a quality of care to their clients. In this context, the safety of the patient, through risk management, has been highlighted with the implementation of prevention measures to the exposure to risks, as well as the damages to the client due to health care assistance[3]. Therefore, the team must be alert to the activities developed to that one may avoid mistakes caused by lack of preparation and lack of attention during patient's care.

Studies show that the scientific and technological advances have increased every year, generating a greater number of surgical procedures, having a direct impact in the occurrence of adverse events[4]. In this context, it is arguable the importance of safety in relation to the adverse events which may be caused during the assistance of the health teams, being necessary to review measures for the prevention of damages and risks to the health of the patient[5]. Many of the adverse events caused by the Nursing staff are due to errors of medication, falls of patients, extubation, Burns during the procedure, bleeding by disconnection of drains and others, however several studies are being made for the evaluation of services and the protocols used in the institutions[6].

Some limitations still persist despite the studies previously made, being necessary to evaluate the notifications made before the unpreparedness and absence of knowledge of many professionals.

The concern about the safety of the patient has been a subject much discussed by hospitals. The care given by the professionals is increasingly complex, requiring technical and scientific knowledge and specific skills for each case. Based on the above, the following questioning is made: which are the adverse events more often reported in the surgical center?

This study aimed at evaluating the safety of the patient before adverse events in the surgical Center, pointing out the possible causes for them, and evaluating the knowledge of professionals in the notification of errors made by the staff working in the surgical centers.

OBJECTIVE

To analyze the adverse effects notified in the Surgical Center for the safety of the patient.

METHOD

It is a retrospective documentary study in order to investigate the notifications of the adverse events in a private outpatient Surgical Center in the city of Porto Alegre. The research project was approved by the Research Ethics Committee of the *Hospital Mãe de Deus* under No. 035820/2015 and CAAE 44507515.3.0000.5328.

The hospital has 170 employees, 90 of which are employees of Nursing, and their main strategy is the outpatient Surgical Center. Besides the surgical Center (Surgical Center and Post-Anesthetic Care Unit), the institution offers hemodialysis and Oncology services. The Surgical Center has 8 operating rooms, in which are carried out, approximately, 800 monthly surgeries, and the cosmetic procedures represent 80% of the surgical production, followed by traumatology surgeries, among other low-complexity ones.

Data collection was carried out by the database service, consulting the notification platform, making an analysis based on the quality and coherence of the data. The notification of the events is made by an anonymous reporting system (Appendix 1), via intranet, which is open to all levels of organization. These notifications are registered in a platform to which the Epidemiology Service and Risk Management (SEGER) gives continuity to the treatment of notifications, with the instrument of quality and the cause-effect analysis

(Ishikawa Diagram) and the plan of action. The SEGER and the computerized notification system of adverse events exist in the institution since 2012.

In this system, there is a specific notification instrument for each of the adverse event occurred or technical complaint to be notified. In order to fill it out, it is not necessary a previous registration, and only the risk management team has access to the information.

The hospital classifies their notifications into:

- technical complaint – any suspicion of modification, irregularity, malfunction of a product and/or material related to technical or legal aspects and which may or may not cause damage to individual or collective health;
- almost failure – any variation in the process which does not affect the outcome, but whose recurrence results in a significant chance of a several adverse event;
- process error – an event which is not consistent with the routine of care or procedures of the hospital;
- medication error – any unintentional act in the process of prescription, dispensing, transcription or administration of a drug or medication;
- adverse event – are unwanted incidents, therapeutic problems, iatrogenic damage or any unadverted occurrence directly associated with caring or services provided in the jurisdiction of a health care establishment. As a possible result of deliberate or omission acts, there are;
- sentinel event – an unexpected occurrence involving death or several damage, both physical and psychological, or the risk arising from it.

Several damage refers to, specifically, the loss of an organ or function. The expression "or the risk resulting from this" includes any variation in the process to which a recurrence may lead to a significant chance of severe adverse event[7,8].

Among their classifications, the hospital defines as an adverse event the notifications on: bacteremia, medication error, extravasations, phlebitis, fall, removal of catheter, pressure ulcers (PU), adverse reaction, cardiac arrest (CA), hyperglycemia, severe hypoglycemia, adverse event itself. The other events are classified into: process error, technical complaint and almost failure.

There were included and analyzed all the complete records of incidents reported on the platform of institutional recording in the period from January to December 2014. The exclusion criteria were the notifications performed with incorrect filling out or inconsistency to the subject.

The data were analyzed according to the number of notification, the reason of the report, the professional category and the quality of the information. The data collected were stored in an electronic database and submitted to a Microsoft Excel spreadsheet, version 2010, statistically analyzed and presented in absolute and relative frequencies.

RESULTS

The SEGER of the institution is active and is responsible for receiving all notifications registered in the platform and for following up and treating them. In 2014, the institution hosted 6,186 procedures of cosmetic and curative purposes.

In 2014, it was performed the registration of 250 notifications of these in the institution, 90 (36%) of them were registered by the Surgical Center and 19% (n=17) of them were considered adverse events. The occurrence of adverse events in the SC in the studied period was 2.8% (n=17/6,186).

In Table 1, it is observed the frequency of adverse events (n=17) and he administrative occurrences (n=73). As for the kind, it was verified that the highest number of notifications — 40% (n=36) of the total — is related to the process error (failure in the follow-up of the routine, protocols),

Table 1. Distribution of administrative notifications and adverse events in the notification platform, according to the type. Porto Alegre, 2014.

Administrative notifications / adverse events	Frequency	%
Process error	36	40
Technical complaint	34	37.8
Adverse event	7	7.8
Medication error	5	5.6
Almost failure	3	3.3
Adverse reaction	2	2.2
Phlebitis	1	1.1
Fall	1	1.1
Pressure Ulcer	1	1.1
Total	90	100

followed by technical complaints related to suspected modification, irregularity and/or malfunction of a product and/or material in 37.8% (n=34), adverse event related to the patient themselves in 7.8% (n=7), medication error in 5.6% (n=5) and almost failure in 3.3% (n=3). Only 2% of the notifications is related to falls (one case) and phlebitis (one case).

In March, after conducting institutional capacitation regarding the notification of adverse effects, it was observed an increased number of notifications to 45% (n=45), being 18% of them performed by the SC (Figure 1). The month with the lowest number of notifications related to the SC was July. On average, there were 7.5% of the notifications, and this is the month with the highest demand for labor, considered as the high season.

In Figure 1, it is registered a number of total notified events in the platform comparing the number of notified events to the Surgical Center in the period of the study. The notifications related to adverse events were the slightest when compared to the process errors, for which there were identified the highest one for notifications.

As for the highest number of notified events, it was identified the process error (40%). From these errors, the highest prevalence was the patterns related to Nursing – 63.9% (n=23), followed by doctors – 27.8% (n=10) and administrative – 8.4% (n=3). Of the total of events, 37.8% are related to the technical complaint, especially about prevalent problems in the refrigeration environment (n=28), followed by equipments (n=6), which need annual preventive maintenance.

As for the adverse events related to the patient themselves, there were five cases, two of which were Burns caused by electrocautery. As for the medication errors, they were related to errors in the prescription of medications in two cases, followed by more than three occurrences in the administration of those. The greatest evidences of failure were related to identification errors (missing identification bracelet, inappropriate identification). Regarding the adverse reaction, there were two occurrences of skin reaction. Among the cases in which there was one occurrence: UP level I, by the poor positioning in a long-duration surgery; followed by a phlebitis level I and a fall in the recovery room due to the patient not following the instructions given by Nursing. It is worth to mention the there was no fall to the ground, but a difference in height instead, with no damage.

DISCUSSION

The data suggests there has been underreporting and that it may be related to the lack of knowledge by the professionals in relation to the consequences which may affect the patient

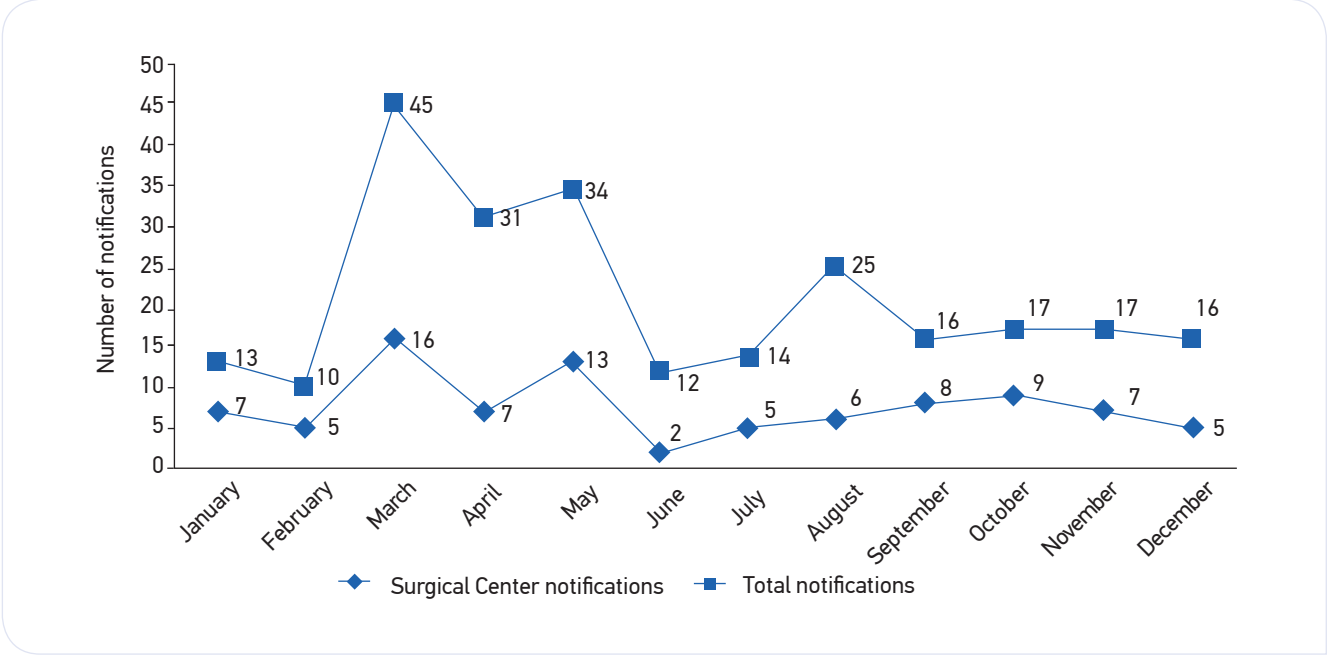

Figure 1. Number of notifications in the Surgical Center and the total number of notifications in the period from January to December 2014.

and the fear of punishment by the institution. Some of the many reasons leading professionals to not reporting incidents are based on feelings such as shame, self-punishment, fear of criticism from other people and litigation. The institution must encourage participation actions and appreciation of the professionals developing a non-punitive culture, but educational actions instead[9].

The notification is considered a practical means of communication, which provides the institution with knowledge on unexpected and unwanted facts, enabling the building of a database and the execution of modifications and the planning of safer processes, allowing the prevention from future adverse events.

The act notifications by professionals must be continuously encouraged, considering that its analysis affects the prevention of these events, being important that they recognize the error as a flaw in the process and not a form of suppression, but instead a way of supporting the planning of strategies which minimize their occurrence and/or avoid new mistakes.

In relation to the number of notifications registered, the greatest number of registers occurred in months when there was professional training on the subject, and the lowest records occurred during high season, months in which the professionals increase their work demand. In health services, the educational processes must be continuous and with defined objectives, in an attempt to directly fulfill the needs of the both the institutions and the professionals. The Perioperative Nursing team must go through trainings of effective and continuous skills, in addition to simulations[4,10].

As for the most common occurrence of notifications, the errors in processes related to the non-compliance of routines and institutional patterns by the Nursing, doctors and administrative professionals, it was highlighted the absence of continuous education in order to meet the needs in the assistencial process within the period studied, besides the integration of new professionals.

Followed by the notifications relates to the technical complaints regarding refrigeration, it was observed that, in the period studied, the institution was having great problems related to the corrective maintenance of the equipments, which, after the renovation of the whole climatization system, presents a significant improvement.

As for the main occurrence of adverse events directly involving the patient, there were identified Burns caused by improper use of the electrocautery. The risk of burns due to the use of the electrocautery may be associated to the placement of the neutral plate, as well as to bad electrical installations. Due to this condition, one of the main intentions of a security program in hospitals must be the comprehensive training regarding the use of powered medical equipments[7], besides the preventive maintenance of the devices, in order to avoid any bad wiring which may lead to health risk of assistencial teams, corroborating the safety of the surgical patient.

There was a case of fall notified during the period studied, which meets what occurs during professional practice, considering the pre- and postoperative period have greater risk of falls than the perioperative period. The fall may be explained by inadequate monitoring of patients with no conditions of wandering off alone or by the non-adherence to the instructions given by the Nursing team.

Studies show that the fall is the most common adverse event among hospitalized patients, totaling about 70% of the accidents which occur within the hospital. The risk factors are present mainly in clients hospitalized in surgical units, which evidences the need of increasing monitoring of patients who require postoperative assistance. Some measure may be taken in order to avoid falls, such as high railings on the beds, among other preventive actions[11].

The vents related to medication errors refer to the prescription and administration of medical drugs. In the hospital context, usually, Nursing is responsible for these errors since such practices are present in their routine. However, medication error is a professional matter, not limited to only one professional category. The work overload, the medical prescription and the incorrect identification of patients are factors most commonly involved in medication errors[12].

Pressure ulcers occurred in one single case; it was identified after the end of a long-term procedure, highlighting the poor positioning of the patient. The nurse along with the anesthesiologist and the surgical team decide which is the best position to place the patient on the operating table, considering the scientific knowledge of the anatomical and physiological alterations of the patient, associated to the kind of anesthesia, the kind of procedure and length of the surgery to which they will be submitted, so that the positioning is appropriate and it does not result in postoperative complciations[4,13].

In relation to phlebitis, there was just one reported case in the SR, classified as level I. Despite the low incidence of phlebitis in the institution, it is important to reinforce that it is considered a intravenous therapy (IVT) complication directly related to Nursing care, therefore educational and qualification

actions are necessary for the Nursing team regarding IVT specificities, especially regarding the early detection of phlebitis[14].

The notification of adverse events in the SEGER platform are essential to the process of health assistance, since they portray a documented fact, in addition to ensuring the effective communication reality between the assistencial team and health managers, providing legal support and, consequently, working for the patient's safety.

Given the above, there must be a commitment on the part of health professionals when reporting an event occurred in a detailed way, avoiding subnotification, since the records can reliably contribute for educational chances and corroborate better assistencial results. The results found in this research show that, for the management of adverse events, it is necessary the commitment of all health professionals, in order to build awareness about the importance of the notifications and their responsibilities, ensuring the safety of the patient and the quality of the service.

CONCLUSION

The present research concluded that the number of notifications have risen from the workers' training, in addition to being an stimulus, reinforcing the importance of the records of events for the improvement of the assitencial process.

In relation to the limitations of the notified data, it was verified that the records were related to the routines and the institutional patterns, with higher notification in technical areas, showing a lower result regarding the adverse events or failures in the perioperative period. We understand that the notifications must be stimulated and monitored by the Epidemiology and Risk Management service based on the results presented during the year.

The correct and complete Record of the adverse event contributes for the development of a plan of action in the surgical field; however, when the Record is scarce and/or inappropriate, it compromises the care given to the patient, as well as the analysis of the event by the service managing the notifications.

In order to have a cohesive Record, it is necessary to monitor the notifications and results in the quality of care in the outpatient surgical area, as well as to stimulate the records by the professionals in the perioperative period, in order to prevent adverse events and to reinforce the safety of the patient.

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Appendix 1. Data collection instrument.