



ORIGINALES

Notification of incidents related to health care in hospitalized children

Notificação de incidentes relacionados à assistência à saúde em crianças hospitalizadas

Notificación de incidencias relacionadas con la atención sanitaria en niños hospitalizados

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ABSTRACT:

Objective: Analyzing the occurrence of incidents related to health care in hospitalized children.

Material and method: An exploratory, descriptive and quantitative research conducted from a database of reports of incidents and adverse events involving children conducted between 2016 and 2018 from a teaching hospital belonging to the Unified Health System (SUS), located in Salvador - Bahia. The data were analyzed in the STATA version 12 program.

Results: During the study period, 126 incidents were reported. Most of the children who suffered incidents were between 0 and 3 years old (57.14%); were male (58.73%); and belonged to the black race (87.92%). The incidents occurred mostly in the morning shift (29.37%), and the notifications were identified in 71.46% of the cases and were performed by nurses (88.10%). The most reported incidents were falls (29.37%); surgical (23.02%); phlebitis (9.52%); and skin lesions (8.73%). There was damage to patients in 39.68% of the cases, which was mild (80%).

Conclusions: The findings indicate the need to create methods for assessing risk factors that favor the occurrence of incidents such as falls and other situations that compromise the safety of hospitalized children, since these patients have peculiarities that need to be considered in health care.

Keywords: Adverse events; Patient safety; Hospitalized child; Nursing team; Teaching hospital.

RESUMO:

Objetivo: Analisar a ocorrência de incidentes relacionados à assistência à saúde em crianças hospitalizadas.

Material e método: Pesquisa exploratória, descritiva e quantitativa realizada a partir de um banco de dados de notificações de incidentes e eventos adversos envolvendo crianças realizadas entre 2016 e 2018, de um hospital de ensino pertencente ao Sistema Único de Saúde (SUS), localizado em Salvador – Bahia. Os dados foram analisados no programa STATA versão 12.

Resultados: No período do estudo foram notificados 126 incidentes. A maioria das crianças que sofreram incidentes se encontrava na faixa etária dos 0 aos 3 anos (57,14%); eram do sexo masculino (58,73%); e pertenciam à raça negra (87,92%). Os incidentes ocorreram majoritariamente no turno da manhã, (29,37%), sendo as notificações identificadas em 71,46% dos casos e foram realizadas principalmente por enfermeiros, (88,10%). Os incidentes mais notificados foram as quedas (29,37%); os cirúrgicos (23,02%); as flebitis (9,52%); e as lesões de pele (8,73%). Houve dano aos pacientes em 39,68% dos casos, sendo este predominantemente de grau leve (80%).

Conclusões: Os achados indicam a necessidade de criar métodos de avaliação dos fatores de risco que favorecem a ocorrência de incidentes como as quedas e demais situações que comprometem a segurança de crianças hospitalizadas, uma vez que esses pacientes apresentam peculiaridades que precisam ser consideradas no cuidado à saúde.

Palavras-chave: Eventos adversos; Segurança do paciente; Criança hospitalizada; Equipe de enfermagem; Hospital de ensino.

RESUMEN:

Objetivo: Analizar la ocurrencia de incidentes relacionados con la atención de la salud en niños hospitalizados.

Material y método: Investigación exploratoria, descriptiva y cuantitativa realizada a partir de una base de datos de reportes de incidentes y eventos adversos que involucran a niños realizada entre 2016 y 2018, desde un hospital docente, perteneciente al Sistema Único de Salud (SUS), ubicado en Salvador - Bahía. Los datos fueron analizados en el programa STATA versión 12.

Resultados: Durante el período de estudio se reportaron 126 incidentes. La mayoría de los niños que sufrieron incidentes tenían entre 0 y 3 años (57,14%); eran hombres (58,73%); y pertenecía a la raza negra (87,92%). Los incidentes ocurrieron principalmente en el turno de mañana (29,37%), y las notificaciones se identificaron en el 71,46% de los casos y fueron realizadas principalmente por enfermeras (88,10%). Los incidentes más reportados fueron caídas (29,37%); quirúrgico (23,02%); flebitis (9,52%); y lesiones cutáneas (8,73%). Hubo daños en los pacientes en el 39,68% de los casos, que fueron predominantemente leves (80%).

Conclusiones: Los hallazgos indican la necesidad de crear métodos para evaluar los factores de riesgo que favorezcan la ocurrencia de incidentes como caídas y otras situaciones que comprometan la seguridad de los niños hospitalizados, ya que estos pacientes tienen peculiaridades que deben ser consideradas en la atención de la salud.

Palabras clave: Eventos adversos; Seguridad del paciente; Niño hospitalizado; Equipo de enfermería; Hospital universitario.

INTRODUCTION

Incidents related to health care, especially adverse events, because they cause damage to patients' health, are indicators of paramount importance in assessing the quality and safety of care in hospital units. Such incidents often result from unsafe procedures and care and problems related to the planning, collaboration, execution, evaluation and monitoring of interventions⁽¹⁾. Data from health care-related incident notifications can provide essential information for planning a safer health system⁽²⁾.

There are many cases of patients who are victims of errors and adverse events that could have been avoided. In Brazil, 60% of the incidents that occurred are considered preventable, but it was evidenced that these incidents, especially adverse events, have contributed to the increase in morbidity and mortality rates in health institutions⁽³⁾.

About pediatric care, incidents are more feasible and more susceptible to evolve to more severe outcomes when compared to adults, which is justified by the

particularities inherent to the development, anatomy and physiology of this age group⁽⁴⁾. Authors report that incidents in pediatric hospitalization units are associated with medications, allergy, falls, venous access, failures in patient identification and administrative factors, which demonstrates that this care presents safety risk situations⁽⁵⁾. Thus, it is important to highlight that safety protocols in cases related to pediatric hospitalization are even more important, because the occurrence of incidents are more complex, having a greater potential for serious outcomes, which can impact in-hospital morbidity and mortality and public spending⁽⁶⁾.

In this context, the incorporation of good practices in the care and development of a safety culture is necessary, since it favors the effectiveness of care and its management in a safe way, contributing to effective indentation of risks⁽⁷⁾. In turn, the identification of risk using tools used in incident analysis is extremely important to improve the quality and safety of the patient, since they support the elaboration of action plans for prevention and containment of damage⁽⁸⁾.

In view of this, it becomes evident the relevance of research on the theme for improvements in the quality and safety of pediatric patient care. Moreover, the present study may contribute to scientific production, since there are few publications that investigate the identification of incidents related to health care in pediatrics. Thus, the aim of this study is to analyze the occurrence of incidents related to health care in hospitalized children. Thus, the aim of this study is to analyze the occurrence of incidents related to health care in hospitalized children.

MATERIAL AND METHOD

This is an exploratory and descriptive, quantitative research conducted in a large teaching hospital (TH), belonging to the Unified Health System (SUS), located in Salvador – Bahia, Brazil. He is part of the Sentinel Hospitals Network of the National Health Surveillance Agency (ANVISA), thus considered as an active observatory of the performance and safety of products used in health, encouraging the culture of incident notification and contributing to the improvement of risk management in health services⁽⁹⁾.

Data collection occurred between August 2019 and March 2020 by a scientific initiation scholarship holder, as well as by nursing professionals of the institution, duly trained by the researchers responsible for the project. Data on incidents related to the health care of hospitalized children were collected for the years 2016, 2017 and 2018, from the VIGIHOSP Hospital Surveillance application. This application is a system used by the network of hospitals administered by the Brazilian Hospital Services Company (BHSC), to receive notifications of all types of incidents and technical complaints and can be used by all professionals working in the organization. Notifications with incomplete data that made it impossible to identify the case and duplicate notifications were excluded from the study.

The data were initially submitted to exploratory analysis through the inspection of the database to detect inconsistencies and ensure the quality of the analysis. Next, descriptive analysis was applied in the statistical program STATA version 12 and the data obtained will be presented in absolute and relative numbers, through graphs and tables.

For the classification of damage resulting from the adverse event, we used the Criterion of the World Health Organization⁽¹⁰⁾ which classifies them as: none - without consequence for the patient; mild - the patient presented mild symptoms, of short duration, without intervention or with a minimal intervention; moderate- the patient required prolongation of hospitalization, loss of function or permanent damage; severe - necessary intervention to save life, major medical-surgical intervention or caused major permanent or long-term damage; and death.

The study occurred in accordance with Resolution 466/2012 of the National Health Council, and the project was approved by a Research Ethics Committee, through CAAE N 09076619.2.0000.0049.

RESULTS

As shown in Chart 1, between 2016 and 2018, 126 pediatric incidents were reported in the VIGHOSP application of the locus institution of the study. Of these, 29 (23.01%) were recorded in 2016, with a higher percentage in April (17.24%) and October (17.24%); 40 (31.75%) were recorded in 2017, with a higher percentage in August (22.50%) and 57 (45.24%) in 2018, especially April (15.79%).

Board 1 - Occurrence of incidents related to health care in hospitalized children reported in VIGHOSP. Salvador, Bahia, Brazil, 2020.

| 2016 | N | % | 2017 | N | % | 2018 | N | % |
|--------------|-----------|---------------|--------------|-----------|---------------|--------------|-----------|---------------|
| January | 3 | 10.34 | January | 1 | 2.50 | January | 4 | 7.02 |
| February | 1 | 3.45 | February | 4 | 10.00 | February | 1 | 1.75 |
| March | 1 | 3.45 | March | 2 | 5.00 | March | 4 | 7.02 |
| April | 5 | 17.24 | April | 6 | 15.00 | April | 4 | 7.02 |
| May | 3 | 10.34 | May | 1 | 2.50 | May | 4 | 7.02 |
| June | 2 | 6.90 | June | 2 | 5.00 | June | 2 | 3.51 |
| July | 1 | 3.45 | July | 1 | 2.50 | July | 2 | 3.51 |
| August | 1 | 3.45 | August | 9 | 22.50 | August | 9 | 15.79 |
| September | 3 | 10.34 | September | 3 | 7.50 | September | 6 | 10.53 |
| October | 5 | 17.24 | October | 2 | 5.00 | October | 8 | 14.04 |
| November | 3 | 10.34 | November | 7 | 17.50 | November | 8 | 14.04 |
| December | 1 | 3.45 | December | 2 | 5.00 | December | 5 | 8.77 |
| TOTAL | 29 | 100.00 | TOTAL | 40 | 100.00 | TOTAL | 57 | 100.00 |

Most of the children who suffered incidents were between 0 and 3 years of age, 57.14% (N=72); were male, 58.73% (N=74); black, 87.92% (N=107); did not attend any school, 61.11 (n=77) and proceeded from municipalities in the countryside of Bahia, 54.76% (N=69). (Table 1)

Table 1 - Sociodemographic profile of hospitalized children with incident reported in VIGHOSP. Salvador, Bahia, Brazil, 2020.

| VARIABLES | N=126 | % |
|------------------------|-------|-------|
| Age group | | |
| 0 - 3 | 72 | 57.14 |
| 4 - 12 years old | 54 | 46.86 |
| Gender | | |
| Woman | 50 | 39.68 |
| Man | 74 | 58.73 |
| No registration | 2 | 1.59 |
| Race | | |
| Black | 107 | 87.92 |
| Non-black | 13 | 10.32 |
| No registration | 6 | 4.76 |
| Goes to school? | | |
| Yes | 38 | 30.16 |
| No | 77 | 61.11 |
| No registration | 11 | 8.73 |
| Origin | | |
| Salvador | 49 | 38.89 |
| Another city | 69 | 54.76 |
| No registration | 8 | 6,35 |

Pediatric incidents reported, as shown in Table 2, occurred mostly during the patient's hospitalization at the institution, 94.44% (N=119); and in the morning shift, 29.37% (N=37). Most of the notifications were identified, 71.46% (N=90), being realized, by the nursing professional, 88.10% (N=111).

Table 2 - Characterization of the notification of incidents in hospitalized children registered in VIGHOSP. Salvador, Bahia, Brazil, 2020.

| VARIABLES | N=126 | % |
|--|-------|-------|
| Occurrence situation | | |
| Hospitalization | 119 | 94.44 |
| Outpatient care | 1 | 0.79 |
| Other | 4 | 3.17 |
| No registration | 2 | 1.59 |
| Occurrence Shift | | |
| Morning | 37 | 29.37 |
| Afternoon | 34 | 26.98 |
| Night | 14 | 11.11 |
| No registration | 41 | 32.52 |
| Nature of Occurrence | | |
| Identified | 90 | 71.46 |
| Anonymous | 36 | 28.57 |
| Notifying Professional Category | | |
| Nurse | 111 | 88.10 |
| Doctor | 5 | 3.97 |
| Nursing technician | 4 | 3.17 |
| Other | 6 | 4.76 |

The incidents with the highest frequencies of notifications, present in Table 3, were: falls, 29.37% (N=37); surgical procedures, 23.02% (N=29); phlebitis, 9.52% (N=12); skin lesions, 8.73% (N=11); problems related to medical-hospital articles, 7.14% (N=9); and failures in the process of identifying children, 6.35% (N=7).

Table 3 - Characterization of incidents in hospitalized children reported in VIGHOSP. Salvador, Bahia, Brazil, 2020.

| Reported incident | n | % |
|--------------------------|----|-------|
| Falls | 37 | 29.37 |
| Surgery | 29 | 23.02 |
| Phlebitis | 12 | 9.52 |
| Skin injury | 11 | 8.73 |
| Medical-hospital article | 9 | 7.14 |
| Patient identification | 8 | 6.35 |
| Loss of Catheter | 4 | 3.17 |
| Medicines | 3 | 2.38 |
| Accidental extubation | 1 | 0.79 |
| Other | 12 | 9.52 |

Regarding the damage, 39.68% (N=50) of the incidents resulted in damage to children's health; 43.65% (N=55) did not evolve with damage and 16.67% (N=21) had no record. Regarding the degree of damage resulting from the adverse event, the majority had mild damage, 88% (N=44); 10.00% (N=5) with moderate damage and 2% (N=1) had no record of the degree of damage (Table 4).

Table 4 - Characterization of the notification of incidents in hospitalized children registered in VIGHOSP. Salvador, Bahia, Brazil, 2020.

| VARIABLES | N=126 | % |
|------------------------------|-------|-------|
| Damage to the patient | | |
| Yes | 50 | 39.68 |
| No | 55 | 43.65 |
| No registration | 21 | 16.67 |
| Degree of damage | | |
| Low | 44 | 88.00 |
| Moderate | 5 | 10.00 |
| No registration | 1 | 2.00 |

DISCUSSION

In the period studied, 126 incidents were reported in pediatric patients, with higher occurrence among children aged 0 to 3 years. This may be indicative of the greater dependence of children in this age group to perform activities that are part of the care routine, requiring the health professional to perform more frequent interventions. Thus, the greater need for interventions can lead to the occurrence of falls, infections caused by lack of hand hygiene, among other situations directly associated with the occurrence of incidents that compromise the safety of hospitalized children⁽¹¹⁾.

The highest number of incidents occurred among male children, especially black children, which may be associated with the profile of children assisted in the hospital

unit in which the research was conducted. It is considered that this is not a specific characteristic for the analysis of the occurrence of incidents associated with pediatric hospitalization, since among the visits performed in public health units, there is a predominance of black children⁽¹²⁾.

Most children are preventable from municipalities in the interior of the state. This data is justified because it is a large public hospital and outpatient unit, a reference in the treatment of various pediatric diseases in the state of Bahia and because it is integrated into the state network of regulation of SUS beds.

The incidents in pediatric patients reported occurred mostly in the morning shift, which may be associated with a greater number of procedures and consequently, overload of work of the team, when compared to the nighttime. An international study points to a direct relationship between nursing work overload and the increase in incidents in hospital units. According to the research referenced, workloads above the level considered adequate can increase the occurrence of incidents between 8% and 34% and increase the chances of a patient evolving to death by 40%⁽¹³⁾. The high demand for procedures can also lead to lack or inadequate hand hygiene, which favors the spread of healthcare-related infections⁽²⁾.

Most reports about the occurrences of incidents were made in an identified manner, with the nurse professional being the main notifier. This data is in line with other publications that indicate related results⁽¹⁴⁻¹⁶⁾. This category is extremely important for patient safety and promotion of a safety culture, given that nurses should promote actions that enable effective communication between the team, the analysis and identification of errors to avoid and prevent situations of risk to the health of hospitalized children⁽⁴⁾.

The fact that there is identification in most of the notifications of the present study suggests a positive safety culture in the field of research. Studies state that mature institutions in relation to the safety culture recognize their mistakes and incidents and notify them, understanding the importance of this occurrence to improve the quality of care^(2,17). Although all professional categories are authorized to report incidents that occurred with the patient, studies have shown that there are still weaknesses in notification practices by health professionals, which may be associated with a punitive culture that still exists or in the lack of knowledge about incidents and/or adverse events^(3,18). In this study, the importance of sensitizing the multidisciplinary team to the valorization of the patient safety culture as a fundamental element for improvements in care processes is highlighted⁽⁷⁾.

From the research, it was observed that among the most reported incidents, when it comes to the hospitalization of children, are those associated, respectively, with falls, surgical, phlebitis, skin lesions, problems related to medical-hospital articles and failures in the process of identification of children. On this aspect, authors⁽⁶⁾ add that these occurrences are potentially significant when it comes to pediatric hospitalizations, which understands the safety of children hospitalized in these health units. These occurrences are consistent with what is revealed as factors that favor these events. The inadequacy of human resources in hospitals; lack of adequate facilities; the delay in referrals and in the definition of therapeutic management for the patient, such as surgical procedures, examinations, transfer to bed and transportation; failures in the transfer of information among professionals; and non-compliance with

institutional rules, are described as major causes of incidents that compromise the safety and quality of pediatric health care in hospital units^(1, 19).

In the study, the incident with the highest occurrence was the fall. Authors⁽²⁰⁾ state that children are at substantial risk of fall due to vulnerabilities in their age group. Falls in hospital institutions have always been a concern about children's vulnerability and the possible consequences, such as serious injuries, prolonged hospitalization, waste of resources and increased costs⁽²¹⁾. Regarding the degree of damage resulting from the adverse events that occurred, in the research it was possible to verify that there was a higher incidence of minor damage. It can be observed that although the risks present in children's hospital units are more commonly described as favoring serious events⁽²²⁾ in this unit, there is a predisposition to damages that do not generate greater consequences for hospitalized children.

Thus, if the mild degree and frequent reports of falls among children are considered, especially between the age group from 0 to 3 years, it is understood that these may have occurred from smaller heights, such as beds and cots. Such occurrences might not be as frequent if there was adequate follow-up of patients, or even if the companions were properly guided by nursing professionals⁽²³⁾. These professionals are the ones who interact the most with the families of hospitalized children, hence the importance of sharing information with companions to avoid the occurrence of incidents that may harm the child's treatment⁽⁵⁾.

This study is limited by the fact that it was conducted based on voluntary notifications that may hide a underreporting and thus not reveal the real scenario of incidents related to health care in the field of research. Another issue to be highlighted is the lack of information on some items. However, it is considered that the data obtained allow an analysis of reported incidents, indicate a certain maturation in relation to patient safety and can be used as a basis for planning health education actions in the field of patient safety.

CONCLUSION

From the analysis of the 126 pediatric incidents that occurred in the hospital institution, during the period surveyed, it was observed that most of the children were in vulnerable age group, were male, black and proceeded from municipalities in the interior of the state. Among the reported incidents, there was a predominance of mild adverse events, which occurred during the child's hospitalization and in the morning shift. The fall was identified as the most frequent incident.

The findings of this study indicate the need to create methods for assessing risk factors that may favor the occurrence of incidents such as falls and other situations that compromise the safety of hospitalized children. These patients present peculiarities that need to be considered, because the high incidence of events can lead to increased hospital stay and public expenses.

It is known that many of the incidents that occur in pediatric hospital units are preventable and preventable through the implementation of protocols and the adoption of safe practices by the entire health team. It is recognized, however, that to reach this level, it is necessary to train professionals, adapt the physical environment by

management and establish preventive measures. The sharing of information about patient safety should be known and understood by all who work in the hospital unit, so that the culture of safety is internalized.

Thus, it is believed that patient safety is an indispensable criterion for improving the quality of health care. Therefore, although this is a much-discussed theme, it is urgent that new research be conducted that address ways and methods of implementing strategies that allow greater control and prevention of adverse events, to promote better ways to ensure the integrity, well-being and safety of pediatric patients.

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