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ORIGINAL ARTICLE

HEALTHCARE-RELATED INCIDENTS IN HOSPITALIZED ELDERLY PEOPLE

INCIDENTES RELACIONADOS À ASSISTÊNCIA À SAÚDE EM IDOSOS HOSPITALIZADOS

INCIDENTES RELACIONADOS A LA ASISTENCIA EN SALUD EN ANCIANOS HOSPITALIZADOS

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ABSTRACT

Objective: to analyze reports of healthcare-related incidents in hospitalized elderly people. ***Method:*** this is a quantitative, descriptive and exploratory study in a public teaching hospital, with data on healthcare-related incidents in hospitalized elderly people, collected through forms. Exploratory and descriptive analyses of the data were performed. ***Results:*** there were 296 recorded notifications, predominantly: phlebitis, 28.21% (n=79); problems related to surgeries, 19.93% (n=59); skin lesions, 17.23% (n=5) and falls, 13.51% (n=40). Most incidents were classified as mild, 57.77% (n=171). ***Conclusion:*** there were lower rates of notifications than those described in the literature. However, the importance of encouraging notification, planning and execution of actions focused on the elderly person is highlighted from the identified scenario. ***Descriptors*:** Drug-Related Adverse Events; Patient Safety; Aged; Notification; Health Service; Nursing.

RESUMO

Objetivo*:** analisar notificações de incidentes relacionados à assistência à saúde em idosos hospitalizados. ***Método*:** trata-se de um estudo quantitativo, descritivo e exploratório, em um hospital público de ensino, com dados de incidentes relacionados à assistência à saúde em idosos hospitalizados, coletados por meio de formulários. Realizou-se análise exploratória e descritiva dos dados. ***Resultados*:** registraram-se 296 notificações, predominando: flebite, 28,21% (n=79); problemas relacionados a cirurgias, 19,93% (n=59); lesões de pele, 17,23% (n=5) e quedas, 13,51% (n=40). Classificou-se a maioria dos incidentes como de grau leve, 57,77% (n=171). ***Conclusão: encontraram-se taxas de notificações menores do que a descrita na literatura. Destaca-se, no entanto, a importância do estímulo à notificação, planejamento e execução de ações voltadas para idosos, a partir do cenário identificado. ***Descritores*:** Eventos Adversos; Segurança do Paciente; Idoso; Notificação; Serviços de Atenção ao Paciente; Enfermagem.

RESUMEN

Objetivo: analizar informes de incidentes relacionadas a la atención en salud en ancianos hospitalizados. ***Método:*** se trata de un estudio cuantitativo, descriptivo y exploratorio en un hospital público de enseñanza, con datos sobre incidentes relacionados a la atención em salud en ancianos hospitalizados, recogidos a través de formularios. Se realizó un análisis exploratorio y descriptivo de los datos. ***Resultados:*** se registraron 296 notificaciones, principalmente: flebitis, 28,21% (n-79); problemas relacionados con las cirugías, 19,93% (n-59); lesiones cutáneas, 17,23% (n-5) y caídas, 13,51% (n-40). La mayoría de los incidentes fue clasificada como leve, 57,77% (n-171). ***Conclusión:*** se encontraron tasas de notificaciones más bajas que las descritas en la literatura. Sin embargo, se destaca la importancia de fomentar la notificación, planificación y ejecución de las acciones dirigidas a los ancianos, desde el escenario identificado. ***Descriptores*:** Eventos Adversos; Seguridad del Paciente; Anciano; Notificación; Servicios de Atención al Paciente; Enfermería.

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INTRODUCTION

In health services, patient unsafety is a problem worldwide. The risks and occurrences of events that generate damage have grown in all environments, especially in the hospital sphere,[1] but the search for quality in health is not a recent concern. A paper published in 1999 by the Institute of Medicine in the United States, entitled "To err is human: building a safer health system", stressed issues related to patient safety and their impact on the quality of services. According to this document, in the United States, between 44,000 and 98,000 patients died each year in hospitals due to incidents related to the care provided.[2] Global health authorities awakened before the revelation of those data to the need for improving the quality of care and patient safety.[1]

In 2013, in Brazil, the National Patient Safety Program (PNSP) was launched, based on the previous experience of the Brazilian Network of Sentinel Hospitals, created in 2002 by the National Health Surveillance Agency (ANVISA), aiming to contribute to the care qualification in all health facilities in the national territory, directing, among other actions, to the notification of Adverse Events (AE) and technical complaints.[3-4]

Notifications of adverse events as a prevention factor become important, in addition to cooperating to build a database on risks and problem situations. Notifications also consist of implementing necessary changes to assistance, which provides a safer working process and protects against future AE. Cataloging and investigating these occurrences will allow creating permanent education programs that encourage the registration of notifications and support the safety of users, continuously enhancing the quality of health services.[1] The results of notifications will provide knowledge about the weaknesses of the services, enabling the formulation of strategies to cope with the problem and the strengthening of the patient safety culture.[5]

A study revealed that the rates of adverse events in Brazil, for all age groups, vary between 8% and 69% and the incidence of adverse events among hospitalized elderly people varies between 5% and 58% and may favor impairments to functional capacity or death in 5% to 27% of cases.[6] The literature also shows that the elderly suffer the most severe events, resulting in prolonged hospitalization, longer time of mechanical ventilation and higher risk of death;[6-7] temporary or permanent disabilities; increased hospital costs with the care and attempts to minimize the consequences of events and the risk of other AE.[8]

Studies on adverse events in the elderly are justified by the need to generate information that allows monitoring occurrences before the characteristics of this population group.[7] Furthermore, the study is expected to contribute, in agreement with other authors[8], to the elaboration of strategies to cope with the problem during the hospitalization of the elderly.

OBJECTIVE

- To analyze reports of healthcare-related incidents in hospitalized elderly people.

METHOD

This is a quantitative, descriptive, exploratory study conducted in a teaching hospital complex belonging to the Unified Health System (UHS), located in Salvador, Bahia, Brazil. This complex is a hospital and outpatient unit, public, general, large-sized, reference in medium and high complexity in the state and has 277 active beds.

The study site was chosen due to its classification as a teaching hospital and, in this sense, its care processes should be considered as a model for training in the health area. The hospital has a Hospital Surveillance (VIGIHOSP) application, a system used to receive healthcare-related notifications.

Secondary data on health-related incidents were used in hospitalized elderly, collected from the application database. Data of the years 2016 and 2017 were used, considering that the application was implemented in mid-2015. The following information was collected: sociodemographic characteristics of the elderly, type of incident and degree of damage/consequences (mild, moderate, severe, death).

For the classification of the degree of damage of adverse events, i.e., the result of the impairment of the patient's health status caused by the AE, the criteria recommended by the World Health Organization (WHO)[9] was used as follows: None - there was no consequence for the patient; mild - the patient presented mild symptoms, minimal or intermediate short-term damage without intervention or with minimal intervention (small treatment or observation); moderate - the patient required intervention, such as additional procedure or therapy, prolongation of hospitalization, loss of function, permanent or long-term damage; severe - necessary intervention to save life, major medical-surgical intervention or caused great permanent or long-term damage; fetal disturbance/risk or congenital anomaly or death caused by AE.[9]

Data were collected between September 2018 and May 2019 after institutional authorization and approval of the research protocol by the Research Ethics Committee (REC).

The data were analyzed in an exploratory and descriptive way. Initially, the database was

inspected to detect inconsistencies and guarantee the quality of the analysis. The descriptive analysis was then applied using the statistical program STATA, version 12.

In line with Resolution n. 466/2012 of the National Health Council, which regulates researches involving human beings, the release of the field to carry out the research was requested and the project was forwarded to a Research Ethics Committee (REC), obtaining favorable opinion through CAAE 92260518.5.0000.0049.

RESULTS

During the study period, 897 reports of healthcare-related incidents were recorded on VIGIHOSP, as can be seen in Table 1.

Table 1. Sociodemographic profile of elderly patients with notification on VIGHOSP. Salvador (BA), Brazil, 2019.

Variables	n	%
Age range		
60 - 69	171	57.77
70 - 79	86	29.05
80 - 89	36	12.16
90 - 99	3	1.01
Gender		
Man	160	54.05
Woman	134	45.27
NR	2	0.68
Race		
Black	232	78.38
Non-Black	55	18.58
NR	9	3.04
Marital Status		
Married/stable union	119	40.20
Unmarried	84	28.38
Widow(er)	49	16.55
NR	29	9.80
Separated	15	5.07
Schooling		
Basic	123	41.55
Secondary	71	23.99
NR	64	21.62
None	29	9.80
Higher Education	9	3.04
Origin		
Salvador	188	63.51
Other cities	92	31.08
NR	16	5.41
Total	**296**	**100**

NR: no record.

Table 2 shows the data on the origin of notifications.

Table 2. Characterization of notifications of healthcare-related incidents regarding the notifying unit. Salvador (BA), Brazil, 2019.

Variables	n	%
Notifying unit		
Adult Inpatient Unit	173	58,44
Surgical Center	53	17,91
ICUs	49	16,57
NR	9	3,02
Psychiatry	8	2,70
Outpatient Unit	3	1,02
Dialysis Unit	1	0,34
Total	**296**	**100**

NR: no record.

Table 3 reveals the most reported incidents involving elderly people. The incidents related to surgery involved the lack of instruments, damaged surgical material, inadequate disposal of material and lack of adherence to the safe surgery protocol.

Table 3. Characterization of notifications regarding the type of healthcare-related incident. Salvador, Bahia (BA), 2019.

Variables	n	%
Type of incident		
Phlebitis	79	28.21
Surgery	59	19.93
Skin lesion	51	17.23
Falls	40	13.51
Others	22	7.43
Medicines	13	4.39
Nutritional therapy	12	4.05
Patient identification	8	2.70
Loss of catheter	6	2.03
Hospital medical article	3	1.01
Accidental extubation	2	0.68
Blood and blood products	1	0.34
Total	**296**	**100**

Table 4 unveils the classification concerning the degree of damage.

Table 4. Characterization of notifications of adverse events regarding the degree of damage caused to the elderly. Salvador (BA), Brazil, 2019.

Variables	Mild	Moderate	No damage	NR
Type of event				
Phlebitis	79	0	0	0
Skin lesion	45	6	0	0
Medicines	11	0	0	2
Falls	8	1	29	2
Nutritional therapy	8	0	0	4
Loss of catheter	6	0	0	0
Others	6	2	11	3
Hospital medical article	3	0	0	0
Accidental extubation	2	0	0	0
Patient identification	1	0	7	0
Blood and blood products	1	0	0	0
Surgery	0	1	20	37
Total	**171**	**10**	**67**	**48**
%	**57.77**	**3.38**	**22.73**	**16.20**

DISCUSSION

The results of the research evidenced that more than one third of the healthcare-related incidents reported during the study period involved elderly people. National and international studies pointed out that hospitalized elderly patients are at increased risk for suffering adverse events in relation to younger patients.[10-1] High risks can be attributed to various factors, both inherent to the aging process and to the disease and hospitalization.[12-4]

Aging intrinsically leads to reduced muscle cells, altered tissue elasticity, decreased bone mass, postural alteration and joint alteration. These changes favor the decrease in mobility and, consequently, the increased risk of suffering events, such as falls.[15-6] Furthermore, the risks of incidents are intensified by: slower recovery and weaknesses imposed by the aging process;[8] chronic multipathologies, sometimes with negative effects on quality of life; situations of physical disability[7] and the severity of the disease.[5]

Regarding age distribution, the elderly group most affected was the one in the age range between 60 and 69 years (57.77%) and, regarding gender, the number of male elderly (54.05%) was ten percentage points more affected than the female; the highest percentage (63.51%) of affected people was from Salvador, Bahia, which can be justified by the research field being located in this city and by the possibility of difficulties in accessing the specialized care network by people living in other cities.

This scenario was reinforced by studies conducted in other Brazilian states, in which there was a predominance of hospitalization of elderly people aged 60 to 69 years; males and from the state capitals, mostly.[17-8] Data from DATASUS on hospitalizations in Brazil for the years 2016 and 2017, the same period of this study, indicated a predominance of hospitalizations of elderly people between 60 and 69 years (42.84%); while the number of elderly men hospitalized was slightly higher than that of elderly women (50.6%).[19]

The higher hospitalization in males can be justified, despite the female aging trend in Brazil,[20] due to the lower demand of elderly men for health services for disease prevention. Thus, the search is made in more advanced stages of illness or due to acute decompensation of existing chronic diseases,[18] in addition to possible

influences of lifestyle characterized by sedentary lifestyle, low adherence to a healthier diet pattern and consumption of alcohol and tobacco.[17]

There was also a predominance of Afro descendant people (78.38%) and with low schooling (41.55%), a fact consistent with official data on sociodemographic characteristics of elderly people in Brazil.[20] The population of Salvador, Bahia, according to data from the Brazilian Institute of Geography and Statistics, is composed predominantly of Afro descendants (80%), thus constituting as the city with the largest black population in Brazil and outside Africa.[21] It is also possible to infer that the black population represents the highest proportion of individuals assisted by the UHS.[22]

Among the most reported incidents are phlebitis (28.21%); incidents in surgical contexts (19.93%); skin lesions (17.23%); falls (13.51%) and medicines (4.39%). Adverse events usually represent a heterogeneous group of occurrences, as the most common among the elderly relate to the use of medications; falls; unscheduled withdrawals of therapeutic devices such as nasogastric tube, bladder tube and drains; pressure injuries; healthcare-associated infection[7-8,12,23-4] and infiltration, obstruction or phlebitis of peripheral venous access.[8]

The panorama of notifications of incidents identified is similar to the reality in Brazil and in other countries, such as Mexico,[25] Colombia,[26] France[13] and Italy.[14] A study conducted in the state of São Paulo found an average percentage of 2.13% of incidents related to surgeries.[24] The events related to surgeries were associated with the non-conferring of materials before and after the surgical act, damaged instrumental, lack of material and inadequate preparation of the patient according to the protocol of safe surgery. These events result in the need for new procedures, increasing the consumption of materials and discomfort for the patient.[8] Elderly patients are also at increased risk for the occurrence of severe AE related to surgeries, with an exponential growth of this type of risk with age.[27]

The occurrences of phlebitis can be related to the physiology of aging, which leads to greater sensitivity of the venous network, to the use of potentially irritating drugs[26] and care during puncture.[28] Importantly, pressure injuries, in turn, are a common problem among patients admitted to hospitals. The incidence of this AE between 0.4% and 38% has been reported among acute patients, with growth up to 60% for the development of a new lesion while the person remains hospitalized. The elderly are at greater risk for developing pressure injuries, in part due to age-related changes in skin integrity and limitations in mobility added to the risks arising from hospitalization.[12]

Regarding falls, the authors reported the presence of this risk in 52% of hospitalized elderly people.[16] The risk of falls and associated injuries constitutes an increased concern among the elderly due to alterations secondary to aging, which affect physical mobility, with repercussions on gait, damage to visual and auditory acuity, in addition to the possibility of cognitive alterations. In addition, the simultaneous use of several medications intensifies the risk for falls with associated lesions.[16]

In the hospital environment, falls happen more at night, possibly due to the reduced number of professionals and surveillance. Among the elderly, this AE can result in disabilities, deformities and even death,[15] also contributing to the acceleration of functional decline and to the evolution with dependence on other people for activities of daily living. Studies have shown that the rate of in-hospital falls varies between 2.2 and 7 per thousand beds, however, when considering the elderly, the risk is nine times higher than in young patients.[12]

The authors highlighted that the elderly make up the population group most affected by adverse events related to the use of medications. The elderly generally use more medications due to multiple chronic non-communicable diseases, thus characterizing polypharmacy.[12,29] More than 80% of the elderly receive at least one medication per day and close to 40% take five or more medications. Studies have shown that the elderly receive, on average, eight to nine different medications during hospitalization, including routine ones, such as those used to assist in sleep.[12] Another issue to be considered is the changes in the metabolism of medications in the liver, kidney and elimination, in addition to the decline of organic systems.[29]

In a multicenter study conducted in Mexico on factors related to adverse events, 11.7% of AE related to the use of medications, including situations such as administration (route, time, preparation, dosage), prescription, transcription and dispensing.[25] In Colombia, 91.9% of the records were classified as suspected adverse reactions and 28% related to the use of medications. The incidence rate of adverse drug reactions in the elderly was 22.5 per 100 thousand and increased proportionally to age and, among the damages resulting from the use of medications, the most frequent was phlebitis (14.7%), followed by rash and pruriginous rash.[26]

Events related to the use of medications, such as reactions after the use of analgesics, antibiotics, sedatives and anti-inflammatory drugs, result in the need for suspending and replacing the therapy.[8] Some medications have also been

related to the risk of falls[12] and phlebitis[26] in this population. Falls, as already discussed, comprise a significant proportion of morbidity and mortality among the elderly.[12]

In addition, other incidents were also reported, such as those related to nutritional therapy (4.05%); incorrect patient identification (2.7%); loss of catheter (2.03%); incidents related to a medical-hospital article (1.01%); accidental extubation (0.68%) and incidents related to the use of blood and blood products. These events were mentioned in the literature as the most prevalent among hospitalized elderly people.[7-8,12,23-5,27]

There was a higher notification of adverse events classified as mild (57.77%) and moderate (3.38%), classified according to WHO criteria.[9] The pattern of distribution of events allows monitoring the distribution of the most reported categories (phlebitis, skin lesions, medications and falls, but only one event was classified in the group of surgeries).

A study conducted in Midwestern Brazil on the occurrence of AE in the elderly hospitalized in a surgical clinic found that 73.1% were classified as mild; 25.4%, as moderate and 0.6%, as severe.[8] Another Brazilian study found the predominance of events classified as mild, followed by events of moderate, severe severity and the event of one death,[24] however, a Colombian study on adverse events related to the use of medications classified the AE as moderate in 69.5% of the notifications, followed by severe reactions (18.1%) and mild (12.4%)[26] and, in a Mexican study, 51,1% of the reported events led to temporary or permanent disability, including the occurrence of death. Of these, 6.5% were classified as sentinel events[25] whose occurrence involves death, physical, psychological injury or risk to the patient and requires immediate intervention.[30]

A limiting factor for a better understanding of the severity of the damage resulting from the adverse events reported was the lack of records of this information (16.2%). Although notifications may be anonymous and there is an institutional policy to encourage the registration of AE, the completion of the fields referring to the degree of damage, in the application used, is not mandatory. This non-obligation may be a justification for the absence of this information. In the meantime, it is important to encourage the notification of incidents in order to obtain data that can reflect the real scenario of health services and, thus, overcome possible underreporting. It is important to emphasize that higher rates of AE records may reflect a more favorable scenario to the patient safety culture.

The Nursing team's work has been related to the occurrence of AE resulting from the provision of care and, among the most common adverse events among the elderly, many have a direct relationship with Nursing care. On the other hand, professionals in this area are also affected by the repercussions of AE, since they contribute to the increased workload.[7,31] It is noteworthy that the Nursing workload constitutes a protective factor for the occurrence of pressure injury in the Intensive Care Unit, for example.[32] The role of professionals in this area is also important to prevent the occurrence of adverse events related to health care and strengthen the patient safety culture.[8] The growing reports of adverse events by Nursing are indicated by the growing concern of this profession with the theme and the greater concern in recording occurred incidents; the records, in turn, are an important source for the identification of occurrences.[33]

This study is limited, despite showing the relevance of the occurrence of adverse events in hospitalized elderly people, because it is based on data from voluntary notifications. Although it translates reality, there is the possibility of underreporting. In this way, the actual data can be greater than those identified. Another limitation is the lack of records on the part of professionals regarding sociodemographic variables and the degree of damage caused by the AE among the affected elderly, however, the data allow understanding the scenario of patient safety in the research field and, at an expanded level, allow dialoguing with other realities.

CONCLUSION

The study uncovered, based on data from voluntary notifications about the occurrence of healthcare-related incidents, that it was possible to analyze the characteristics of AE involving hospitalized elderly people.

Of all notifications recorded during the study period, more than one third involved elderly people, a rate below that reported in the literature, and the highest percentages involved: phlebitis; problems related to surgeries, including issues related to the quality of surgical instruments, lack of material and non-observation of the safe surgery protocol; skin lesions and falls, but most were classified as mild.

It is important to encourage notification, planning and execution of actions aimed at the safety of hospitalized elderly patients, based on the identified scenario. In the meantime, permanent education actions stand out as a possible strategy to support the continuous improvement of the safety of hospitalized patients and the implementation of safety protocols.

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CONTRIBUTIONS

It is informed that all authors contributed equally in the design of the research project, collection, analysis and discussion of data, as well as in the writing and critical review of the content with intellectual contribution, and in the approval of the final version of the study.

CONFLICT OF INTERESTS

None.

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