

Adverse events and safety in nursing care

Sabrina da Costa Machado Duarte¹, Marlucci Andrade Conceição Stipp¹,
Marcelle Miranda da Silva¹, Francimar Tinoco de Oliveira¹

¹Universidade Federal do Rio de Janeiro, Anna Nery School of Nursing. Rio de Janeiro-RJ, Brazil.

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ABSTRACT

Objective: to identify the scientific publications about adverse events in nursing care in adult hospitalized patients and discuss the main adverse events in nursing care. **Method:** Integrative revision with a qualitative approach. The data were collected at LILACS, MEDLINE, BDENF and the library SCIELO and were submitted to thematic analysis. **Results:** three categories were developed: Adverse events in nursing care; The main causes of the adverse events in nursing care; Attitude of nursing professionals in face of errors. The main events were identified in nursing care with emphasis on the medication error, the failure to perform dressings and falls of patients. The importance of instruments was emphasized for notification of adverse events in the institutions. However the fear of punishment on professionals stimulates the underreporting of events. **Conclusion:** it is important to discuss effective prevention strategies that ensure patient safety in healthcare institutions.

Key words: Patient Safety; Medical Errors; Nursing Care.

CORRESPONDING AUTHOR

Sabrina da Costa Machado Duarte

E-mail: inamachado@globo.com

INTRODUCTION

Discussions about patient safety in hospitals constitute a global trend and the topic has often been approached by the media.

The publication of the Institute of Medicine (IOM) report, *To Err is Human: Building a Safer Health Care System* in the late 1990s demonstrated through the analysis of large epidemiological studies the high incidence of adverse events in hospitals, often caused by human error, becoming undeniable the need to rethink health care models used in order to ensure patient safety⁽¹⁾.

Given the global impact of this publication, the World Health Organization (WHO) created a working group to evaluate patient safety in health services in 2004, the World Alliance for Patient Safety. The fundamental approach of the Alliance is to prevent harm to patients and the central element action is called "Global Challenge", which periodically launches a priority issue to be addressed and a progress report⁽²⁾.

In Brazil, discussions on the topic began in 2002 with the creation of the Brazilian Sentinel Hospital Network by the Brazilian Health Surveillance Agency (ANVISA), which has voluntary participation and aims to notify adverse events and technical defects related to technical surveillance, pharmacovigilance and hemovigilance⁽²⁾.

Based on the Network experience, in 2013, the Brazilian National Patient Safety Program (NPSP), established by Decree No. 529/13, the Ministry of Health and the Collegiate Board Resolution (CBR) 36/2013, establishing actions to patient safety in health services. Both programs developed the Patient Safety Center (PSC) in health services through the implementation of Patient Safety Plan (PSP) in Health Care⁽³⁻⁴⁾.

Despite all the advances in the context of patient safety, however, human error is one of the facts that stands out. Often, errors involving health professionals in hospitals are reported in the press and the media, causing great social pressure.

For the involved staff, the lack of understanding about the error can cause feelings of shame, guilt and fear, given the strong punitive culture that still exists in some institutions, which also contributes to the omission of such episodes.

Error or incident can be defined as the event or circumstance which could have resulted or resulted in unnecessary harm to the patient, it may be from intentional or unintentional acts. When these errors do not reach patients, or are detected beforehand, they are called "near miss"; when they happen but do not cause discernible harm, they are called incidents without harm, and when they result in discernible harm, these errors are called incidents with harm or adverse event⁽⁵⁾.

Adverse events are the simplest way to recognize the error quantitatively because they cause harm and are more easily identified, affecting on average 10% of hospital admissions⁽⁶⁾. The occurrence of these events reflects the gap between the actual care and optimal care, a fact demonstrated by the IOM report, where it was identified that about 44,000 to 98,000 Americans die annually as a result of medical errors⁽¹⁾.

A study conducted in three teaching hospitals in Rio de Janeiro identified a 7.6% incidence of patients affected by adverse events, 66.7% of these were preventable. The

occurrence of adverse events cause harm to patients, increase hospitalization time, mortality and hospital costs⁽⁷⁾.

Regarding the financial magnitude and length of hospital stay for the adverse event, another study found that the amount of time spent on hospitalizations is 200.5% higher in the occurrence of adverse events than in hospitalizations without adverse events, and the length of hospital stay is, on average, 28.3 days or more⁽⁸⁾.

Nursing is the largest health workforce in Brazil, with an estimated 1.5 million working professionals⁽⁹⁾. This great quantitative of professionals relates to the necessity of a direct relationship with the category of patient safety and error prevention strategies.

The creation of the Brazilian Network of Nursing and Patient Safety (REBRAENSP) in 2008, was one of the strategies adopted by groups of nurses to develop coordination and cooperation between health and education institutions, with the aim of strengthening quality of nursing care and safety⁽¹⁰⁾.

For the nursing professional, the occurrence of adverse events can cause various problems, given the emotional stress, ethics precepts and legal punishments to which they are exposed to. Therefore, investments in a culture of safety are important through the dissemination of patient safety concept and a non-punitive discussion of adverse events.

From a managerial point of view, managers of health institutions need to understand that adverse events are often directly related to system failure, instead of negligence or incompetence. So, rather than looking for guilty individuals, it is necessary to identify the existing weaknesses in the process and to adopt preventive measures⁽¹¹⁾.

Thus, this study has the objective to identify the scientific publications on adverse events in nursing care in adult hospitalized patients and discuss the main adverse events in nursing care.

The study is relevant given the current global discussion about patient safety, as we need to know and understand the occurrence of adverse events in nursing care. The study may also help informing and guiding nurses in care planning and decision-making, seeking adverse events prevention strategies.

METHOD

Integrative review with qualitative approach, following the six recommended steps: 1. Definition of guiding question; 2. Search and selection of studies in the literature; 3. Definition of information to be extracted from studies; 4. Evaluation of the studies; 5. Interpretation of results; 6. Presentation of the review and synthesis of knowledge found⁽¹²⁾. To guide the study, the following research question was designed: What are the scientific publications on adverse events in nursing care in adult hospitalized patients?

To conduct the searches, the descriptors were defined through the Virtual Health Library (VHL) website (<http://decs.bvs.br>), and the descriptors used were: patient safety, medical errors and nursing. The search was conducted in the databases LILACS, MEDLINE and BDENF, and virtual library SCIELO.

The inclusion criteria were: studies published in Portuguese, Spanish and English, in the period 2010-2014, with full text available for free, regarding field researches and with

an adult population, over 18 years old, in the hospital setting. Publications that were not related to the topic of study and duplicity of studies were excluded.

Data collection was conducted in December 2014. The selected studies are arranged by date of publication, the most recent to the oldest. After the full reading, data were categorized according to thematic by content analysis⁽¹³⁾.

RESULTS

We found 263 studies, of which 21 met the inclusion criteria and were grouped into three categories: adverse events in nursing care; the main causes of adverse events in nursing care; attitude of nursing professionals when facing adverse events.

Most studies (42.8%) were conducted in 2011. The main sources of included studies are from Brazil. We highlight the lack of free access to most international journals, one of the inclusion criteria of this study.

The box presented below is a summary of the included studies (Box 1).

Adverse events in nursing care

In this category we could identify the major adverse events in nursing care. For a better understanding, the identified events were categorized as follows: Adverse events related to medication administration; Adverse events related to monitoring of the patient; Adverse events related to the maintenance of skin integrity; Adverse events related to material resources, as shown in Box 2.

Adverse events associated with administration of medications are the most common, and the likelihood of an individual to go through a hospitalization period free of the occurrence of these events may vary depending on his/her length of hospital stay. A study in a municipal institution of Rio de Janeiro followed 112 hospitalized patients and identified this probability at 30, 60 and 100 days being, respectively, 96%, 93% and 73%. It was found that the risk for adverse event is related to the length of hospital stay and that this risk can vary according to the gender of the patient. In shorter periods of hospitalization, males have a higher survival rate, however, from 30 days of hospitalization the pattern is reversed⁽²⁵⁾.

Box 1 – Studies about adverse event in nursing care for the period 2010 to 2014, Rio de Janeiro, 2014

N.	Title	Journal and year of publication	Authors	Study design	Interventions	Outcomes
01	The reasons of the nursing staff to notify adverse events	Rev Lat-am Enfermagem 2014	Paiva MCMS, Popim RC, Melleiro MM, Tronchim DMR, Lima SAM, Juliani CMCM ⁽¹⁴⁾	Phenomenological qualitative study N = 31 nursing professionals	Understanding the motivation of nursing professionals for the reporting of adverse events.	Notification of adverse events is a tool to help management of the care.
02	Improving patient safety: how and why incidences occur in nursing care	Rev Esc Enferm USP 2013	Toffoletto MC, Ruiz XR ⁽¹⁵⁾	Cross-sectional quantitative study N = 18 incidents	Root cause analysis of incidents related to nursing care.	Vulnerable points in the system can lead to adverse events and root cause analysis can identify these points.
03	Adverse effects in surgical patients: knowledge of the nursing professionals	Acta Paul Enferm 2013	Bohomol E, Tartali JA ⁽¹⁶⁾	Cross-sectional quantitative study N = 31 nursing professionals	The knowledge of the nursing staff on surgical adverse events, responsible causes, notification.	Identified a fragmented view of the nursing staff about patient safety in the studied scenario, where responsibility is not shared by all.
04	Nursing allocation and adverse events/incidents in intensive care units	Rev Esc Enferm USP 2012	Gonçalves LA, Andolhe R, Oliveira EM, Barbosa RL, Faro ACM, Galloti RMD, Padilha KG ⁽¹⁷⁾	Observational descriptive quantitative study N = 46 patients	Relationship between the adequacy of the nursing staff, working hours and the occurrence of adverse events in ICU.	There is a relationship between the allocation of the nursing team and the event occurrences. Under the appropriate allocations average of occurrence was 0.8 and the inadequate 0.9 to 1.6.

To be continued

Box 1 (cont.)

N.	Title	Journal and year of publication	Authors	Study design	Interventions	Outcomes
05	Evaluation of adverse drug events in the hospital context	Esc Anna Nery Rev 2012	Roque KE, Melo ECP ⁽¹⁸⁾	Retrospective quantitative study N = 112 patients	Analysis of adverse events compared to the damage.	The events that have compromised the patient's life were recorded in detail, unlike the others.
06	Nursing care quality and adverse events in US hospitals	J Clin Nurs 2011	Lucero RJ, Lake ET, Aiken LH ⁽¹⁹⁾	Cross-sectional Quantitative study N = 10 184 nurses and 168 hospitals	Association between the quality of care and the occurrence of adverse events in US hospitals.	The optimization of nursing care contributes to the reduction of adverse events.
07	Adverse events: instrument for assessing performance of a university hospital surgical center	Rev Enferm UERJ 2011	Souza LP, Bezerra ALQ, Silva AEBC, Carneiro FS, Paranaçuá TTB, Lemos LF ⁽²⁰⁾	Retrospective study N = 42 adverse events recorded in books and nursing records	Knowledge of adverse events in the operating room.	Adverse events related to the service and care organization, resulting in serious injuries and deaths.
08	Medication-related adverse events: perception of nursing aides	Rev Bras Enferm 2011	Corbellini VL, Schilling MCL, Frantz SF, Godinho TG, Urbanetto JS ⁽²¹⁾	Qualitative study N = 10 nursing technicians and assistants	The perception of technicians and assistants on the occurrence of adverse events.	Errors in medication administration were associated with work overload, prescription and misidentification of the patient.
09	Adverse events in sentinela hospital in the State of Goiás, Brazil	Rev Latino-Am Enfermagem 2011	Silva AEBC, Reis AMM, Miasso AI, Santos JO, Cassiani SHB ⁽²²⁾	Descriptive quantitative, retrospective study, N = 242 nursing records	Identification of adverse events through the nursing records.	Records are sources of information about adverse events, risk analysis and implementation of improvements.
10	Incidence of in-hospital adverse events in the state of Rio de Janeiro, Brazil: evaluation of patient medical record	Rev Bras Epidemiol 2011	Pavão ALB, Andrade D, Mendes W, Martins M, Travassos C ⁽⁶⁾	Retrospective quantitative study N = 1,103 records	Analysis of the quality of medical records and records of adverse events.	The analyzed records had poor quality and lack of important information, particularly in the discharge summary.
11	Risk of falling out of bed. Nursing's challenge for the patient's safety	Invest Educ Enferm 2011	Inoue KC, Matsuda LM, Melo WA, Mussaraki ACY, Hayakawa LY ⁽²³⁾	Cross-sectional descriptive and quantitative study N = 1,307 observations	Factors associated with risk of falling.	Need for improvements in nursing care and physical space to reduce the risk of falling.
12	Patient safety: analysing intravenous medication preparation in a sentinel network hospital in Brazil	Texto e Contexto Enferm 2011	Camerini FG, Silva LD ⁽²⁴⁾	Cross-sectional quantitative multi-center observational study N = 35 nursing technicians and 365 doses of medication	Observation of the type and frequency of adverse events.	Error rates above 70% in all categories of the study. The errors relate to the potential change of microbiological safety and therapeutic response.

To be continued

N.	Title	Journal and year of publication	Authors	Study design	Interventions	Outcomes
13	The length of stay and the occurrence of adverse drug: a question of nursing	Esc Anna Nery Rev 2011	Roque KE, Melo ECP ⁽²⁵⁾	Retrospective quantitative evaluation study N = 112 records	Evaluation about the occurrence of adverse drug events.	The probability of no adverse event and survival varies according to the length of hospital stay. The longer the time, the greater the chances of occurrence.
14	Adverse events in the surgical clinic of a university hospital: a tool for assessing quality	Rev Enferm UERJ 2011	Carneiro FS, Bezerra ALQ, Silva AEBC, Souza LP, Paranaquá TTB, Branquinho NCSS ⁽²⁶⁾	Retrospective quantitative study N = 264 medical errors	Analysis of adverse events in a surgical clinic.	Identification of various events, however, the notification rate was 19.05%, indicating underreporting. Death was the most serious consequence.
15	Errors in the administration of antibiotics in the intensive care unit of the teaching hospital	Rev Eletronica Enferm 2010	Rodrigues MCS, Oliveira LC ⁽²⁷⁾	Descriptive quantitative study N = 35 patients prescriptions	Characterization of errors in the administration of antibiotics.	Identified preventable and avoidable errors in preparation and administration of antibiotics by the nursing team.
16	Adverse events and tools for improving the assistance safety of nursing	CuidArte Enferm 2010	Françolin L, Gabriel CS, Melo MRAC, Correa JS ⁽²⁸⁾	Retrospective descriptive quantitative study N = 3,220 patients	Knowledge of the adverse events in the daily care and spontaneously reported.	Study conducted comparison of different institutions. However, points out that this comparison was not appropriate because each institution has a different reality.
17	Iatrogenic or adverse event: perception of nursing staff	Rev Enferm UFPE online 2010	Cecchetto FH, Fachinelli TS, Souza EM ⁽²⁹⁾	Exploratory descriptive qualitative study N = 12 professional nursing	Nursing staff perception facing the experienced events.	Professionals realize the seriousness of the fact communicating occurrences to the team and assuming the responsibilities.
18	The attitudes of nurses from an intensive care unit in the face of errors: an approach in light of bioethics	Rev Lat-am Enfermagem 2010	Coli RCP, Anjos MF, Perreira LL ⁽¹¹⁾	Descriptive qualitative study N = 14 nurses	Position analysis of nurses according to bioethical references.	Nurses positioned themselves recognizing their mistakes and their vulnerabilities.
19	Adverse events: analysis of a notification instrument used in nursing management	Rev Esc Enferm USP 2010	Paiva MCMS, Paiva SAR, Berti HW ⁽³⁰⁾	Retrospective descriptive quantitative study N = 826 Event Reporting Adverse Bulletins	Analysis of Adverse Event Reporting Reports as a means of communication between the nursing staff.	Newsletters promote the event ID, provide means of communication and contribute to the work process management.

To be continued

Box 1 (cont.)

N.	Title	Journal and year of publication	Authors	Study design	Interventions	Outcomes
20	Conduct of the future nurses in the perspective of medication error	Rev Enferm UFPE online 2010	Pereira CMB, Pereira OB, Carboni RM ⁽³¹⁾	Exploratory descriptive quantitative study N = 113 nursing students	Perception of the student and his conduct by medication error.	92% of the students had no doubt, however, 68% believed it was necessary to study more and 75% would report the error.
21	Nursing care and patient safety: visualizing medication organization, storage and distribution with photographic research methods	Rev Latino-Am Enferm 2010	Raduenz AC, Hoffmann P, Radunz V, Dal Sasso GTM, Maliska ICA, Marck PB ⁽³²⁾	Qualitative photographic study N = 17 professionals and nursing students	Photo analysis for the identification of organization-related errors, packaging, distribution and preparation of drugs.	The results demonstrating the frequent practices were worrying. From the results, the research seeks to improve patient safety.

Box 2 – Main adverse events described in the scientific literature

Types of Adverse Events	Adverse events reported in the literature
Adverse events related to medication administration	Omission of medicines, errors in the preparation of the medication, errors in administration time, inadequate dose of medication and technical administration errors.
Adverse events related to the monitoring of patient	Patient fall from their bed or own height; loss of catheters, tubes and drains.
Adverse events related to the maintenance of skin integrity	Not performing decubitus change; improper positioning of the patient in bed.
Adverse events related to material resources	Lack of equipment; defective equipment.

Another study conducted in Brasilia on adverse events in the administration of antibiotics confirms the previous finding. The research identified ten types of antibiotics in medical prescriptions, with an average of 1.2 antibiotics prescribed. Among the most common errors were: error in the preparation (87.6%) and errors in administration time (6.2%)⁽²⁷⁾. In addition to the preparation and administration error, dispensing and prescribing error was also mentioned in another study with similar results⁽²²⁾.

In a study conducted in a hospital in the Sentinel Network of Rio de Janeiro State, it was observed that 365 doses of intravenous medications prepared by 35 nursing technicians, error rates were found above 70% in all units. Errors were grouped

into different categories: needle exchange, disinfection of ampoules, bench cleaning, administration time and wrong dose. The high error rates can result in compromising the microbiological safety of the procedure, increasing the chances of harm to the patient and the risk for nosocomial infections⁽²⁴⁾.

A photographic research conducted in the Medical Clinical Unit of Santa Catarina identified that packaging, distribution and organization of drugs can cause errors and consequently cause adverse events in nursing care. Among the results, they highlighted the large amount of drug leftovers, which is inappropriate, since the dispensation is individual. They also showed improper storage, with unidentified drugs, congested and overlapping, making it difficult to locate medicine, besides that, there were bottles and packages opened⁽³²⁾.

The severity of the harm related to medical errors related to medication administration, a study conducted in a cardiology hospital in Rio de Janeiro identified the occurrence of hypoglycemia related to the use of insulin or oral hypoglycemic, coagulation disorders, such as bleeding and bruising, and the occurrence of arrhythmias due to the abrupt withdrawal of the drug⁽¹⁸⁾.

The adverse events related to the surveillance of the patient, highlighted falls of the bed and simple falls, loss of catheters, tubes and drains, and unscheduled extubation. A retrospective study conducted in 2009, in the unit of Surgical Clinic of an institution in Goias, claimed that there were 264 identified adverse events, 61.36% were related to loss of catheters, tubes and drains, followed by falls from bed and from own height (18.56%)⁽²⁶⁾. Falls were also identified in a study conducted in the operating room, where patients had fallen from the operating table⁽²⁰⁾.

Corroborating these data, a study conducted in hospitals in the United States identified as major adverse events related to nursing care: medication errors, hospital infections and falls⁽¹⁹⁾.

Another problem highlighted by the literature are the adverse events related to skin integrity of the patient, as the lack

of bed position changes, the inappropriate positioning in bed and the consequent development of pressure ulcers, and lack of proper dressings.

In a study conducted in a hospital in the city of Sao Paulo, out of 100 hospitalizations followed, 65 presented adverse events related to the skin integrity, and 69.2% related to pressure ulcers, 24.6% other injuries and 6.2% burns. Such occurrences are even more pronounced in great demand for serious patients where mainly the structure of the service is compromised in terms of staff numbers, which can be aggravated by the lack of in-service training to handle these situations⁽³⁰⁾.

Concerning adverse events related to material resources, a sentinel hospital in the Midwest identified occurrences related to forecasting and provision of materials, equipment maintenance and presence of animals in the operating room, which led to the suspension of operations, even with the patient anesthetized. Regarding the consequences of adverse events investigated, 83.9% caused temporary harm requiring intervention or prolonged hospitalization and 16.1% resulted in patient death⁽²⁰⁾.

Main causes of adverse events in nursing care

A study conducted in Porto Alegre with the data collected from patient's statements found an association between the occurrence of medical errors and work overload. The statements indicated that there were few professionals for the excessive amount of tasks which generated lack of care in the management of medicines. Besides that, some prescriptions are unreadable and/or wrong, in addition to scheduling errors and lack of knowledge of the nursing staff on the preparation and administration forms⁽²¹⁻²²⁾.

The staff deficit was also demonstrated in a study conducted on the root cause analysis of adverse events in a hospital in the city of Santiago in Chile. They also identified deficit in compliance with rules and institutional routines, nursing supervision deficit and professional inexperience as the main factors that contributed to the occurrence of adverse events⁽¹⁵⁾.

In Sao Paulo, a study identified the factors that can lead to the occurrence of adverse events in surgical patients, according to the nursing staff: no conference of patient identification with surgical notice and surgical chart (80.6%), no conference of materials and equipment used in the procedures (80.7%), medical staff reprisals when alerting potential issues (71%) and omission of the nursing team because of the lack of leader autonomy (71%)⁽¹⁶⁾.

With regard to the intensive care unit, a study from the state of Sao Paulo found inadequacies in the allocation of the nursing team, which generated work overload and adverse events. The occurrence of the events was higher when the allocations were inadequate, with an average of 1.1 events, compared to the appropriate allocations, with an average of 0.8 events, highlighting not only the need for appropriate staff design as well as adjusted working hours according to the hours of care required by patients⁽¹⁷⁾.

Attitude of nursing professionals when facing adverse events

Nursing staff attitude when facing adverse events may vary according to the institutional and personal cultures (punitive or not), and the perception of the occurrence.

Studies seeking to understand the reactions of health professionals when facing adverse events identified that for nurses and nursing technicians, the error is unintentional and often the professional does not realize its occurrence. These professionals also recognize the impossibility of permanent focus on the activity performed, which discards intentionality when an error occurs. Professionals reported they always communicate occurrences in order to get help for the decisions to be taken and mitigate the feelings of insecurity and stress^(11,29,31).

The recognition of adverse events and other events may also be related to culture, belief and knowledge of professionals about the problem, as some professionals have difficulty perceiving the error^(11,29,31).

A study on the perception of nursing technicians of adverse events noted that most professionals communicate the event to the nurse, regardless of the decision to be taken. Participants stressed the importance of taking responsibility for the occurrence, stimulating the development of an institutional environment that eliminates the punitive culture⁽²¹⁾.

It was also possible to identify the growing adherence of the nursing staff to the adverse event notification tools. The small amount of notifications at the beginning of the instruments implementation in the institution indicated disclosure and insufficient information, lack of habit, insecurity and even resistance to changing their ideas about adverse events. However, the situation has been changing over time, given the perception of the management conduction of the institution that focused on correcting processes and minimizing errors⁽³⁰⁾.

A study on nursing records allowed the professionals to recognize and notify the adverse event, adopting preventive measures, possible corrections, reducing or eliminating occurrences, following the development of the actions implemented to improve health practice. In the studied institution there was no use of adverse event notification instruments. Thus, its importance and implementation were highlighted, as such instrument could provide better research data and management of events, besides the pursuit of safety culture⁽²⁶⁾.

DISCUSSION

The evaluation of care is an important tool in managing health work processes. The expected quality is achieved when expectations of internal and external clients of the institution are met. In nursing care, the expectation is to ensure the best possible outcome in the clinical condition and the severity of patients, with the lowest rates of complications procedures performance⁽³³⁾.

In this study, we found that adverse events related to medication administration are the most common, as the nursing team is responsible for implementing the prescriptions to patients. Such incidents concern hospital managers because they frequently happen, bringing harm to the patient, representing a professional stigma and increasing hospitalization costs⁽³⁴⁾.

Care with fewer errors can be achieved through a change in the method of organizing work, and the environment in a more active participation of health professionals and patients towards the reinforcement of user participation on

the identification and prevention of adverse events in the hospital⁽³⁵⁾.

Patients falling from their beds or from own height is another adverse event that needs to be carefully evaluated, it may cause injuries and consequences to patients, prolonging the time and costs of hospitalization, with consequent legal liability of the healthcare team and the institution. It is noteworthy that the prevention of falls is an outcome indicator, and is one of the focuses of ANVISA, present in the PSP, established by CBR 36/2013^(4,23).

When procedures such as dressing and changing positions in bed does not occur, the patient is exposed to unsafe care practices, which could delay hospital discharge and his/her return to activities of daily life and, consequently, leading to an increase in hospital costs. Nursing procedures are considered extremely important for the patient, directly influencing the recovery and prevention of hospital infections.

All adverse events identified in the scientific literature through this study can be classified as preventable, or could be prevented by adopting institutional strategies. The occurrence of preventable adverse events could not only harm patients but also cause losses to professionals due to correlated ethical and legal aspects⁽²⁷⁾.

When errors impair professional's ethics, they appear in the form of incompetence, carelessness and negligence. Thus, the wrong dilution of a medication is seen as incompetence, while carelessness occurs when a medication is anticipated, and negligence occurs when a medication is not checked⁽³⁴⁾.

It is noteworthy that the daily perception of risk situations contributes to the appropriate management of care with a focus on error prevention and establish safety culture in the institution. Adverse events must be understood in its entirety, considering what exists beyond its occurrence, that is, work overload, lack of professional knowledge, lack of communication, poor institutional infrastructure, among others.

Among the main causes for the occurrence of adverse events, the included studies cited factors inherent to the management of service and nursing care, such as personal deficit, work overload, relationship problems in the multidisciplinary team, lack of leadership and adequate nursing supervision, among others.

In the daily routine of care, it is perceived that the quantitative staff directly influences the implementation of measures to promote adoption of new cultures providing the quality of care. In this context, the dimensioning of nursing staff is a priority for interfering in the administrative process and subsequent care planning.

Complemented to this, one can see that a good performance at work and a good multi relationship can be decisive in the execution of the work process meeting the needs of users, articulating spaces and seeking organization of work with a minimum number of errors⁽¹⁷⁾.

The care planning is a process by which one can achieve results with a minimum number of errors and through dynamic attitudes, that is, depending on the realities found in institutions, considering the uncertainties and unforeseen scenarios of care. In order to achieve this, a leader who deeply knows his/her team's weaknesses and potentialities is necessary.

The communication between its team members, regardless of the channels used, also has an important impact on the administrative procedure, such as relations between professionals and patients, because when there is no communication, there is a strong case for a greater likelihood of adverse events⁽¹⁶⁾, which leads to critical thinking that confirms the relationship of good clinical practice to an accurate communication.

Communication and leadership are also strongly associated with the orientation and training of staff and are considered important elements not only in socialization, in the training process, but they also help teams to keep a motivational environment, the development of the group and share responsibilities in an integrated way, allowing identification of educational needs, possible failures and the need for adjustments for quality of care.

The search for quality in various services offered to society has been increasingly valued, with the consequent optimization of results. This perspective was incorporated into the hospitals institutions, with the aim of offering a service of excellence, reducing costs and ensuring the satisfaction of clients at all levels of care⁽³⁶⁾.

In this context, patient safety became valued by modifying the previously used approach in which medical errors were little explored by the institutions. The culture of notification can be the starting point to promote patient safety through real understanding of failures occurred and the implementation of preventive strategies.

The study showed that the nursing staff studied have positioned themselves in favor of notification of adverse events and the adoption of harm minimization measures. However, the reporting of adverse events is still neglected, given the existing punitive culture. There is still great difficulty accepting the error, fearing the punishment and the incomprehension of the community. The safety culture should be adapted to legal standards, since safe handling requires change of thoughts and use of appropriate records, one of the great problems of nursing practice^(15, 37-38).

Thus, we highlight the need for the adoption of a culture of safety in all institutions, allowing the team to feel safe when reporting errors, since it is only through knowledge about adverse events that it will be possible to understand the situation appropriately, exploring the adoption of truly effective preventive measures.

In nursing, it is essential to understand vulnerability as a principle of its practice, recognizing all professionals as human beings, and therefore as vulnerable subjects⁽¹¹⁾. Understanding that the error can be handled in a positive way with the team reducing the sense of vulnerability perceived by the professional.

We highlight the responsibility of nursing professionals to communicate and to write down all their actions completely with reliability, as established by the Nursing Code of Professional Ethics. We highlight the ethical principles that must be followed by all professionals as: benevolence, truth, justice, competence and loyalty, which strengthen the efforts for safe practice and respect for patients' rights⁽³⁹⁾.

FINAL CONSIDERATIONS

The study identified the scientific literature on major adverse events in nursing when caring for hospitalized patients, highlighting the importance of reporting and understanding the causes of the events. The main preventive measure refers to the recognition of occurrences and the search for an organizational safety culture.

Thus, it was shown that nursing team professionals need a better understanding about adverse events as well as the adoption of a non-punitive culture against the adverse event, which will contribute to further notification by the professionals and therefore for the suitable treatment for the occurrences.

When comparing health institutions with the industrial production sectors, we refer to the fact that the errors in industry

are also likely to happen, though, there are sophisticated mechanisms so that the final product, which reach the end consumer, is free of any defects. Unfortunately, the same does not always occur in health institutions, where the final product is the direct patient care and there are still few effective mechanisms to prevent errors.

We emphasize the importance of using adverse event notification instruments by the institutions and the adoption of other notification strategies, as they may contribute to the monitoring and control of events and for the development of truly effective preventive measures.

We emphasize the need for stimulating the safety culture, which will allow nurses discussion of prevention strategies to ensure patient safety in healthcare institutions.

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