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Abstract

The aim was to emphasize the role of nurses in the prevention of iatrogenic occurrences in nursing care for critically ill patients in the Intensive Care Unit. This is an integrative descriptive and exploratory bibliographic research, carried out in the Virtual Health Library, in the LILACS, SciELO and BDNF databases. In total, 18 articles were selected for theoretical basis. The selected material was categorized according to the subject and opinion of each author regarding the iatrogenics of nursing care, as well as its prevention. Human errors or failures caused by lack of attention, knowledge, skill or even prudence are discussed. It is extremely important to update the nursing professional and participate in the educational process, preventing any occurrence related to care. Continuous improvement of care is an objective to be achieved when it comes to the iatrogenics of nursing care.

Descriptors: Iatrogenic Disease, Nurses, Male, Nursing Care; Critical Care.**Resumen**

El objetivo fue enfatizar el rol del enfermero en la prevención de ocurrencias iatrogénicas en la atención de enfermería al paciente crítico en la Unidad de Cuidados Intensivos. Se trata de una investigación bibliográfica integradora, descriptiva y exploratoria, realizada en la Biblioteca Virtual en Salud, en las bases de datos LILACS, SciELO y BDNF. En total, se seleccionaron 18 artículos con base teórica. El material seleccionado fue categorizado según el tema y opinión de cada autor con respecto a la iatrogenia del cuidado de enfermería, así como su prevención. Se discuten los errores humanos o fallas causadas por falta de atención, conocimiento, destreza o incluso prudencia, siendo de suma importancia actualizar al profesional de enfermería y participar en el proceso educativo, previniendo cualquier ocurrencia relacionada con el cuidado. La mejora continua del cuidado es un objetivo a alcanzar en lo que respecta a la iatrogenia del cuidado de enfermería.

Descriptores: Enfermedad Iatrogénica; Enfermeros; Atención de Enfermería; Cuidados Críticos.**Resumo**

Objetivou-se ressaltar a atuação do enfermeiro na prevenção de ocorrências iatrogênicas do cuidado de enfermagem ao paciente crítico no Centro de Terapia Intensiva. Trata-se de pesquisa bibliográfica integrativa do tipo descritiva e exploratória, realizada na Biblioteca Virtual de Saúde, nas bases de dados LILACS, SciELO e BDNF. No total, 18 artigos foram selecionados para embasamento teórico. O material selecionado foi categorizado conforme assunto e opinião de cada autor no que diz respeito à iatrogenia do cuidado de enfermagem, bem como a prevenção dele. Discute-se os erros ou falhas humanas ocasionadas pela falta de atenção, de conhecimento, habilidade ou até mesmo de prudência, é de suma importância a atualização do profissional de enfermagem e participação no processo educativo, prevenindo qualquer ocorrência relacionada ao cuidado. A melhoria contínua da assistência é um objetivo a ser alcançada, quando se trata de iatrogenia do cuidado de enfermagem.

Descritores: Doença Iatrogênica; Enfermeiros; Cuidados de Enfermagem; Cuidados Críticos.

Introduction

Iatrogenics is defined as conditions resulting from the intervention of the health team, whether right or wrong, justified or not, but which result in harmful consequences to the patient's health, that is, it is the disease produced by the health team, which can be observed as negligent modality equivalent to negligence, malpractice and recklessness¹.

Error, in turn, is not and cannot be understood as synonymous with iatrogenics, under penalty of trivializing the diversity of the human being when treated biologically, given that health as a science is dependent on the inherent variability of each human being².

The essence of professional nursing practice is comprehensive and holistic care. This care applied in the Brazilian reality, where some elements point to the lack of human resources and repressed demand for care, in a way, can induce professionals to commit mistakes, which can leave sequelae in the user that can be physical and psychological compromising ethics in the profession, characterized as iatrogenic¹.

Iatrogenics can be life threatening, especially for patients who are in a serious condition, such as those hospitalized in an Intensive Care Unit (ICU), as it can cause irreversible sequelae and lead to death.

The ICU emerged in the 1940s and was created to concentrate three components: patients in critical situations or limits, more expensive technological resources, and highly specialized professionals to deal with this specific apparatus³.

Thus, this study aims to highlight the role of nurses in preventing iatrogenic occurrences in nursing care for critically ill patients in the ICU. In view of the above, the following research problem was outlined: how can nurses prevent the iatrogenic effects of nursing care for critically ill patients in the ICU?

Methodology

This is a descriptive and exploratory study, carried out through an integrative literature review, based on secondary works, published in the last 20 years on the subject in question. The collection of material for the research was obtained in the period July 2019.

The survey was carried out on a Virtual Health Library (VHL) database platform, in the following databases: Latin American and Caribbean Literature on Health Sciences (LILACS), Nursing Database (BDENF), Scientific Electronic Library Online (SciELO), using as descriptors: iatrogenics, nurse, nursing care and ICU, in an associated and isolated way. It is noteworthy that the collection of materials in SciELO was carried out through a search by subject, as this database does not use a search for descriptors.

Only articles framed in iatrogenics were selected for this research, using as a source of periodic information in the nursing and medical area that were available in the chosen locations for data collection.

At first, the works were stored in a computer, so that a pre-selection was then carried out according to the reading of the abstracts. At this stage, the relationship between content, title, abstract was sought, and the object of this study was met.

By using the descriptor "iatrogenics", 557 articles were initially collected in the VHL in the 3 chosen information banks. When using the descriptor "nursing", 35382 articles were found. Regarding care, when mentioning the descriptor "nursing care", 9265 articles were obtained. By using the descriptor "CTI", 2994 articles were found. In view of the amount of material found, the descriptors were associated to reach a smaller number. Discarding those that did not contribute to the achievement of the objective, a total of 93 articles was obtained.

In the selection phase, the works were read in their entirety, with special attention to the results and conclusion. Studies that did not show any relationship with the prevention of iatrogenic occurrences (IO) in nursing care for patients admitted to the ICU were excluded. After the selection of works, the repeated ones were discarded, and 18 articles were obtained for theoretical basis and development of the study.

After the steps mentioned above, items that address the prevention of OI in nursing care were gathered in the results.

Results

Once the object of study was defined and the objectives established, all the selected material was read in full, categorizing it according to the subject and opinion of each author regarding the iatrogenics of nursing care, as well as its prevention. Two categories emerged: iatrogenic occurrences in the ICU: the critical patient and nursing and Prevention of iatrogenic events. The first category refers to the search for knowledge focused on nursing care for critically ill patients in the ICU.

The second category, in turn, refers to the elucidation of strategies used by nurses to prevent iatrogenic effects in nursing care at the ICU, with the aim of preventing harm to patients and promoting safety for them.

Iatrogenic occurrences in the ICU: the critical patient and Nursing

This category will seek knowledge focused on the iatrogenics of nursing care for critically ill patients in the ICU, the works are described in the chart below.



Chart 1. Distribution of bibliographies in the thematic category: Iatrogenic occurrences in the ICU: the critical patient and nursing. Rio de Janeiro, RJ, Brazil, 2019

Type	Year	Author (s)	Title	General considerations
Article	2000	Adriana Ribeiro Marins Madalosso.	Iatrogenia do cuidado de enfermagem: dialogando com o perigo no cotidiano profissional	The article shows the experiences of a nurse-teacher in his daily care, and in this context reveals iatrogenic nursing care. It exposes its reflections and some authors' references, characterizing nursing care and, above all, iatrogenic nursing care from the perspective of modern and post-modern paradigms.
Article	2001	Kátia Grillo Padilha.	Ocorrências iatrogênicas na UTI e o Enfoque de Qualidade	The article exposes iatrogenic occurrences in the ICU as events that interfere with the quality of nursing care for critically ill patients, the author in this article contextualizes the occurrences, based on the principles of total quality management.
Article	2001	Sandra Cristine da Silva e Kátia Grillo Padilha.	Parada cardiorrespiratória na unidade de terapia intensiva: considerações teóricas sobre os fatores relacionados às ocorrências iatrogênicas.	This study exposes the service in Cardiopulmonary Arrest (CPA), as a technique that requires speed, efficiency, scientific knowledge and skill, addressing the iatrogenic factors related to CPA care in the ICU.
Article	2001	Rosa Maria Moreira e Kátia Grillo Padilha.	Ocorrência iatrogênica com pacientes submetidos à ventilação mecânica em UTI.	It aimed to analyze the iatrogenic occurrences during the nursing care of a patient in the ICU who were intubated or tracheostomized and under mechanical ventilation, to characterize the iatrogenic occurrences related to mechanical ventilation and to identify the immediate consequences for the patient, for the analysis of the data. used to the critical incident technique.
Article	2001	Maria da Neves Decesaro e Kátia Grillo Padilha.	Queda: comportamentos negativos de enfermagem e consequências para o paciente durante o período de internamento em UTI	The research aimed to verify the negative behaviors of nursing professionals and the immediate consequences for patients, related to the fall during hospitalization in the ICU. To guide the research methodology, the critical incident technique was used.
Article	2002	Kátia Grillo Padilha e <i>Col's</i> .	Ocorrências iatrogênicas com medicação em Unidade de Terapia Intensiva: condutas adotadas e sentimentos expressos pelos enfermeiros	This article addresses iatrogenic events with medication in the ICU. The objectives of this study were to verify the behavior of nurses in the face of an occurrence with medication, identify the feelings experienced in these situations and characterize the factors related to these events.
Article	2006	Tânia Couto Machado Chianca.	Falhas de enfermagem no Pós-operatório imediato de pacientes Cirúrgicos	Descriptive-exploratory study, based on the Theory of Human Error, carried out from the concern with nursing care for patients who are in the immediate postoperative period, classifying failures during care. Through an interview, 25 failure reports were collected and submitted to evaluation by 15 specialist nurses.
Article	2006	Rafael Canineue <i>Col's</i> .	Iatrogenia em Medicina Intensiva	This article aims to present a review of the literature on iatrogenics in its basic concepts and terms and its prevalence rates in Critical Care Medicine, as iatrogenics can be reduced with adequate monitoring.
Article	2006	Kátia Grillo Padilha	Ocorrências iatrogênicas em Unidade de Terapia Intensiva (UTI): análise dos fatores relacionados	The research in question aimed to identify the structural factors of the ICU and the patient's conditions related to iatrogenic occurrences and to verify the association between the severity of these occurrences and the related factors. Thus, it was found that unstable patients had events with more serious consequences.
Article	2007	Ana Paula Agnolon e Genival Fernandes de Freitas.	Ocorrências éticas de Enfermagem em Terapia Intensiva	The aim of this article was to understand the actions of Intensive Care Unit nurses in the face of ethical nursing occurrences.
Article	2007	Felipe de Medeiros Tavares.	Reflexões acerca da Iatrogenia e Educação Médica	The article talks about iatrogenics and its prevention, under a conceptual perspective to broaden the discussion and generate reflections.
Article	2007	Monica Martins Trovo de Araújo e <i>col's</i> .	A comunicação não-verbal como fator iatrogênico.	The aim of this study was to verify whether nurses identify situations in which non-verbal aspects of interpersonal communication between health professionals and patients constitute an iatrogenic factor. Thus emerged three categories: Perceiving iatrogenics; characterizing iatrogenics and reflecting on non-verbal communication and care.
Article	2009	Jussara Carvalho dos Santos e Maria Filomena Ceolim.	Iatrogenia de Enfermagem em Pacientes Idosos Hospitalizados.	The study aimed to identify, in medical records, the main nursing iatrogenics to elderly hospitalized in two wards of a university hospital (Campinas, SP). Records of the following iatrogenics: problems with peripheral venous access; pressure ulcer and fall were identified in 26 medical records. The reports were not very detailed and did not present actions to prevent new occurrences. The findings indicate the importance

				of a system that encourages nursing professionals not to underreport iatrogenic events, and the creation of an infirmary aimed at elderly patients to offer them specific assistance.
Article	2013	Luiza Matos e cols.	A ação iatrogênica da equipe de enfermagem para a saúde do idoso	Iatrogenics acquires greater importance in elderly individuals due to their weaknesses, so the study aimed to identify more frequent types of iatrogenics in nursing care for elderly patients and to understand how this action influences their health, relating to the deprivation of this care, their imposition, or their unsatisfactory performance, so that they would determine any inconvenience, damage, or harm to the well-being.
Article	2014	Fernanda Gomes Horta e cols.	Ações de enfermagem prescritas para pacientes internados em um centro de terapia intensiva.	Descriptive and documentary study that aimed to identify the nursing prescriptions prepared for patients admitted to an Intensive Care Unit. Data were collected from 231 medical records, used to document the steps of the Nursing Process. In the sample of 231 medical records, 6,197 nursing actions were identified, 3,010 on admission and 3,187 on discharge. After excluding the repetitions, 104 different nursing actions were found.
Article	2014	Luciana PertilleCosta, Paulo Fossatti.	Capacitação do enfermeiro auditor na gestão em saúde: importância e realidade.	Its purpose is to sensitize professionals involved in the health area about the importance of the Nurse Auditor's participation in the management processes relevant to health spaces. It is the result of a case study. Highlights the importance of training the auditor nurse in the management of a health institution.
Article	2015	Tiago Andrade Costa e cols.	Estudo dos atos iatrogênicos realizados pelo enfermeiro em UTI.	The study aims to identify the most common iatrogenic occurrences in the ICU. Iatrogenics consist of pathological changes caused by treatment of any kind. It is understood that the prevalence of the phenomenon is high in the ICU (Intensive Care Units) since this is where the most severely ill patients are found, therefore, more subject to iatrogenic events.
Article	2017	Juliana Cristina Backes; Creuza da Silva Azevedo.	Os paradoxos do trabalho em equipe em um Centro de Tratamento Intensivo Pediátrico: explorando as articulações psicossociais no trabalho em saúde.	Its object is the teamwork investigated in the light of intersubjective processes in health organizations. Two axes of analysis were adopted: the organization of care and cooperation between professionals in work processes; the meanings of work and paths for a common care project.

Iatrogenic prevention

This category will elucidate the strategies for nurses to prevent iatrogenic events to avoid harm to patients and

promote safety. The selected studies are presented in the chart below.

Chart 2. Distribution of bibliographies in the thematic category: iatrogenic prevention. Rio de Janeiro, RJ, Brazil, 2019

Type	Year	Author (s)	Title	General considerations
Article	2000	Adriana Ribeiro Marins Madalosso.	Iatrogenia do cuidado de enfermagem: dialogando com o perigo no cotidiano profissional	The article shows the experiences of a nurse-teacher in his daily care, and in this context reveals iatrogenic nursing care. It exposes its reflections and some authors' references, characterizing nursing care and, above all, iatrogenic nursing care from the perspective of modern and post-modern paradigms.
Article	2001	Sandra Cristine da Silva e Kátia Grillo Padilha.	Parada cardiorrespiratória na unidade de terapia intensiva: considerações teóricas sobre os fatores relacionados às ocorrências iatrogênicas.	This study exposes the service in Cardiopulmonary Arrest (CPA), as a technique that requires speed, efficiency, scientific knowledge, and skill, addressing the iatrogenic factors related to CPA care in the ICU.
Article	2001	Rosa Maria Moreira e Kátia Grillo Padilha.	Ocorrência iatrogênica com pacientes submetidos à ventilação mecânica em UTI.	It aimed to analyze the iatrogenic occurrences during the nursing care of a patient in the ICU who were intubated or tracheostomized and under mechanical ventilation, to characterize the iatrogenic occurrences related to mechanical ventilation and to identify the immediate consequences for the patient, for the analysis of the data. used to the critical incident technique.
Article	2001	Maria da Neves Decesaro e Kátia Grillo Padilha.	Queda: comportamentos negativos de enfermagem e consequências para o paciente durante o período de internamento em UTI	The research aimed to verify the negative behaviors of nursing professionals and the immediate consequences for patients, related to the fall during hospitalization in the ICU. To guide the research methodology, the critical incident technique was used.
Article	2006	Rafael Canineue Cols.	Iatrogenia em Medicina Intensiva	This article aims to present a review of the literature on iatrogenics in its basic concepts and terms and its prevalence rates in Critical Care Medicine, as iatrogenics can be reduced with adequate monitoring.

Article	2007	Felipe de Medeiros Tavares.	Reflexões acerca da Iatrogenia e Educação Médica	The article talks about iatrogenics and its prevention, under a conceptual perspective to broaden the discussion and generate reflections.
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Discussion

Every day, the growing participation of multidisciplinary audit teams in the management of healthcare institutions is observed. With the passage of time and the experience acquired in professional nursing practice, it can be seen how the daily life of the profession directly influences people's lives and the lives of organizations^{4,5}. From this point of view, the CTI is a closed sector with limited personnel movement. In it, there are services and technology to meet the needs of patients, who depend on the professionals who assist them and any OI can lead to the risk of their lives, and the issue of the quality of care provided may emerge and being directed towards the evaluation of the health service.

The transposition of OI in ICU is more critical because this sector serves critically ill and high-risk patients, whose clinical conditions are unstable, where small organic changes can lead to worsening and damage to body function. Thus, in the ICU, any iatrogenic occurrence becomes not only undesirable, but also extremely harmful, making one think about the issue of quality of care and the context in which it occurs for the evaluation of health services^{5,6,7}.

At the ICU, compromising the health of patients demands rapid action from the nursing team and highly specialized and complex care^{8,9}. The implications for clinical nursing practice refer to the identification of a set of actions used by intensive care nurses in their daily practice that can help in the construction of a body of knowledge, based on evidence of care for patients hospitalized in intensive care, in the development clinical protocols, in the foundation of teaching and clinical reasoning, in cost management and in planning the allocation of resources for the qualification of nursing services.

Iatrogenics can be understood as the action of the health professional who seeks to do good, but ends up producing a harmful effect^{2,10,11}. Iatrogenic complications are common and are related not only to the inappropriate use of medication or the performance of procedures, but also to omissions in addressing problems. As examples, it is possible to highlight, mainly, the inadequate dietary impositions, falls, excessive use of medications, mistaken opinions of health professionals, immobilization in bed, which may lead to decreased muscle strength and the appearance of pressure ulcers¹²⁻¹⁴.

The nursing team, compared to other teams, the one that spends more time with the patient during treatment^{1,15}. The scarcity of professionals in the nursing area linked to the abundant number of patients has increasingly shown the number of "accidents" in the care process. The work overload can, in fact, compromise the service, as it causes stress, professional fatigue, and this is added to the low level of remuneration, compensated with three, four jobs. But that does not exempt the blame. It is noteworthy that nursing is constantly subjected to pressures that lead to

anxiety and stress at work, which in certain occasions can determine iatrogenic events.

The best way to prevent the occurrence of iatrogenic events is related to the creation of a systematization of care, directing the entire process according to its particularities and making the professional pay more attention to what is being performed^{16,17}. Professional training should also not be dispensed with; for this, continuing education must be used, which provides, in addition to new knowledge, a way to instigate the mind of that professional and keep him updated about the provision of care and its particularities.

Considering the ICU as a complex and intensely active sector, in which not only work different professionals from the multidisciplinary team, but also decisions must be taken accurately and care must be of quality so that there is recovery, decreasing, as a result, the iatrogenics that can affect the patient's integrity¹⁸⁻²⁰. It is expected that the ICU will provide an adequate structure with support to provide safe care to critically ill patients.

Therefore, due to human errors or failures caused by lack of attention, knowledge, skill or even prudence, it is extremely important to update the nursing professional and participate in the educational process, preventing any occurrence related to care. Continuous improvement of care is an objective to be achieved when it comes to the iatrogenics of nursing care.

Conclusion

According to the research problem, we sought to emphasize the way in which nurses can prevent iatrogenics in nursing care for critically ill patients in the ICU, as through bibliographical research, it was found that these occurrences can affect the integrity of the hospitalized patient. sector, increased suffering, length of stay and consequently the cost of hospitalization and mortality.

With the analysis of the collected data, it was observed that the human factor is considered the main cause of iatrogenic events, as well as: the use of high technology; distancing themselves from activities that are proper to them; managerial activities; direct involvement in actions that are the responsibility of other professionals in the multidisciplinary team; the lack or limitation of systematization of nursing care documentation; assistance that is delegated without adequate supervision; activity overload; to professional inexperience; lack of attention and technical-scientific lack of knowledge on the part of the nursing team; insufficient number of professionals and problems inherent to the materials and equipment used in critical patient care.

The role of nurses in the ICU is essential when it comes to iatrogenic prevention, since they are responsible for patient safety, in which their look should be holistic, observing them as a whole and also paying attention to the devices connected to them and identifying predisposing factors for OI. The professional must be able to provide



adequate assistance to critically ill patients admitted to the ICU. However, it is evident that nurses and their staff are aware of the existence of IO in the ICU and in the hospital environment in general, and that they are part of their current work reality.

It is important to emphasize that nurses play the role of health educators, when carrying out educational activities with their team. Educational actions aimed at preventing iatrogenic events are a fundamental component of nursing care at the ICU, as through it the nursing professional will always be trained and updated with new techniques, procedures, and equipment, thus avoiding the appearance of errors or failures in providing care.

For preventive practice to achieve its objective, which is patient safety in the ICU, it is necessary for nurses to theorize their practices, identify flaws and work on continuing education with their team, discussing iatrogenics to understand the causes of the problem and propose

Prevention of iatrogenesis in the intensive care center
Santana JF, Silva JLL, Soares LM, Rego VTSM, Santos LCG, Silva JVL, Soares RS
improvement; to offer safe and risk-free nursing care for the critical patient who is under the responsibility of its team.

In addition, hospital managers must also be aware of the danger that IO poses to patients and the importance of prevention and enable an adequate infrastructure in the health service.

Therefore, it is necessary that nurses work so that preventive strategies are implemented that focus on IO in highly complex care within a systematized perspective to identify and intervene in the susceptible points of any of the elements that constitute care, which are human resources, material and equipment, administrative and technical resources and can understand the importance of adequate and quality care, free from errors or failures in nursing care. The nurse, as a leader, needs to invest in training for the team professionals who provide direct care to critical patients and the development of protocols to direct the care to be provided at the ICU. This can provide less risk and greater safety during the assistance.

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