









Work process: a basis for understanding nursing errors*

Processo de trabalho: fundamentação para compreender os erros de enfermagem

Proceso laboral: fundamentación para comprender los errores de enfermería

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ABSTRACT

Objective: To identify work process-related causes associated with nursing errors reported in newspapers. **Method:** This was a documentary and qualitative study based on the work process theory and hermeneutic analysis that examined 112 news articles published between 2012 and 2016 in 21 high-circulation Brazilian newspapers, organized and codified using Atlas.ti software. **Results:** The causes associated with the reported errors were associated with workforce (lack of professionals and training, turnover, work overload, lack of information, recklessness, negligence, and distraction); work instruments (similar labels or packages, storage, lack of product identification and information, and medical prescriptions); and the object of nursing work (overcrowding and specific characteristics of patient). **Conclusion:** Analysis of the possible causes of reported errors identified the negative outcomes of nursing work, while also identifying elements of the work process that influenced these results. The findings emphasize the importance of understanding these errors so they can be avoided and of reviewing nursing work conditions to guarantee quality and safety of care.

DESCRIPTORS

Nursing; Medication Errors; Patient Safety; News; Communications Media.

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INTRODUCTION

Labour is a process in which humans control and change nature through their actions with the purpose of producing something; i.e.: “Man’s activity, with the help of the instruments of labour, effects an alteration, designed from the commencement, in the material worked upon”⁽¹⁾. In this process, humans transform themselves, stamping onto their labour their intended results. Thus, the work process has three main elements: purpose (the reason for work), object (what undergoes change), and instruments (what helps transformation)⁽¹⁾.

Health care is part of the service sector and is therefore executed more specifically, different from the material or industrial production classically described in the capitalist system, especially because the work product, i.e., health care, is neither tangible nor material, and it is simultaneously produced and consumed⁽²⁾. Nursing is included in health care and must be understood as a specific type of work of unmatched social relevance in order for the results of its activities to be appreciated in all their complexity.

The main purpose of work in health is to perform therapeutic health actions. Consequently, the purpose of nursing work is to care for people, families, or groups that need nursing care oriented toward recovery, rehabilitation, disease prevention, and health promotion⁽²⁾. The result is nursing care carried out at all the levels of population health care.

Following this mindset, the elements of the nursing work process can be understood as follows:

Workforce: consists of nursing professionals trained for professional practice, i.e., “By working, the latter becomes actually, what before they only were potentially, workforce in action, a worker”⁽¹⁾. In Brazil, the workforce consists of nurses, nursing technicians, and nursing aides, with the first category overseeing the other two.

Work object: individuals or groups that require nursing care, with all the complexity and subjectivity inherent to human beings. Authors agree that the object of nursing is individuals or groups, which are transformed through nursing care, both with educational and care activities⁽²⁻⁴⁾. In management actions, changes occur in the environments where work is carried out, within teams, and in the actual work organization.

Work instruments: equipment, machines, and supplies, as well as knowledge, models, and techniques that guide nursing actions⁽³⁾.

Occasionally, the result of nursing work differs from what was envisaged *a priori*, and thus a nursing error occurs, also called adverse effect, causing potential harm to patients. These negative care outcomes have captured society’s attention, because such damage is often irreversible and results in severe aftereffects and death.

The great repercussion of these results, including in the media, in part, reveals problems related to the work process, which may be the sole reason or associated with other causes. The aim of the present study was to identify work process-related causes associated with nursing errors reported in newspapers.

METHOD

STUDY TYPE

This was a documentary and qualitative study based on hermeneutic analysis to examine news articles published in high-circulation Brazilian newspapers between 2012 and 2016, totaling 112 articles. This form of analysis helps understand published texts as a result of social (work and domination) and knowledge processes (expressed using language) and to identify in the texts a reality that both reveals and conceals itself, depending on how the article approaches it⁽⁵⁾.

DATA ANALYSIS AND TREATMENT

Analysis was based on the steps of hermeneutics⁽⁶⁻⁷⁾ (initial reading, critical reading, and appropriation) by applying the software Atlas.ti (Qualitative Research and Solutions) to analyze qualitative data. The main analytical categories were named according to the theoretical framework of work process and associated with excerpts from the articles related to the elements of the nursing work process.

ETHICAL ASPECTS

Regarding ethics, the reports used in the present study are in the public domain. However, the authors opted to be faithful to the text content, while also not revealing the identity of nursing professionals or newspapers. Professionals were identified using the initials of each nursing professional category (N for nurses, NT for nursing technicians, and NA for nursing aides), and newspapers with the letter N followed by the letter B (for Brazil) and the abbreviation of the state or region of the country.

RESULTS

The results of the present study were grouped according to the elements of the work process, namely: workforce, work instruments, and work object.

REGARDING THE NURSING WORKFORCE

The causes of nursing errors related to workforce, i.e., nursing professionals, are shown in Figure 1.

In the news articles, these causes were reported by the directors of the institutions where the incidents had occurred and by professional representative organizations and reproduced from court rulings after the cases were tried.

In the judge’s opinion, it was inevitable that the problems at the point of delivery of public health eventually resulted in lawsuits. “What we see every day is hospitals in precarious care situations, with a shortage of professionals and medications, materials, and equipment. This leads to professionals under pressure, increasingly overloaded and prone to errors” (NBMG10).

The Regional Nursing Council (Coren) issued a statement that (institution name) had been inspected by the council, which detected several irregularities, among which patient overcrowding and lack of trained nursing personnel (NBPR3).

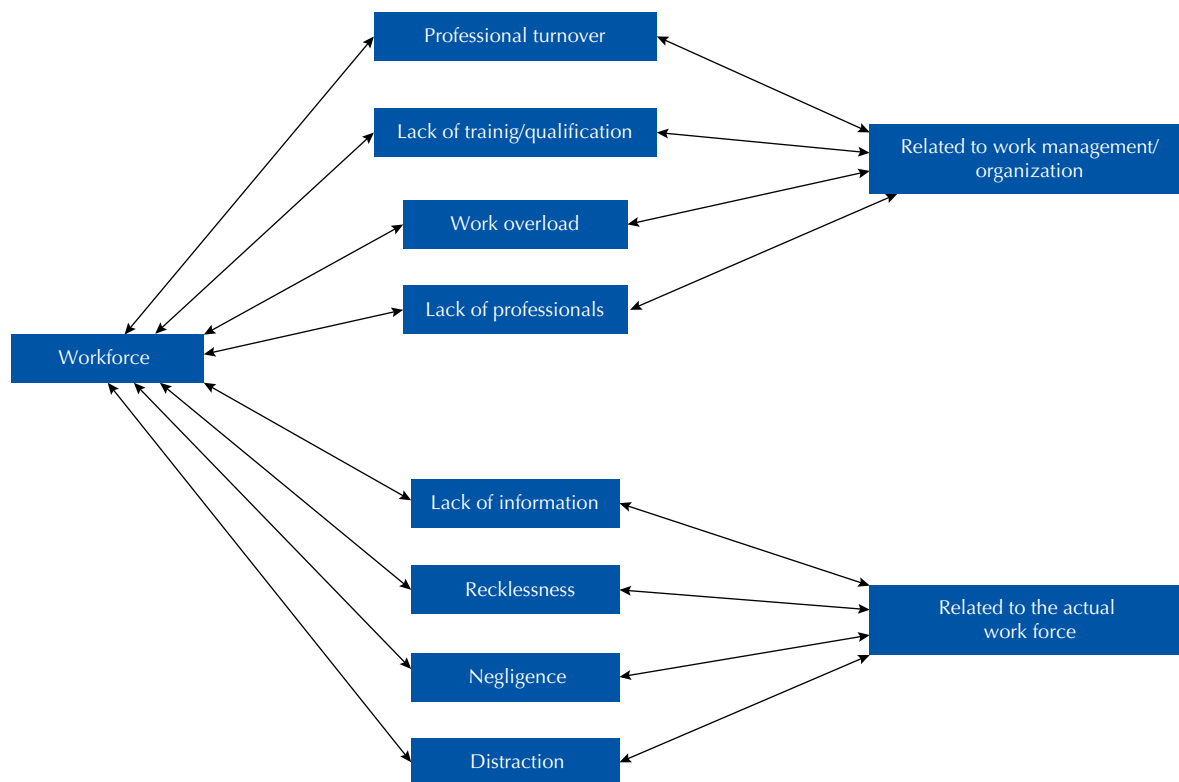


Figure 1 – Causes related to the nursing workforce.

The public system has high employee turnover and many workers are assigned to administer vaccines with no supervision. This type of error cannot occur. Are these employees not trained? Is there not a period of training before they can begin administering vaccines? (NBPR9).

Lack of information may have hindered the infant's treatment, who was kept 43 days in the neonatal intensive care unit. The prosecutor also concluded that the team had taken risks that led to injuries in both the infant and the mother (NBDF5).

According to the chief of police, the 19-year-old professional claimed that everything happened because she had been distracted. "She said that she was distracted and had never worked with children before. She had been working in the field for two years and her last job had been with occupational therapy" (NBPE4).

Distraction is a complex component. It can be associated with tiredness, stress, sleep disorders, and excess use of technologies in the work environment, such as cell phones, telephones, and other equipment, in addition to the demands of intensive care.

When the article indicated carelessness or negligence as the cause of the nursing error, this piece of information was provided by journalists who had written the text or jurists who had handed the sentence, regarding the nursing errors already judged by the court. It is important to emphasize that most articles do not address tried errors, but facts that just happened and were not judicially analyzed.

It was negligence. By administering chloride into the patient's vein quickly, the technician caused the child's immediate death

by asphyxia. In addition to the change in the medications, the nurse could not have handed the drugs over to someone else, because they have to be administered by the same person who prepares them, according to the prosecutor assigned to the case (NBPE12).

The death of an infant in (institution name) hospital on the 2nd may have been caused by the carelessness of a nursing technician. She is suspected to have injected milk instead of serum into the one-month-old infant (NBMG14).

The examined excerpts addressed recklessness and negligence, attributing blame before any internal investigation or inquiry had been able to investigate the matter. This is premature, given the complexity of the causality involved in these incidents.

REGARDING WORK INSTRUMENTS

The causes most commonly attributed to work instruments were problems associated with labeling, packages, and storage of medications and other substances. These were reported by the professionals and institutions involved in the incidents.

The investigation verified that perfluorocarbon was kept in a reused serum package, which is prohibited in hospitals, and was not labeled (NBSP2).

After being examined by a doctor, the boy was referred to a head tomography, which requires taking a liquid sedative. That was when the error happened. According to the hospital, the medication bottles are similar (NBSP11).

A four-month old infant with a low heart rate had to be taken to the intensive care unit for supposedly having milk injected in its vein at the hospital. During the evening, the nursing technician confused the bottles and changed the substances, injecting milk into the infant's vein (NBSP8).

Other reported work instruments, such as phototherapy equipment and instruments that are a common part of the nursing work routine (scissors, needles, and syringes) were mentioned in the accusations of professional carelessness and negligence.

A 38-year-old patient in the hospital with a degenerative disease died after a nursing aid mistakenly turned off the equipment that kept him breathing (NBSP13).

The professional used scissors to remove the venous access and ended up injuring the child (amputating his finger) while removing some of the tapes holding the catheter (NBPR14).

Causes related to medical prescription were emphasized by the professionals involved in errors and later confirmed by a criminal investigation. Prescription errors are related to illegible handwriting, frequent changes in prescription, verbal instructions instead of written instructions, and use of nonstandard abbreviations. The most striking case was the report of a nursing technician who administered 3.5 mL of adrenalin to a child and mentioned having asked the pediatrician about the quantity prescribed.

I asked the doctor: 'You prescribed 3.5 mL to this child, is that correct?' I showed him an adrenalin ampoule and said that the prescribed amount corresponded to three of those. The doctor said that it was correct (NBDF1).

Unfortunately, these cases are not rare.

CAUSES RELATED TO THE NURSING WORK OBJECT

Regarding the object of nursing work, only two incidents were reported in the articles. In one, the cause was attributed to the patient's overweight, leading to difficulties to assist him and a delay and consequent failure in nursing care. The other cause was overcrowded health services, which was classified as a work object in the present study for being a specific characteristic of some health services, such as emergency units.

Lack of information refers to lack of standardization of some procedures and the absence of care protocols that contribute to patient safety and quality of care. Lack of identification means poorly labeled and organized equipment in health services, as well as the wrong identification of harmful substances, such as acids, glycerin, and others. If used incorrectly, they lead to serious errors.

The causes related to nursing work process elements are considered possible attributed causes, because the object of analysis were newspaper articles and the reported errors were not thoroughly examined to determine the causes of error.

DISCUSSION

Problems related to the workforce were the most common in the present study, a finding that supports the

outcomes of previous investigations carried out using different approaches⁽⁸⁻¹³⁾. The shortage of professionals and consequent work overload have been shown to be the main causes of the incidents that resulted in nursing errors, and these are intimately connected with health service management. Empirical evidence reveals that nursing professionals present some propensity to medication-related errors, but these errors can be induced by inadequate working conditions⁽¹⁴⁾. Similarly, patient falls have been positively correlated with nursing staff work load⁽¹⁵⁾.

Problems associated with insufficient number of nursing professionals in health institutions are closely connected with work overload, increased working hours (a high amount of overtime), increased turnover (in which nursing professionals leave their jobs in search of better working conditions), and difficulties in nursing staff training (the constant change in teams hinders continuing education).

Continuing education is an effective measure to prevent patient safety incidents. It contributes to improving care processes, promoting best practices, and reviewing theoretical-practical content that supports nursing care^(13,16-17).

Regarding the causes related to the workforce, lack of information and distraction make nursing care less safe^(9,18). Lack of information is mostly related to pharmacological knowledge, given that there is a constant supply of new medications and new indications for already-existing drugs⁽⁹⁾.

Medication errors prevailed among the nursing errors in the present study, corroborating what has been widely discussed in the literature and in patient safety handbooks and protocols⁽¹⁹⁾. Distractions in the work environment were called "slips and lapses" in a systematic review⁽¹⁴⁾ and were associated with most medication errors.

This concern is supported by consistent data, which emphasize the occurrence of at least one death a day in the United States, in addition to losses suffered by more than one million people every year as a consequence of this type of error⁽²⁰⁾. Within the concept of the work process, medication and materials used in the process are nursing work instruments.

Infrastructure-related problems involve the location where medications are kept, type of transportation, and labeling of materials, which can lead to errors with different outcomes. If these factors are associated with distraction, work overload, and lack of information, the mixture increases the chances of obtaining disastrous outcomes. A study that identified the similarities among medications reported that nearly 50% of the medicines were very similar in terms of color, letters, and types of packages and labels⁽²¹⁾.

This resemblance among medications, known as LASA (look alike, sound alike) has raised discussions and programs that aim to develop effective ways to differentiate among medications and storage strategies. One such example is the initiative of the Portuguese government, which issued a specific statement clarifying the issue for professionals⁽²²⁾. In this context, it is necessary to stress the resemblance among therapeutics devices, especially probes and catheters, given that the very similar design of these

objects, which can increase the risks in the administration of foods and medications⁽²³⁾.

There are also problems relative to prescribed medication. A study carried out in Middle East countries⁽²⁴⁾ revealed high prescription error rates, among which those related to dosage and frequency were the most common. These types of errors lead to others, which could be avoided.

When the cause of nursing errors was related to its work object, the news articles used a persuasive approach, blaming health service users in terms of overcrowding and patient weight. An analysis of the full context reveals that the real cause is actually related to the workforce because, overcrowding requires greater infrastructure and a higher number of nursing professionals, which again brings up the issue of problematic service management.

CONCLUSION

Analyzing the possible causes attributed to nursing errors reported by the media brings to light not only the negative outcomes of nursing work, but also the elements of the work process involved in these unfavorable outcomes. In this case, previously envisaged negative outcomes are not

relevant, because the purpose of nursing work, established at the beginning of the process, is never a negative result. Incidents are caused by a number of often associated factors, which then become errors.

Whether related to the workforce, instruments, or object, these objects always require careful analysis so that errors are not reproduced in the work environment. The problem of mass media is that it shows facts that are not very consistent with the actual causes of events, leading to misguided views in the population who reads the articles. When the media brings up this problem and makes it visible to society, it must also shine a light on the urgent need for changes in nursing working conditions, both in these countries.

Nursing errors present intricate causality that is often ignored even by nursing professionals. Understanding these errors based on the nursing process allows to identify gaps that may be reviewed by health service managers, institution directors, political managers, and even by professionals. This can help prevent future errors by reconsidering important aspects of the working conditions to which professionals are constantly exposed, conditions that are currently under much discussion.

RESUMO

Objetivo: Identificar as causas relacionadas ao processo de trabalho que estão associadas aos erros de enfermagem noticiados pelos jornais. **Método:** Estudo documental, qualitativo, baseado na teoria do processo de trabalho e análise hermenêutica. Foram analisadas 112 notícias de 21 jornais de grande circulação no Brasil, no período de 2012 a 2016, organizadas e codificadas no *software* Atlas.ti. **Resultados:** As causas associadas aos erros noticiados foram relacionadas à força de trabalho (*deficit* de profissionais e capacitação, rotatividade, sobrecarga, falta de informação, imprudência, negligência e distração); aos instrumentos de trabalho (semelhança de rótulos/embalagens, armazenamento, falta de identificação e informação de produtos e prescrição médica) e ao objeto de trabalho (particularidades dos pacientes e superlotação). **Conclusão:** A análise das possíveis causas atribuídas aos erros noticiados permitiu tornar público não somente o resultado negativo do trabalho de enfermagem, mas também os outros elementos do processo de trabalho que influenciam esse resultado. Por isso a importância de compreender esses erros para que sejam evitados, e as condições de trabalho da enfermagem, revistas, para a garantia da qualidade e da segurança.

DESCRIPTORIOS

Enfermagem; Erros de Medicação; Segurança do Paciente; Notícias; Meios de Comunicação.

RESUMEN

Objetivo: Identificar las causas relacionadas con el proceso laboral que están asociadas con los errores de enfermería noticiados por los periódicos. **Método:** Estudio documental, cualitativo, basado en la teoría del proceso laboral y análisis hermenéutico. Fueron analizadas 112 noticias de 21 periódicos de gran circulación en Brasil, en el período de 2012 a 2016, organizadas y codificadas en el *software* Atlas.ti. **Resultados:** Las causas asociadas con los errores noticiados estuvieron relacionadas con la fuerza de trabajo (déficit de profesionales y capacitación, rotatividad, sobrecarga, falta de información, imprudencia, negligencia y distracción); con los instrumentos de trabajo (semejanza de etiquetas/envases, almacenamiento, falta de identificación e información de productos y prescripción médica) y con el objeto de trabajo (particularidades de los pacientes y abarrotado). **Conclusión:** El análisis de las posibles causas atribuidas a los errores noticiados permitió hacer público no solo el resultado negativo del trabajo de enfermería, sino también los demás elementos del proceso laboral que influyen dicho resultado. En virtud de ello, es importante comprender esos errores a fin de que se los evite y que se revisen las condiciones del trabajo enfermero, para la garantía de la calidad y la seguridad.

DESCRIPTORIOS

Enfermería; Errores de Medicación; Seguridad Del Paciente; Noticias; Medios de Comunicación.

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