THE MANAGEMENT OF DRUG PRESCRIPTION GROUNDED ON PATIENT’S SAFETY: ALERT FOR NURSING PRACTICE

ABSTRACT

Objectives: describing the management of drug prescriptions by nursing in a surgical clinic and discussing the factors that could influence on patient’s safety, which result from medical prescriptions. Method: an exploratory, descriptive study of a quantitative approach performed with source of secondary data, with time frame of 30 days from the records of the Surgical Clinic of Municipal Hospital in the city of Rio das Ostras/RJ, with processing of data for analysis of category. Results: among the 57 evaluated prescriptions, there was an inadequate patient identification, illegibility, deletions, abbreviations and scheduling by non qualified professionals. Conclusion: patients are exposed to an unsafe practice related to drug therapy and it is up to all health staff, as well as the institution promote actions that prevent the inappropriate practices.

RESUMO

Objetivos: descrever o manejo da prescrição medicamentosa pela enfermagem em uma clínica cirúrgica e discutir os fatores que possam implicar na segurança do paciente oriundos da prescrição medicamentosa. Método: estudo exploratório-descritivo de abordagem quantitativa realizado em fonte de dados secundários, com recorte temporal de 30 dias junto aos prontuários da Clínica Cirúrgica de um Hospital Municipal do Município de Rio das Ostras/RJ, com tratamento dos dados pela análise de categoria. Resultados: dentre as 57 prescrições avaliadas, observou-se identificação inadequada do paciente, ilegibilidade, rasuras, abreviações e aprazamento por profissionais não habilitados. Conclusão: os pacientes estão expostos a uma prática insegura relacionada à terapia medicamentosa e que cabe a toda equipe de saúde, assim como, a Instituição promover ações que previnham as práticas inadequadas.

RESUMEN

Objetivos: describir la gestión de las recetas de enfermería en una clínica quirúrgica y discutir los factores resultantes de las recetas que podrían resultar en la seguridad de los pacientes. Método: estudio exploratorio, descriptivo, con enfoque cuantitativo, realizado con una fuente de datos secundarios, con el marco de tiempo de 30 días desde los registros de la Clínica Quirúrgica del Hospital Municipal en la ciudad de Rio das Ostras/RJ, con procesamiento de datos para el análisis de categoría. Resultados: entre las 57 recetas evaluadas hubo una identificación inadecuada del paciente, ilegibilidad, supresiones, abreviaturas y aplazamiento por profesionales no habilitados. Conclusión: los pacientes están expuestos a una práctica insegura relacionada con el tratamiento de drogas y le corresponde a todo el personal de salud, así como la institución, promover acciones que prevengan las prácticas inadecuadas.

Descriptors: Patient Safety; Nursing; Drug Prescriptions.
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INTRODUCTION

Incomplete information in health records among professionals about their practices, as well as the difficulty of understanding of drug prescriptions, makes it difficult for nursing care safely be provided, representing a major obstacle to be overcome. Study on a member of the hospital project Sentinel Hospitals National Health Surveillance Agency (ANVISA) analyzed 294 prescriptions, in which 102 (34.7%) of them were illegible or partially legible and that, along with other factors such as prescriptions incomplete medicines or nonstandard abbreviations, could lead professionals to develop unsafe acts in the process of medications.¹

Patient safety, with respect to their drug therapy, must be free of any factor that may involve a lack of understanding and communication between health teams. However, it should not exempt the nursing responsibility to ensure security throughout the process of medications. The process of medications is defined as a medication system consists of several steps as prescription, review and validation, dispensing, preparation and administration and states that, in any of these stages, there may be errors and failures.²

Many errors in medications not detected early in the process of medications, are assigned to nursing, this increases the responsibility of this segment for this caution, as the team's responsibilities to intercept and prevent the error.³

Forward the concerns that drove the development of this study, raised the following question: The management of drug prescriptions by the nursing staff gives security to the patient?

Considering that the management of drug prescriptions can assign possible damage in hospitalized patients if it is made without the precepts of patient safety, said study aimed to:

- Describing the management of prescriptions for nursing in a surgical clinic.
- Discussing the factors that could result in patient safety arising from the prescriptions.

METHODOLOGY

Article compiled from the Work Course Conclusion << The scheduling of guided medications in patient’s safety: an alert to nursing practice >> submitted to the Graduate Nursing Course at the Fluminense Federal University. Rio de Janeiro, Brazil. 2014.

It is a descriptive-exploratory study with quantitative approach performed in a surgical clinic of a municipal hospital in Rio das Ostras, situated in the coastal lowland of the State of Rio de Janeiro/RJ.

A study with a convenience sample, which was used as a data source drug prescriptions obtained over a time frame of 30 days for the month of July 2013. One hundred and two (102) patients were admitted to this unit in that month; however, due to administrative matters of the institution as billing and archiving, only fifty-seven (57) medical records were available for consultation.

The criteria used for inclusion in the sample consisted of drug prescriptions dated the time frame of 30 days, using the first prescriptions directed to the equivalent patient a day one (1) of hospitalization, such selection has been made to prevent data similarities to use more than a prescription for the same patient. Requirements concerning were excluded patients who underwent minor surgery and released with less than 24 hours of hospitalization and those without drug prescription.
The collection instrument was a semi-structured form consisting of the following variables: legible prescription; presence of patient data (name, bed, medical record number); presence of date; presence of acronyms/abbreviations; presence of erasures; professional who performed the scheduling; stamped scheduling; scheduling checked based on Security Protocol guidelines on the prescription, use and administration of medicines published by the Ministry of Health.\(^5\)

The results were presented in graphs and tables, using simple frequency and divided into three (3) topics: Regarding the items filled in the header; the legibility of prescriptions and drug prescriptions themselves.

To analyzing the data, the information was grouped according to the following categories: Factors involving patient safety outside his drug therapy - the management of prescription and discussing the factors that imply the safety of the patient coming from the prescriptions.

Table 1 shows the distribution of the sample analyzed for the identification of the data present in the drug prescription, referring to scheduling practices, with the following variables: the Institution Name/Address/Phone; Patient Name; Bed number; Medical record number; Sector/Clinic Admission; Date of prescription.

<table>
<thead>
<tr>
<th>Data identified on medical prescription</th>
<th>Yes (0%)</th>
<th>No (0%)</th>
<th>Partially (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the Institution/Address/Phone</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>57 (100%)</td>
</tr>
<tr>
<td>Name of the Patient</td>
<td>33 (58%)</td>
<td>0 (0%)</td>
<td>24 (42%)</td>
</tr>
<tr>
<td>Bed Number</td>
<td>3 (5%)</td>
<td>54 (95%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Record Number</td>
<td>7 (12%)</td>
<td>50 (88%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Sector/Inpatient Clinic</td>
<td>0 (0%)</td>
<td>57 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Date of Prescription</td>
<td>56 (98%)</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

\* Regarding the items filled in the header

For the item ‘Institution’s Name/Address/Phone’, fifty-seven (57) drug prescriptions, representing 100% of the sample analyzed, were found partially filled, considering the lack of data for the address and phone number of the institution, though there was the name of the institution.

For the item ‘Patient’s Name’, thirty-three (33) prescriptions referring to 58% of the sample presented with a full patient name, and twenty-four (24), 42% of the sample, were with the name of the patient partially filled, and recorded the first and middle name or the initial and last name.

Regarding the item ‘Bed Number’, fifty-four (54) samples, representing 95% of drug prescriptions, were not the bed number, only three (03), 5% indicated the bed. The item ‘Medical Record Number’ there was found in only seven (07) prescriptions, representing 12% of the sample. There were no records of

This study was approved by CAAE 18111813.5.0000.5243 of the University Hospital Antônio Pedro Ethics Committee, Fluminense Federal University HUAP/UFF, meeting the guidelines of Resolution 196/96.\(^4\)
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'Sector/Clinic Admission' in any evaluated prescription.

For the item 'Date of Drug Prescription', only one (01) prescription was undated. Regarding the item 'Medication Prescriber/Registration on board', all fifty-seven (57) prescriptions were identified, representing 100% of the sample.

*With regard to the readability of the prescriptions*

Table 2 presents the results of the sample analyzed on the readability of the data found in drug prescriptions. The options were used 'yes' to the requirements that had fully legible for the values assessed, 'no' for completely illegible prescriptions and 'partially' when it was not possible to identify completely, with questions in writing parts or lack thereof. It was considered as readability criteria, the written presenting the completely understandable letters and, partially legible, when it was possible to identify only a few words.

Table 2. Readability of Medical Prescription. Rio das Ostras (RJ), 2013.

<table>
<thead>
<tr>
<th>Readability of limitation related to:</th>
<th>Yes</th>
<th>No</th>
<th>Partially</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient’s Data</td>
<td>29</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Medicines</td>
<td>18</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>Scheduling</td>
<td>55</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>8</td>
<td>60</td>
</tr>
</tbody>
</table>

For the item 'Patient Data', 29 prescriptions, representing 51% of the sample met legible, 06 (10,5%) prescriptions were illegible and 22 (38,5%) of the partially legible prescriptions. Regarding the 'Drugs' factor, 18 (31,5%) prescriptions, were with the data of medicines legible, 2 (3,5%) were completely unreadable and 30, representing 63% of the sample, were partially legible.

*With regard to medicinal prescriptions themselves*

In this variable were evaluated drug prescriptions as to the indication of intravenous medications on the volume, speed, infusion time and route of administration.

![Figure 1. Correct description for intravenous medications (EV). Rio das Ostras (RJ), 2013.](image)
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Deletions were found in nine Appointments four deletions in the descriptions of drugs, two deletions in patients’ names, and the route of administration erasure. Contained in two prescriptions, erasures both medication and in scheduling.

For the item “the appointed times’ activity performed by the nurse, fifty-five (55), 96% of prescriptions were legible, two requirements considered partially legible for lack of complete scheduling.

As for the correct time of Appointments according to the indication of drug prescriptions 49 prescriptions, 86% of the sample indicated the timing of medications correctly the appointed, a prescription was not the appointed five requirements found in part time-bound. Two requirements were not assessable because they are totally unreadable.

Were regarded as ‘partially time-bound’ prescriptions that lacked Appointments for data such as ‘oral Diet’, ‘SOS medication’, ‘Vital Signs’, ‘salinized Access’, ‘Medication-Plasil’, ‘solution-NaCl’. Noting that these requirements partially, scheduled, were not signed by the nurse.

Regarding the responsibility of the scheduling of drug prescriptions, it was considered the presence of the signature and stamp of the professional in the field intended for Appointments in drug prescriptions. Thirty-five prescriptions, 61,4% of the sample were, scheduled by the professional nurse, 22 prescriptions, 38,5% of the sample had not identify the professional who carried out the scheduling. No prescription analyzed the signature was found and/or stamp of practical nurses, nursing assistants or other professional in the field intended for Appointments.

The assessment of the checking of Appointments, considering the marking made by nurses on the appointed times previously fifty (50) requirements, 88% of...
The sample were properly checked with the times, two (02) prescriptions were not checked and five prescriptions were considered 'partially checked 'for lack of check in times of medications as Dipyrone, Plasil, Chlorothalidone, Omeprazole, Captopril + HCTZ.

It was decided to establish the variable 'Note Researcher' through a qualitative approach considering any situation that could be used to analyze the data. Among the recorded observations there were found specific points on the requirements considered totally illegible, as the 'oral diet indication' (a prescription), 'the unit' (four prescriptions), 'volume to be administered' (six prescriptions) and 'route of administration' (a prescription), and two completely illegible prescriptions.

**DISCUSSION**

**Factors involved in patient's safety facing drug therapy - prescription management**

According to the results shown in Table 1, it was observed that no limitation is found in accordance with the standards for the identification, with minimal patient information. Key data such as bed number and medical record number were found in only 5% and 12% of the sample, respectively. Items not identified in medical prescriptions and partially identified items exceeded half of all prescriptions, revealing a high possibility of failure to identify the patient.

The Basic Security Protocol in prescription, use and administration of medication establishing that the prescription medications in hospital settings, should be performed in institutional documents and provide at least the following information: name of hospital; full name of the patient; medical record number or record of service; bed; service; ward/apartment and floor/wing.

The basic protocol aimed at identifying the patient says that the identification data should be made by the full name of the patient, excluding the practice of using incomplete or abbreviated names; the identification of the institution using the name, address and telephone number, if the client will contact with the institution; the identification of the prescribing by stamps or handwritten on the prescriber's name, registration number and signature, as long as readable, to check the authenticity of the prescription; also, the date of the prescription and is essential to its validity, since the suppression of date can lead to continued use of the medication, causing damage to the patient.

Actions that prevent the therapeutic error should be adopted and the principle is essential that all information is registered correctly so that, exactly, can be identified patient. This care prevents the occurrence of homonyms or similar names and the possibility of exchange of medicines and care among patients.

A study in a Brazilian teaching hospital indicates that among the 294 evaluated prescriptions, 279 (94%) were incomplete for one or more items, making the potential errors in prescriptions drug therapy.

The lack of the full name of the patient and fill the registration number prevents the use of the security rule of five rights of medication administration, contributing to a potential risk to the exchange of patients. Today are nine considered right, with the right record increase, right reason, and somehow right answer.

Corroborating for increased patient safety effectiveness, in addition to the minimum necessary information from medical records and prescriptions, the protocol on the PNSP Patient Identification specifically addresses the practices to reduce the occurrence of incidents and
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The management of drug prescription advocates the use of identifying patients for bracelets and appearing two identifiers printed digitally and in case of failure, can be done manually, using the identification of maintenance care. Professional liability is health confirm the data identifying the patient, and in cases with their families before any procedure to be performed with the patient. Cases involving misidentification of patients should be notified in accordance with current legislation. Another alarming aspect is given by the difficulty of understanding of drug prescriptions. Considering that, an illegible prescription is enough to cause irreversible damage, favoring various interpretations, which may cause the patient to death. In this sense, there was the vulnerability of patients regarding their drug therapy. Still, with the aggravation that all partially legible and totally illegible prescriptions were time-bound and checked. Highlighting the results of table 2, the sum of essential items such as, patient identification and the name of the drug, were not legible and partially legible in more than half of the assessed requirements.

One study puts the illegible handwriting of the prescriber has become part of everyday life of pharmacists and nursing teams, who have become accustomed ‘to translate’ the requirements. The professional is no longer qualified or prepared to work because he can decipher letters prescribers. The illegible writing is prohibited by the Code of Medical Ethics in its article 11, Chapter III, which deals on the professional responsibility of the doctor, so actions should be taken by the institutions so that this practice was abolished.

Still quoting the PNSP the Protocol, the carbon prescription is not indicated, it is recommended the use of typed and electronic prescriptions with prints forms without line to avoid medication errors by the meeting of lines with the numbers and letters prescription. A study showed in their study that 29% of the interviews with nurses and pharmacists, pointed out the errors in prescriptions as the most frequent due to difficulty reading and understanding of the letters of prescribing.

Studies have indicated that the risk of errors occur and is increased to the extent that nurses and other health professionals have difficulty correctly read the prescriptions, which can lead to error on dispensing, distribution, preparation and administration of medicines. Other relevant factors to patient safety and drug prescription that were evaluated in this study were to describe the medication, and only one (1) medicine had its unique characteristics, the presence of acronyms/abbreviations, found in all prescriptions and the presence of deletions observed in 24,5% of the sample.

Regarding the description of intravenous drug use, as well as intramuscular medications, should present the requirements, information on the diluent (type and volume), speed and time of infusion (intravenous). The dilution is directly related to the stability and effectiveness of the medicine because diluents mismatch cases could lead to reduction or loss of the pharmacological action of the drug. The infusion rate is associated with adverse events.

Regarding the PBSP, as the use of abbreviations, the hospital should standardize a list of abbreviations among health professionals, given the orientation of not shorten some terms such as ‘unity’ (U) and “international units” (IU) which are the most dangerous because it allows the misconception 10-100 times the prescribed value, chemical formulas (KCL, NaCl, KMnO4 and others) and drug names (HCTZ, PEN BEZ, among others).
Another standardize the protocol emphasizes is the use of the acronym 'EV' and not 'IV' for intravenous medications, as it enables misperceived by 'IM' in difficult to understand requirements, as well as the need units of measure (mg and mL) should be written out.5

Among the requirements evaluated in this study, the abbreviations "EV" and "IV" found in proportional numbers, showing also the symbols of 'unit', the 'drug' and 'actions', featuring, according to the protocol PBSP, large potential for error in medication administration.5

Considering the appointed times, and nursing was observed by signing the professional, the nurse held the scheduling in most prescriptions, however, the number of prescriptions without identification was presented considerable, showing the inadequate scheduling practice by other professionals without scientific knowledge attributed to higher education professional.

The lack of knowledge of basic pharmacology, by the nursing staff, can generate simple clinical consequences to intolerable toxicities, because of the failure of the need for administration up to exact dose and the correct time for each patient.8

Regarding the prescribed times, although the results show that 86% of the sample agreed with the Appointments their schedules requested by the prescriber, evidenced the use filed the predefined times in the schemes: 4/4 hs, 6/6 hs, 8/8 hs, 12/12 hs, favoring the possibility of interaction between the drugs in prescriptions with polytherapy.

Regarding the SOS drug delivery schedules, it was found that the times did not coincide with the time of other medications; but, it is not the question the evaluation coincident with possible interaction or by coincidence, since various requirements have not, scheduled by nurses?

In fact, there must be rules and regulations to organize the work and that it becomes agile and functional, but not always the predefined schedules reach the needs of patients in order to evaluate the time of certain drugs for specific patients, like painkillers in bath schedules, dressings, as well as in hypertensive visiting hours. Lies with the professional nurse this evaluation and thus ensuring the best care delivery.

Discussing the factors involved in patient’s safety from medical prescriptions

All care provided by the health team has the ultimate goal to ensure that the patient has an efficient and quality service and for this goal to be fulfilled it is necessary that several factors are involved in this process, such as the reception, hotel the power, as well as safety. Patient safety is one of the pillars that support the building of care.

Among the various aspects of security, care for the management of prescriptions was choice for this study because it is a question relating directly to nursing because nursing dedicated 24 hours a day to the patient and the prescription is a document accompanying it at all times.

Considering the prescriptions a working tool, this should be the leading professional tool to give it security service. However, for this tool can give you security, it is necessary that it is in perfect working order in the case, for nursing, and readable, with all the information about the patient, such as the correct specifications of medicines, so that, professional, through its technical and scientific knowledge can handle it, referring to here, the importance of professional know about the action of drugs.9
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The conduct of nursing should be prescriptive in the sense of not accepting perform any procedure when were faced with illegible prescriptions, incomplete or tampered with. These factors can lead to error in medication assistance and that can be assigned to nursing because they were not prevented. 3

It is extremely important that the nurse performs their private activities. It is for the professional nurse schedule the medications considering the specifics of each patient, assessing the possibilities of interactions between drugs, guiding and checking the practice of technical nursing staff because nurses have specific training in this activity; 10 however, is by through their actions and conduct that nurses get the recognition and respect, avoiding another professional classes assume their activities making, nursing miss, more and more space on the desktop. The importance of evaluating the specificity of each patient and take a systematic work routine, with the planning of each action based on the uniqueness of each patient is indisputable. 11

The basis of pharmacological nursing training provides subsidies so that they can understand the actions of drugs and with this knowledge seek to delve into the issues facing the direct care of patients in their drug therapy, as to assess the possible adverse reactions of drugs provided by greater use in clinics, thus favoring the recognition of possible drug interactions and ensuring greater safety for the patient.

CONCLUSION

Patients are exposed to an unsafe practice related to drug therapy and it is up to all health staff, as well as the institution promote actions that prevent the inappropriate practices.

It is expected that educational strategies are developed decreasing possible difficulties encountered in care by health professionals about drug therapy and may contribute to increased safety, better patient care and more effective in the treatment, leading to a possible reduction in days of hospitalization, thus reducing hospital expenses.

The constant training and continuing education is an effective and inexpensive way for the institution. Through lectures, pamphlets, construction of small guidance manuals on the main drugs used in each clinic, the standardization of acronyms and abbreviations, the multidisciplinary integration through discussions and conversations wheel among professionals, contributes to the further clarification of teams health, resulting in better care. Shares of major investments such as the implementation of computerized systems dramatically reduce the possibility of misidentification and lack of understanding of drug prescriptions.

As a contribution, this work will be presented to the research institution in order to encourage safe practices for patients and raise awareness about the importance of unity among the medical teams, pharmaceutical and nursing, as well as all multidisciplinary teams towards integration so that together they can discuss the best approaches to be provided to the patient. This is intended to educate professionals about the importance of evaluating the specificity of each patient, making the methodical routine work in a systematic work process, of course, complete, and objective, where planning of each
action is based on safety and singularities of each patient.

Finally, it needs commitment of all those involved in the care process, so that the final result, the patient is well attended and safely.

REFERENCES


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