Dias Ferreira de Melo, Isabela; Neves de SantAnna Menezes, Andreia; Saraiva de Almeida, Viviane;

Gomes da Silva, Gloria Regina; Lemos Querido, Danielle; Andrade, Marilda

Medication errors and medication teams: a descriptive study

Medication errors and medication teams: a descriptive study

Isabela Dias Ferreira de Melo[1], Andreia Neves de SantAnna Menezes[2],
Viviane Saraiva de Almeida[3], Gloria Regina Gomes da Silva[4],
Danielle Lemos Querido[5], Marilda Andrade[6]

[1,2,4] *State University of Rio de Janeiro*
[3,5] *Federal University of Rio de Janeiro*
[6] *Fluminense Federal University*

ABSTRACT

Aim: to identify medication errors in medical prescriptions in a neonatal intensive care unit (NICU); to compare the occurrence of medication errors in medical prescriptions, before and after the deployment of a medication team in an NICU. **Methods:** This is an observational, descriptive, retrospective cohort study, in which a quantitative approach was used. This study will be operationalized through documentary research with regard to medical records. We will use medical records of the period between May 2010 and April 2011 and from June 2011 to May 2012. The data collection will take place from September to November 2013. The research scenario will be the neonatal intensive care unit of a university hospital in the public health network of the state of Rio de Janeiro. **Expected results:** A matrix of analysis to configure the interaction between the medication team and the occurrence of medication errors in terms of drug prescription.

Descriptors: Medication Errors; Drug Prescriptions; Inappropriate Prescribing; Medication Systems

PROBLEM SITUATION AND ITS SIGNIFICANCE

The patients of a neonatal intensive care unit (NICU) are more susceptible to the effects of medication errors than adult patients. Such a fact is due to several factors and to the peculiarities of the newborn, as the dose calculation is based on age and weight, and to the physiological immaturity that alters the capacity of newborns with regard to the absorption and excretion of drugs[1].

The medication system involves various professionals, and each step must be monitored in order to prevent the occurrence of medication errors. Any error, mainly in the last three stages of responsibility of the nursing staff (preparation, administration and monitoring of adverse effect), may lead to irreparable consequences to the newborn[2].

Among the types of medication error that cause harm to the patient are prescription errors, defined as those committed in the process of prescribing medications. These are subdivided into: administrative and procedural errors (errors in reading, patient data, drug name, dosage, form and route of administration); dosing errors (errors in the strength, frequency, dosage, therapy duration and use instructions) and; therapeutic errors (medication interactions, contraindications, monotherapy, duplicate therapy and errors in therapeutic drug monitoring and laboratory monitoring)[2].

The Medication Team, composed of 24 nurses, among which there are on-duty, routine and leading professionals, was created in May 2011 for the empirical observation of the occurrence of medication errors. Objectives and targets aimed at organizing the medication system and minimizing process errors were constructed. The group of nurses who make up the medication team is divided into six 12-hour shifts; in every shift, two nurses on duty are responsible for the medication room, where at least one is, indispensably, the nurse associated with the medication team. An instrument that quantifies the occurrence of medication errors after the group was established will enable us to construct strategies that confers safety in terms of the drug system in the neonatal unit[3].

AIMS

Identify medication errors in medical prescriptions in the NICU; compare the occurrence of medication errors in medical prescriptions, before and after the deployment of a medication team in the neonatal intensive care unit.

METHOD

This is an observational, descriptive, retrospective, cohort study, in which a quantitative approach was used. It is operationalized through documentary research in medical records in a restricted population group. The observation unit considers the prescription of medicinal products for newborns admitted to the NICU of a university hospital in the state of Rio de Janeiro, where the study will be set.

Records from May 2010 to April 2011 and June 2011 to May 2012 will be used. These periods are justified in that they precede and succeed the creation of the medication team. The data analysis will be performed using an Excel spreadsheet, version 2010. The collection of research data will take place from September to November 2013.

The research of the records will have a randomized character. From the same record, up to three requirements of three consecutive days will be used. This period is enough for the

Melo IDF, Menezes ANS, Almeida VS, Silva GRG, Querido DL, Andrade DL. Medication errors and medication teams: a descriptive study. Online braz j nurs [Internet]. 2013 Oct [cited year mouth day]; 12 Suppl: 728-30. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4478

rotation of all groups of nurses of the medication team and in such a way that there is no significant change in the drug therapy. Therefore, the prescription is a single document, prepared on a daily basis, with regard to those preterm infants who remain hospitalized for a long period.

Prescription errors in terms of administrative or procedural disagreement will be investigated: reading errors, patient data, drug name, dosage, form and route of administration will also be considered.

The T test will be used to compare the occurrence of prescription errors before and after the introduction of the medication team.

EXPECTED RESULTS

An analytical matrix to configure the interaction between the team and the occurrence of medication errors in terms of medication prescription will be created.

REFERENCES

1. Belela ASC, Pedreira MLG, Peterlini MAS. Erros de medicação em pediatria. Rev Bras Enferm (online) [internet]. 2011 May/jun [cited 2013 sept 09]; 64(3). Available from: http://www.scielo.br/scielo.php?pid=S0034-71672011000300022&script=sci_arttext

2. Martins TSS, Silvino ZR, Dias LS. Profile of intravenous therapy in a pediatric university hospital and association with the occurrence of infusion failures: quantitative study. Online braz j nurs (online) [Internet]. 2010 Oct [cited 2013 sept 09];9 (2). Available from: <http://www.objnursing.uff.br/index.php/nursing/article/view/3067>. doi: http://dx.doi.org/10.5935/1676-4285.20103067

3. Van Doormaal JE, Van den Bemt PMLA, Zaal RJ, Egberts ACG, Lenderink BW, Kosterink JGW, et al. The Influence that Electronic Prescribing Has on Medication Errors and Preventable Adverse Drug Events: an Interrupted Time-series Study. J AM Med Inform Assoc (online) [internet]. 2009 Nov/dec [cited 2013 sept 09];16(6).Avaible from: http://jamia.bmj.com/content/16/6/816.full