

## Conducts adopted by nursing technicians after the occurrence of medication errors\*

*Conduas adotadas por técnicos de enfermagem após ocorrência de erros de medicação*

*Conductas adoptadas por técnicos de enfermería después de ocurrir errores de medicación*

Jânia Oliveira Santos<sup>1</sup>, Ana Elisa Bauer de Camargo Silva<sup>2</sup>, Denize Bouttelet Munari<sup>3</sup>, Adriana Inocenti Miasso<sup>4</sup>

### ABSTRACT

**Objective:** To identify and to analyze the adopted conducts by nursing technicians after the occurrence of medication errors. **Methods:** Is a descriptive and qualitative study, conducted with 23 nursing technicians, in the University Hospital in Goiania, GO. The data were collected through structured interviews that were recorded and then analyzed according to Bardin concepts. **Results:** The analysis produced two categories: *adopting conducts related to informing the error* (to doctors, to nurses, recording and, not communicating the error) and *adopting conducts related to the patient* (patient observation, monitoring and, minimizing consequences). **Conclusion:** This study highlights the need, that the health institutions have, of adopting a culture of transparency related to medication errors with the creation of policies and standardization of reports, dissemination of the information and strengthening preventive measures.

**Keywords:** Medication errors; Malpractice; Nursing care; Nursing staff

### RESUMO

**Objetivo:** Identificar e analisar as condutas adotadas por técnicos de enfermagem após a ocorrência de erros de medicação. **Métodos:** Estudo descritivo, de abordagem qualitativa, realizado com 23 técnicos de enfermagem de um hospital de ensino de Goiânia-GO. Os dados foram coletados através de entrevistas semi-estruturadas gravadas e analisadas segundo os pressupostos de Bardin. **Resultados:** Os resultados evidenciaram duas categorias: *tomando condutas relacionadas à comunicação do erro* (ao médico, à enfermeira, registrando no prontuário e não comunicando o erro) e *adotando condutas direcionadas ao paciente* (observação do paciente, monitorização e minimização das consequências). **Conclusão:** Ressalta-se a necessidade de que as instituições de saúde adotem uma cultura de transparência em relação aos erros de medicação, com a criação de políticas e padronizações para notificação, divulgação e fortalecimento de medidas preventivas.

**Descritores:** Erros de medicação; Imperícia; Cuidados de enfermagem; Recursos humanos de enfermagem

### RESUMEN

**Objetivo:** Identificar y analizar las conductas adoptadas por técnicos de enfermería después de ocurrir errores de medicación. **Metodos:** Se trata de un estudio descriptivo con abordaje cualitativo, realizado en 23 técnicos de enfermería de un hospital de enseñanza, en la ciudad de Goiania, estado de Goiás. Los datos fueron recolectados a través de entrevistas semiestructuradas grabadas y analizadas según los conceptos de Bardin. **Resultados:** Los resultados evidenciaron dos categorías: *tomando conductas relacionadas a la comunicación del error* (al médico, a la enfermera, registrando en la ficha y no comunicando el error) y, *adoptando conductas dirigidas al paciente* (observación del paciente, monitorización y minimización de las consecuencias). **Conclusión:** Se resalta la necesidad de que las instituciones de salud adopten una cultura de transparencia en relación a los errores de medicación, con la creación de políticas y la estandarización de las notificaciones, con la divulgación y el fortalecimiento de medidas preventivas.

**Descriptores:** Errores de medicación; Mala praxis; Atención de enfermería; Personal de enfermería

\* Study performed in Medical Clinic, Intensive Care and Emergency Units of a university hospital in the city of Goiânia (GO), Brazil.

<sup>1</sup> Nurse. Specialist in Nursing in the Workplace, Professor of the "Faculdade Estácio de Sá de Goiás" – Goiânia (GO), Brazil.

<sup>2</sup> Adjunct Professor of the School of Nursing at the "Universidade Federal de Goiás" – UFG – Goiânia (GO), Brazil.

<sup>3</sup> Full Professor of the School of Nursing at the "Universidade Federal de Goiás" – UFG – Goiânia (GO), Brazil.

<sup>4</sup> Ph.D in Nursing, Professor of the Department of Psychiatric Nursing and Human Sciences of the Ribeirão Preto School of Nursing at the "Universidade de São Paulo – USP" – Ribeirão Preto (SP), Brazil.

## INTRODUCTION

In recent years, the media has denounced several errors attributed to health professionals, which have become more and more common. Change in this reality can be reflected upon, based on the development of studies that identify vulnerable points which can be indicators to guide preventive interventions or reduce the occurrence of such errors, aiming to provide safe health care to clients.

According to a report from the "Institute of Medicine", in the United States, entitled "To err is human: building a safer health system", approximately 7,391 Americans die every year due to problems caused by medication errors<sup>(1)</sup>. These errors almost always lead to serious consequences to both patients and health professionals.

Professionals may have their reputation damaged, lose their jobs, and need to answer for their actions in civil, legal and ethical lawsuits, apart from the risk of their being prevented from exercising their profession<sup>(2)</sup>. Due to fear of punishments, those who work in health organizations where the culture is that of individual punishment, rather than safety, do not report the occurrence of errors, hindering the identification of risk factors by managers and the development of measures capable of preventing the repetition of these errors<sup>(3)</sup>.

In addition to their not reporting errors committed, many professionals adopt inadequate attitudes that can interfere directly with the health care results and make a difference in the preservation of the patient's life. In this way, it is essential that health organizations have specific policies and procedures to report incidents and make them public. Moreover, professionals need to be educated about the measures that should be taken and encouraged to have an honest attitude towards errors, without fear of punishment, and engaged in the search for a safe practice when providing medication to patients<sup>(4-5)</sup>.

Safe health care, free from risks or harm to clients, must be the goal of nursing teams. This care should always be supported by scientific knowledge, the legal norms that regulate the rights and obligations concerning the professional exercise, and the ethical and moral dimension permeating their actions<sup>(6)</sup>.

In view of the previously described context, it is necessary to know better the attitudes of nursing professionals towards the occurrence of medication errors, aiming to obtain resources to implement strategies that provide them trust in the workplace, encourage them to report errors, eliminate taboos and enable new knowledge to be built, seeking safety in health care.

## OBJECTIVE

To identify and analyze attitudes adopted by nursing

professionals after the occurrence of medication errors.

## METHODS

This is a descriptive exploratory study with a qualitative approach, performed in Adult Medical Clinic, (Clinical and Surgical) Intensive Care and Emergency Units of a university hospital situated in the city of Goiânia, Goiás, Brazil. This institution was selected due to the fact of its being a hospital included in the national network of surveillance hospitals of the *Agência Nacional de Vigilância Sanitária* (National Health Surveillance Agency), in addition to its being a qualification center for human resources.

The present study was approved by the *Universidade Federal de Goiás* Clinical Hospital Research Ethics Committee (protocol 122/05) and met the requirements of Resolution 196/96, which deals with directives and norms involving research on human beings<sup>(7)</sup>.

This study was performed with nursing technicians who worked in the units selected. These professionals were chosen due to the fact that they were the ones responsible for preparing and administering medications in the institutions selected. For data collection, 38 nursing technicians, who were working in the period when this investigation occurred, were consulted. These professionals were individually informed about the research objectives and inclusion criterion, to have committed a medication error during their professional life, and asked about their willingness to participate. Thus, the sample was comprised of 23 nursing technicians who met the above mentioned criterion and agreed to sign an Informed Consent Form.

Data were collected between March and June 2006, using recorded, semi-structured interviews, performed with previous booking, in a private environment in the workplace of these professionals. To obtain data, an interview guide was designed, comprised of two parts, the first characterizing research subjects and the second seeking to describe errors and attitudes adopted by these nursing professionals, using the following guiding question, "As a nursing professional, think about all the times you prepared and administered medications. Could you report a situation where you committed a medication error and the attitudes you adopted?".

Interviews were fully recorded and transcribed, with their content being submitted to the thematic analysis proposed by Bardin<sup>(8)</sup>, following the stages of pre-analysis, material exploration, data treatment and interpretation.

Data analysis, organized into units of meaning, led to the identification of categories and sub-categories, enabling the understanding of the phenomenon under study, by describing the experiences of these professionals.

Participants' names were omitted and replaced with the letter (I), followed by the interview number to indicate

their speech in the results.

## RESULTS

A total of 23 nursing technicians participated in the present study. Of these, 34.8% were in the 20-to-29-year age group, 34.8% in the 30-to-39-year age group, and 30.4% in the 40-to-49-year age group, with 78.6% of females. The majority of participants in the study reported 5 to 14 years of experience in nursing (57.7%) and all had an employment contract with other institutions.

The reports of professionals evidenced two categories that revealed the types of attitudes adopted in the occurrence of medication error: *Adopting attitudes towards the reporting of errors* and *Adopting attitudes aimed at the patient*. These categories and their sub-categories are shown and described as follows.

### - Adopting attitudes towards the reporting of errors

The analysis of reports revealed that professionals, when committing an error, shared the occurrence with another professional, seeking help to make decisions and reduce feelings of stress and insecurity. This category is divided into four sub-categories, shown as follows:

#### Informing the doctor about an error

Informing a doctor about errors was the most frequent attitude mentioned by participants in the study. This is an adequate action, because doctors are legally responsible for the prescription of medications. Reporting an error to the doctor is a relevant intervention, as it enables this professional, also responsible for the patient, to adopt specific measures to prevent greater harm or to reverse the effects of the error: prescription of other medications, clinical assessment and request for laboratory tests, as reported below:

*"... Then, I thought, 'Now, it's gonna get messy!' So, I went to talk to the doctor, then, he prescribed Dipyron to the patient I'd given this medication to, but who didn't have a prescription for this". (I10)*

*"... I informed the doctor and he asked me to observe the patient...". (I22)*

*"I told my coworker... and we realized that wouldn't be a big problem, so I went to the doctor on call, she asked me to stay calm, looked at the diagnosis and history to see if the patient was sensitive to the medication, then examined this patient..." (I7)*

*"... So, I fetched the medications and showed him that the bottles were identical to Hydrocortisone, but they were Quelicin." (I2)*

*"I talked to the doctor, went to talk directly to the doctor who'd made four Decadron vials. I didn't keep it a secret, I reported*

*what happened, I felt safe...". (I11)*

However, it should be emphasized that reporting the error directly to the doctor occurred especially when the nurse was not on duty. Reports reveal that, when dealing with an error, the nursing technician tends to inform their supervisor primarily, respecting the hierarchy:

*"... It was reported to the doctor, it was clarified, I had no reason to hide it, because these things happen... If I hide it, I'll be keeping better health care from the patient. In fact, I informed the doctor because the supervising nurse wasn't there..." (I12)*

*"...There was no nurse, so I went to call the doctor..." (I15)*

Reports reveal that the nurse's approach, when they are informed about the error, is to inform the doctor responsible for the prescription, because this is the professional who answers for specific procedures to reverse such errors. Thus, each professional is legally responsible for what falls within their competence.

*"... Then, I talked to the nurse. She talked to the doctor. Then, a medication with Dipyron and Hydrocortisone was made and, soon after that, the patient improved..." (I11)*

*"...I informed the nurse and the doctor on duty. They did the emergency PTA [Prothrombin Time Activity] and saw there was nothing abnormal..." (I13)*

*"I made a mistake... and when I went to check, I realized what I'd done wrong... Then, I talked to the nurse and I'll never forget the expression on her face... She left and when she returned, she said she'd already talked to the doctor". (I6)*

#### Informing the nurse about an error

Informing the nurse or nursing supervisor about an error also appears as one of the attitudes adopted by nursing technicians, when seeking guidance and conduct. This attitude is relevant as it shows that these technicians recognize the nurse as a professional with scientific and technical competence to indicate solutions to the problem.

*"...you know, when it happened, I thought about hiding it, then I thought it over, called my boss and talked to my boss and supervisor..." (I3)*

*"I informed the nurse, who kept watching the patient..." (I14)*

*"...I informed the nurse and she asked me to watch the patient and tell her if there were any changes..." (I19)*

*"I informed my supervisor... 'cause, like, anything had to be told to the doctor on duty, so I told the supervisor..." (I9)*

*"I told the supervisor, but I don't know if he recorded it, I didn't write it down in the chart..." (I20)*

It should be emphasized that the nurse must be

psychologically fit to act when committing an error, because emotional control is essential in this situation to enable adequate attitudes and receptiveness to the professional involved. The following report shows, however, that this is not always the reality experienced:

*"... I talked to the nurse, who went crazy and made me feel even crazier, she got lost, then noted this down in a report, and talked to the cardiologist, who asked to look at the patient's AP [arterial pressure]. Then, I wrote this down in the chart..."* (I18)

To overcome the difficulties in admitting to an error, especially due to fear of exposure and punishment, and to inform hierarchical superiors is a difficult decision. The experience of situations, such as the one reported in the previous account, may become a factor that interferes in this decision, contributing to the omission of an error. The following report shows that the first tendency is to "hide" the error due to fear of criticism, revealing the nurse's important role in being receptive to this professional when they are reporting:

*"You know, when this happens, we think of hiding it, because nobody likes to be a victim of criticism, nobody likes to show their imperfections, their flaws."* (I13)

### **Recording the error in the patient's medical records**

Reports of occurrences being noted down in the patient's medical records or charts, despite their being a minority, showed responsibility and commitment to the patient and institution:

*"The error was recorded, it was recorded as an acknowledged error, it was an acknowledged error..."* (I15)

*"The error was noted down in the chart"* (I17)

*"I noted it down and informed the doctor"* (I15)

*"I wrote it down in the chart..."* (I18)

*"...he (nurse) even wrote it down in the black covered book. At that time, there was a black covered book..."* (I23)

### **Not informing about an error**

Even though, in the majority of occurrences, the error was reported verbally to another professional, this study identified five reports that revealed that this type of communication was not performed; in addition, there was nothing noted down in the medical records, nor any notification or reporting of errors:

*"... I came back and confirmed the name, apologized, took the aerosol (Atrovent and Berotec) back and saw that it was wrong..."* (I23)

*"...I just stood there, watching..."* (I1)

*"... I only asked my nursing coworkers to pay more attention, because the pharmacy had been sending wrong medications..."* (I17)

Of all errors, two of them, despite their not having been informed, were discovered by another professional of the unit. In one of these cases, the supervising nurse recorded the error in the nursing occurrence book and verbally warned the technician.

In addition, it was observed that verbally informing the error did not necessarily result in the formal recording of such in the patient's medical records or in reporting instruments, standardized by the institution, as described below:

*"No, nobody wrote anything, they just talked about it."* (I8)

*"No, not in the chart! I talked to the nurse."* (I11)

*"It wasn't noted down, it was only on the level of communication between nurse and doctor".* (I6)

*"I didn't note it down in the chart".* (I20)

### **- Adopting attitudes aimed at the patient**

The second category reveals the attitudes aimed at preventing greater harm to the patient, recommended by the medical team and/or nurse. This category is divided into the following two sub-categories.

#### **Observing the patient**

Reports evidenced that observing the patient, during a pre-determined period, to identify undesirable reactions that could endanger their health, was one of the most frequently mentioned attitudes. By observing patients, professionals seek to identify signs and symptoms of adverse events, motivated by the medication that had been administered incorrectly:

*"...the doctor asked me to observe the patient... If she became too sleepy, I had to call her."* (I15)

*"We watched the patient in the first three hours..."* (I5)

*"The doctor... said that the patient had to be watched, he saw the patient's profile and asked to watch the diuresis..."* (I11)

*"... The nurse... kept watching the patient... her vital signs..."* (I14)

*"... The nurse... asked me to watch the patient and inform her if there were any changes..."* (I19)

#### **Seeking to monitor and reduce the consequences of an error to the patient**

Performing the necessary procedures to control and monitor the patient's health status was also evidenced, such as: administering antagonist drugs, administering the drugs that should have been given, performing tests and performing resuscitation, among other things.

Moreover, reports reveal the severity of consequences of certain errors to the patient, putting their life at risk:

*“...soon after that, the patient had a cardiac arrest... then, they resuscitated him and he came to... then, the doctor said to prepare a medication to reverse the effect of Cedilanide.” (I4)*

*“... He took the baby out quickly... the anesthesiologist intubated her and put me there, sitting next to her, while she wasn't awake.” (I16)*

*“The doctor asked for another glucose test... said to replace the glucose, asked for a gasometric test... we replaced the glucose and potassium... And he told us to do a glycemic curve...”*

In addition to serious consequences to patients, medication errors bring the need for extra procedures, with resulting financial expenses for institutions and increase in the number of working hours for nursing and other professionals.

Results also showed that none of the reports revealed the professionals' concern to speak with the patient or family members about what had happened.

## DISCUSSION

When dealing with the occurrence of an error, the adequate attitude of a professional is key to prevent its complications. Results showed that the attitude of informing others about an error predominated among the professionals interviewed. Such attitude is considered correct and ethical and reveals their responsibility and sense of duty. These professionals chose the risk of punishment and negative exposure due to their failures, on behalf of the patient's life safety. This result is relevant, considering the fact that the current culture of safety, present in health organizations, foresees attitudes based on punishment. A recent study<sup>(9)</sup> corroborates this statement, revealing that 66% of the professionals interviewed affirmed that punishment was the attitude assumed by the nurse, when dealing with a medication error.

The results also showed professionals' awareness and responsibility when dealing with the severity of the problem, presupposing an ethical conduct, which should always guide the nursing work<sup>(10)</sup>.

The present study revealed that the attitude most frequently mentioned by professionals was verbally informing a doctor about the error, in occasions when the nurse was not on duty, as also identified in a study performed in hospitals of the city of São Paulo<sup>(11)</sup>. In another study<sup>(12)</sup>, informing the doctor about medication errors was considered a priority attitude among nurses.

Furthermore, it was observed that, when the nurse was present, she/he was the professional whom the nursing technician sought. In view of this situation, it becomes evident that nurses need to be technically and scientifically prepared to supervise the administration of medications. Thus, they should act in a way that minimizes problems caused by an error, preventing complications

for the patient, the professional involved and the institution.

Informing the doctor or nurse about an error, in addition to fulfilling one's duty, could mean the search for help and relief from feelings of fear. When a professional informs someone about the occurrence of an error, they can feel at peace and supported<sup>(13)</sup>.

Reports of participants in this study also evidenced situations where errors were not noted down in medical records. Such aspect reveals a complex situation, once these documents are essential to obtain information about the health care provided, being considered a legal document in the case of lawsuits. Nursing must value its responsibility for keeping notes in medical records, considering these to be indispensable for efficient communication among health team members about the treatment and incidents involving the patient. Notes in nursing are sources of information used by the institution for administrative purposes. All that is recorded has value as a document and may reflect the quality of health care provided<sup>(14)</sup>.

In addition, it was observed that formal notification of errors was not mentioned in the reports. Professionals who commit medication errors experience feelings of panic, hopelessness, fear, guilt and shame, among other things<sup>(13)</sup>, and fear punitive actions. Fear of punishment could be one of the reasons for underreporting.

The present study showed that the majority of administrative actions resulting from the occurrence of an error were focused on the professional, rather than the development of strategies that aimed to take advantage of this error and turn it into a source of learning for the system. Guidance sessions, verbal warnings, suspension/dismissal and reports corresponded to 80.3% of the measures mentioned<sup>(15)</sup>. According to approximately 70% of nursing professionals, certain medication errors are not reported because the team member fears the reaction against the nurses responsible or coworkers<sup>(16)</sup>.

This fact can also be associated with the inexistence of procedures, protocols, notification instruments and standardized reports in the institution. It is well known that hospital institutions in Brazil are reluctant to admit the existence of medication errors. As a result, strategies to avoid these errors are neither defined nor implemented, enabling their recurrence<sup>(17)</sup>.

In the present study, five reports revealed cases of errors where no recording, notification or reports were performed. In view of this situation, the nursing professionals' responsibility to keep complete and reliable written records of all their actions should be emphasized, as established by the *Código de Ética do Profissional de Enfermagem* (Nursing Professionals' Ethical Code), in articles 41 and 42<sup>(18)</sup>. In addition, it is important to recall the ethical principles that must be followed by

nursing professionals, such as philanthropy, truthfulness, justice, competence and trust, which strengthen the efforts for a safe practice and respect for the patients' rights.

As regards the second category identified, the complexity of attitudes aimed at the patient reflects the severity of this problem. Such attitudes show that, in addition to patients' problems, there has been an increase in nursing staff workload, due to the intensification of monitoring and adoption of interventions to stabilize the patient's clinical picture<sup>(19)</sup>.

The fact that there were no reports pointing to errors being revealed to the patient and/or their family members may be understood as a result of fear and the lack of culture to do this. A study performed with nurses showed that they do not see themselves to be involved with the clinical debate on whether to inform patients about an error or not, although they feel comfortable to speak with these patients about errors, such as delays or lack of medications, which do not lead to serious harm<sup>(20)</sup>.

## CONCLUSIONS

The results evidenced that the ethical values of nursing

professionals involved with this study surpassed their fear of punishment, which resulted in their informing others about the error and harm reduction.

When dealing with situations where a medication error is identified, it could be noticed that nursing technicians were usually unprepared and unaware of the attitudes that should have been adopted. The need for health organizations to follow a culture of honesty towards medication errors should be emphasized, directing their attitudes when dealing with others and helping them to make decisions.

The existence of protocols and forms for notification, reporting and monitoring of errors can also enable the development of preventive measures and the increase in patient safety. Moreover, professional qualification and continuing education programs are recommended, considering the constant need for training and knowledge upgrade.

Nursing, as the legal responsible for administering medications, should be engaged in the search for a culture of safety, especially when it comes to the medication system, promoting quality health care for patients and reducing the suffering of all those involved.

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