Patient security: importance of patient identification for the prevention of adverse events

Segurança do paciente: importância da identificação do paciente na prevenção de eventos adversos

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RESUMO

Objetivos: descrever a identificação dos pacientes e sua importância na prevenção de eventos adversos. Metodologia: estudo analítico e de corte transversal. Participaram 187 pacientes e 40 profissionais. Os dados foram coletados por meio de entrevistas. A variável finalidade e importância da identificação correta foi dicotomizada, aplicado regressão de Poisson bivariada, os valores p < 0,20, potenciais fatores de confusão e mediadores foram incluídos na regressão de Poisson. Resultados: entre os pacientes que atribuem importância na identificação, foi independentemente associado ter escolaridade superior há 12 anos, (Razão de Prevalência Ajustada: 1,69; IC 95%: 1,29-2,21; p < 0,001), possuir alguma identificação visível (Razão de Prevalência: 1,31; IC 95%: 1,04-1,64; p = 0,017) e acreditar que possuía condições de colaborar para evitar eventos adversos (Razão de Prevalência: 1,57; IC 95%: 1,20-2,05; p < 0,001). Conclusão: os resultados revelam riscos e vulnerabilidades quanto à forma de identificação dos pacientes no serviço e requerem ações de educação continuada no manejo deste cenário.

Palavras-chave: Assistência à Saúde; Assistência ao Paciente; Segurança do Paciente; Profissionais de Enfermagem; Efeitos Adversos de Longa Duração.

ABSTRACT

Objectives: to describe the identification of patients and their importance in the prevention of adverse events. Methodology: cross-sectional and analytical study. 187 patients and 40 professionals participated. Data were collected through interviews. The variable purpose and importance of correct identification was dichotomized, applied bivariate Poisson regression, p values <0.20, potential confounders and mediators were included in the Poisson regression. Results: among the patients who attribute importance to the identification, it was independently associated with higher education for 12 years, (Adjusted Prevalence Ratio: 1.69, 95% CI: 1.29-2.21, p <0.001), had some visible identification (Prevalence Ratio: 1.31, 95% CI 1.04-1.64, p = 0.017), and believed that it had conditions to collaborate to avoid adverse events (Prevalence Ratio: 1.57, 95% CI: 1, 20-2.05, p <0.001). Conclusion: the results reveal risks and vulnerabilities regarding the way patients are identified in the service and require continuous education actions in the management of this scenario.

Keywords: Delivery of Health Care; Patient Care; Patient Safety; Nurse Practitioners; Long Term Adverse Effects.

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INTRODUCTION

The topic of patient safety has gained prominence in scientific discussions on health in recent decades. This is an issue of extreme relevance, given the innumerable issues inherent in the caring process. It is well known that even though care brings benefits to patients, professionals are liable to make mistakes, and these errors can cause several harmful consequences for patients [1].

Data from the Brazilian literature indicate that 8% of hospitalizations cause some type of preventable adverse event and approximately 3% to 10% of these errors can be fatal [2].

Some time ago, these errors were seen as inevitable consequences of the care provided by modern medicine health professionals, or as an undesirable product of poor care providers [3]. This view is being abolished, and the mistakes seen in a new perspective, where they can be avoided and be subject to education and intervention programs [4].

In particular, in nursing, errors related to medication administration, failure to communicate with staff and correct patient identification have been the most commonly reported (5,6).

Taking as an example the errors related to patient identification, focus of this study, such errors can occur from admission until the moment of hospital discharge. Incorrect identification may result in medication errors, unnecessary examinations or procedures and, in some cases, it can lead to death [4,7].

In this way, the objective was to question, how are patients being identified in a reference hospital? Do nursing professionals identify patients when performing health care procedures?

METHOD

This is a cross-sectional study conducted in the emergency department at a reference hospital in the Southwest of Goiás.

The sample calculation was applied in 362 patients who are hospitalized in the emergency department, attending 95% confidence and 5% error, totaling 187 participants hospitalized in the emergency department in random order and 40 nursing professionals, attended from January to December of the year of 2015. The sample of professionals was composed of all the professionals of the nursing team who accepted to participate. All participants signed the Informed Consent Term (TCLE).

The data collection was performed in 2015 through a semi-structured interview. A guide for patients was used and another guide for professionals was used. Both elaborated on the basis of Administrative Order GM / MS n° 2095/13 of September 24 (8), which approves the protocol of identification of the patient. The patient-oriented instrument consisted of 18 questions and that of professionals with 26 questions about patient identification. The instruments were refined by three experts in the research theme, being evaluated their clarity, objective and comprehensiveness.

The database was divided into two, one related to patients and one related to professionals. Data analysis was conducted in the STATA program, version 12.0. Verification of the normality of the quantitative variables was performed using the Anderson-Darling test. Next, a descriptive analysis of the variables related to patients and professionals was conducted. The quantitative variable age was presented as average and standard deviation (SD) and qualitative variables as absolute and relative frequency.

The main outcome investigated for patients was the attributable importance in correctly identifying patients, originating from the question "Do you know the purpose and importance of their correct identification?", Dichotomized in no and yes. Initially, bivariate Poisson regression analysis was conducted. Variables with p value <0.20 in the bivariate analysis and potential confounders and mediators (age, sex, schooling and marital status) were included in a robust variance Poisson regression model. Results of the multivariable analysis were presented as Adjusted Prevalence Ratio (RPaj) and 95% confidence interval (95% CI).

Finally, comparisons of the responses on patient description and identification were performed between the investigated professionals and patients. Pearson's chi-square or Fisher's exact tests were used to verify the differences between proportions. In all analyzes, p <0.05 values were considered statistically significant.

This research was approved by the Research Ethics Committee of the Federal University of Goiás CEP / UFG, under Opinion no. 1,538,390. The execution of the research obeyed the ethical questions, as established in resolution 466/2012.

RESULTS

The results describe the identification of patients in the emergency of a reference hospital in southwestern Goiás and the importance reported by professionals and patients about the correct identification in the prevention of adverse events. Table 1 presents the descriptive analysis of all the variables referring to the patients (n = 187).

Categorical variables were presented in absolute and relative frequencies and age as mean and standard deviation. Male prevalence (65.2%) and schooling up to 11 years (43.3%) were observed. Of the total number of patients, (77%) reported no visible identification, when available, it was observed that most answered only the

first name (19.3%). For professionals (64.2%), they identified the patients before the procedures and 39.6% assigned importance to the identification correctly.

Table 2 presents the bivariate analysis of the potential factors associated with the attribution of importance of correctly identifying patients. For this end, simple Poisson regression was performed among the potential variables associated with the attribution of importance by the patients. The variables that entered this analysis were those associated with the outcome, where a higher prevalence of patients with schooling over 12 years (92.0%) was found to be of importance than when compared to individuals with education of less than or equal to 8 years (48.1%) (Prevalence Ratio: 1.91, 95% CI: 1.48-2.46, p <0.001). Also, a higher prevalence of individuals who attributed importance to those who had some visible identification (PR: 1.26, 95% CI: 1.00-1.60, p = 0.049) and who believed they were able to collaborate to avoid adverse events (RP: 1.71, 95% CI: 1.31-2.31, p <0.001).

Table 3 presents the Poisson regression analysis adjusted for the factors associated with the attribution of importance of correctly identifying patients. In this analysis, attribution of the importance of correct identification was statistically associated to higher education for 12 years (Adjusted Prevalence Ratio [RP]: 1.69, 95% CI: 1.29-2.21, p <0.001), (RP: 1.31, 95% CI: 1.04-1.64, p = 0.017), and

TABLE 1 – Distribution of variables related to patients, Jataí, GO, Brazil, 2015 (n = 187).

Variables	N[a]	%
Age (years old)[b]	41,51 ± 14,99	
Sex		
Male	122	65,2
Female	65	34,8
Schooling (years)		
≤ 8	81	43,3
9-11	81	43,3
≥ 12	25	13,4
Marital status		
Married	109	58,3
Single	57	30,5
Separated, divorced, widowed	21	11,2
There is a form of visible identification		
No	144	77,0
Yes	43	23,0
Available tags[c]		
Full name	7	3,7
First name	36	19,3
Mother's name	-	-
Address	-	-
Birth date	-	-
Age	1	0,5
Bed and room number	13	7,0
Number of medical record	-	-
Allergies	-	-
Precaution	1	0,5
Professionals confirm identification before procedures		
Never	18	9,6
Sometimes	49	26,2
Always	120	64,2
Professionals check identification when the patient is transferred to another ward or health service [d]		
No	5	11,9
Yes	37	88,1
Professionals check identification when the patient is transferred to do examination[e]		
No	9	8,3
Yes	100	91,7
At admission, professionals check their information in their identification		
Only the first time	52	27,8
Throughout the procedure	78	41,7
Some check every time, others only the first time	15	8,0
There is no check pattern	42	22,5
Assigns importance in identifying correctly		
No	74	39,6
Yes	113	60,4

[a.] N = 187; [b.] Mean and standard deviation; [c.] Multiple Response Variable; [d.] Excluded patients who were never transferred to another ward or health facility; [e.] Excluded patients who were never transferred to undergo exams.

TABLE 2 – Bivariate analysis of the potential factors associated with the attribution of importance of the correct identification by the patients. Jataí, GO, Brazil, 2015 (n = 187).

Variables	Assigns importance in identification		RP[a] (IC 95%)	p
	No (%)	Yes (%)		
Age (years old)	43,13 ± 16,36	40,41 ± 14,00	0,99(0,98-1,00)	0,237
Sex				
Male	45 (36,9)	77 (63,1)	1,00	
Female	29 (44,6)	36 (55,4)	0,87 (0,67-1,13)	0,320
Schooling (years)				
≤ 8	42 (51,9)	39 (48,1)	1,00	
9-11	30 (37,0)	51 (63,0)	1,30 (0,98-1,73)	0,062
> 12	2 (8,0)	23 (92,0)	1,91 (1,48-2,46)	**< 0,001**
Marital status				
Separated, divorced, widowed	11 (52,4)	10 (47,6)	1,00	
Single	41 (37,6)	68 (62,4)	1.28 (0,78-2,11)	0,314
Married	22 (38,6)	35 (61,4)	1,31 (0,81-2,10)	0,263
There is a form of visible identification				
No	62 (43,1)	82 (56,9)	1,00	
Yes	12 (27,9)	31 (72,1)	1,26 (1,00-1,60)	**0,049**
Available tags				
Full name				
No	72 (40,0)	108 (60,0)	1,00	
Yes	2 (28,6)	5 (71,4)	1,25 (0,98-1,60)	0,071
First name				
No	64 (42,4)	87 (57,6)	1,00	
Yes	10 (27,8)	26 (72,2)	1,19 (0,73-1,93)	0,481
Bed and room number				
No	70 (40,2)	104 (59,8)	1,00	
Yes	4 (30,8)	9 (69,2)	1,15 (0,78-1,69)	0,453
Professionals confirm their identification before procedures				
Never	9 (50,0)	9 (50,0)	1,00	
Sometimes	23 (46,9)	26 (53,1)	1,06 (0,62-1,80)	0,827
Always	42 (35,0)	78 (65,0)	1,30 (0,80-2,10)	0,286
Believes that it can collaborate to avoid errors that occur in hospitals				
No	49 (56,3)	38 (43,7)	1,00	
Yes	25 (25,0)	75 (75,0)	1,71 (1,31-2,23)	**< 0,001**

a. Prevalence Ratio.

TABLE 3 – Multiple regression analysis of factors associated factors attributed to the importance of correct identification by patients. Jataí, GO, Brazil, 2015 (n = 187).

Variables	RPaj[a,b] (IC 95%)[c]	p
Schooling > 12 years	1,69 (1,29-2,21)	**< 0,001**
There is a form of visible identification	1,31 (1,04-1,64)	**0,017**
Believes that it can collaborate to avoid errors that occur in hospitals	1,57 (1,20-2,05)	**< 0,001**

a. The. Ratio of Adjusted Prevalence; b. Model adjusted for age, schooling, marital status, there is a form of visible identification, name as an identifier available and believes that it has conditions to collaborate to avoid errors that occur in hospitals; c. Confidence Interval of 95%.

believed that it had conditions to collaborate to avoid adverse events (RP: 1.57, 95% CI: 1 , 20-2.05, p <0.001).

Table 4 summarizes the descriptive analysis of variables related to health professionals (n = 40). It is observed a prevalence of professionals with high school education (72.5%) and belonging to the professional technical nursing category (75%). Working time was greater than or equal to 10 years (80%). Regarding identification issues, (87,55) reported that there was a visible form of identification of the patients, which was in the bed (97.2%). Also, almost all the respondents (97,55) report checking the identification before the procedures that will be performed.

Table 5 presents the comparison by chi-square or Fisher's exact tests of the common responses of patients and professionals. Values of p <0.05 indicate where there is a difference in the proportion of patients 'and professionals' responses, such as the presence of visible identification, identification site, confirmation of identification before procedures and description of the available identifiers relative to the mother's name, bed, room, chart and precaution

DISCUSSION

Regarding the group of patients, the importance attributed by them in the process of identification of

TABLE 4 – Distribution of variables related to health professionals. Jataí, GO, Brazil, 2015 (n = 187).

Variables	N[a]	%
Age (years old)[b]	40,38 ± 10,48	
Sex		
Male	7	17,5
Female	33	835
Schooling		
High school	19	72,5
Higher education	5	12,5
Postgraduate lato sensu	6	15,0
Professional Category		
Nurse	10	25,0
Nursing technician or assistant	30	75,0
Training time (years)		
≤ 10	23	57,5
> 10	17	42,5
Working time (years)		
≤ 10	32	80,0
> 10	8	20,0
There is a form of visible identification		
No	5	12,5
Yes	35	87,5
Location of identification (N = 35)[c]		
Bracelet	1	2,8
Bed	34	97,2
Others	2	5,7
Visible identification (N = 35)		
One	14	40,0
Two	10	28,6
Three or more	11	31,4
Available tags[c]		
Full name	31	77,5
First name	3	7,5
Mother's name	6	15,0
Address	4	10,0
Birth date	8	20,0
Age	6	15,0
Bed and room number	26	65,0
Medical record number	6	15,0
Document	3	7,5
Allergies	3	25.0
Precaution	11	27,5
Confirm identification before procedures		
Never	1	2,5
Sometimes	-	-
Always	39	97,5
Check identification when transferred to another ward or health facility		
No	6	15,0
Yes	34	85,0
Is aware of the number of adverse events resulting from incorrect identification		
Yes	11	27,5
No	29	72,5
Correct identification is important to prevent errors		
No	-	-
Yes	40	100,0

a. N = 187; b. Mean and standard deviation; c. Multiple Response Variable.

TABLE 5 – Comparison of responses on patient identification attributed by nursing professionals and patients. Jataí, GO, Brazil, 2015 (n = 187).

Variables	Professionals		Patients		*p*[a]
	N = 40	%	N = 187	%	
There is a form of visible identification					
No	5	12,5	144	77,0	**< 0,001**
Yes	35	87,5	43	23,0	
Location of identification					
Bracelet	1	2,8	2	2,3	**< 0,001**
Bed	34	97,2	1	4,7	
Others	2	5,7	40	93,0	
Visible identifiers					
One	14	40,0	19	67,4	**< 0,001**
Two	10	28,6	1	2,3	
Three or more	11	31,4	13	30,2	
Available tags					
Full name	31	77,5	-	-	**< 0,001**
First name	3	7,5	7	3,7	0,104
Mother's name	6	15,0	36	19,3	**< 0,001**
Address	4	10,0	-	-	**< 0,001**
Birth date	8	20,0	-	-	**< 0,001**
Age	6	15,0	-	-	**< 0,001**
Bed and room number	26	65,0	1	0,5	**< 0,001**
Medical record number	6	15,0	13	7,0	**< 0,001**
Document	3	7,5	-	-	**< 0,001**
Allergies	3	25.0	-	-	**< 0,001**
Precaution	11	27,5	1	0,5	**< 0,001**
Confirms identification before procedures					
Never	1	2,5	18	9,6	**< 0,001**
Sometimes	-	-	49	26,2	
Always	39	97,5	120	64,2	
Check identification when transferred to another ward or health facility					
No	6	15,0	5	11,9	0,753
Yes	34	85,0	37	88,1	
Check identification when transferred to run exams					
No	-	-	9	8,3	0,113
Yes	40	100,0	100	91,7	
At admission, professionals check their information in identification					
Only the first time	-	-	52	27,8	**< 0,001**
Throughout the procedure	37	92,5	78	41,7	
Some check every time, others only the first time	3	7,5	15	8,0	
There is no check pattern	-	-	42	22,5	

a. Pearson's chi-square test or Fisher's exact test.

correct form is noted, being that this one is more prevalent for those that had greater schooling. The process of identifying a person runs through their life cycle and is present daily in various acts and times, whether in personal documents or others. However, when the person is hospitalized in a health institution, sometimes they may lose their unique characteristic, their identity, which is due to the fact that health professionals sometimes refer to patients by the number of their bed or by their pathology [9].

Most of the studied patients reported that the professionals identify them before performing procedures, transfers or collection of exams. However, a significant portion reported that this is not a standard, a cause for concern and that should be the subject of profound changes in the organization of the institution.

Also, the most common form of identification used in the institution is the first name, which is a fragile factor, since patients can have identical names and are located in the same hospital sector, which facilitates the occurrence of mistakes [8].

Patients are expected to be adequately distinguished. In this way, they must receive when they are admitted to a hospital: correct identification, as stated in the protocol

of the Ministry of Health, and a bracelet with their data, which must remain on until they are discharged from hospital [8].

The bracelet, although not used in the study institution, has been shown to be safer and prevents injuries due to incorrect identification [10-12]. According to a survey conducted in five hospitals in Rio de Janeiro in 2013, 79% of the interviewed risk managers reported using the bracelet to identify patients as a mechanism to reduce adverse events related to patient identification [13]. The use of the electronic bracelet is an alternative to increase the prevalence or adhesion of its use in different services [11,12,14].

As for the characteristics of the studied professionals, there were many individuals with more than ten years of work, which leads us to think of an experienced professional staff. When questioned about the confirmation of the patients' identification before the procedures, there was a divergence between the answers given by the professionals and those given by the patients. A study carried out in a hospital in the interior of São Paulo in 2012 pointed out that this lack of confirmation of identification is one of the main causes of medication administration errors [15].

This same study sought to understand the root cause of the errors committed in the referred hospital, and when analyzing the errors of medication that had potential to cause harm to the patients, found that about 20% of these are due to the professionals' negligence in checking the information in the identification [15].

An important study has shown that work overload, routine stress, job dissatisfaction and lack of motivation are factors that interfere in the quality of work of health professionals, jeopardizing the safety of the care process. patients [16].

Another factor that contributes to the non-checking of the patients' information is the problems arising from the institution's structure, which are failures in health areas, such as a shortage of financial resources, poor distribution of funds by managers, making it impossible to carry out the recommended safety requirements and the installation of proper identification, for example, the electronic bracelet [14, 16].

Another divergent factor concerns the moments of identification checks, where the answers of the professionals and patients are different. For them, the check often remains only at the first contact. It is recommended that during the period in which the patients remain hospitalized or under observation at the institution, their credentials are confirmed before any procedure performed by the nursing professionals [8].

Patient data should be checked prior to all procedures and care, not only at the first contact, in order to avoid adverse events related to the confirmation of the identification, but for this end, the patients must first be properly identified [8, 15,17].

Regarding the notification and investigation of adverse events that occur related to identification in the workplace, professionals affirm that they are performed, however, they are unaware of the number of events resulting from the incorrect identification. It is of utmost importance to report all the errors that happen, regardless of whether they are insignificant and that did not cause harm to patients. It is the ethical duty of the professional to report the mistakes, as he will be acting with prudence and responsibility towards the human being in their care [4].

In addition to being ethical in reporting all errors, practitioners will be contributing to the investigation and determination of the source of adverse events. With the defined origin, it is possible to develop safety procedures for patients in order to recognize and avoid errors, which improves the quality of care provided [6,17,18].

Authors Paese and Dal-Sasso (2013), report that it is difficult for professionals to recognize their mistakes. This requires a paradigm shift and a strong organizational culture, oriented to make them feel safe in an environment capable of making them reflect on the errors, seeing that they bring consequences to the patients and can generate feelings of fear, guilt, anger and embarrassment in the professionals [19].

Since nurses are part of the multiprofessional team, they're close to the patients and hold the leadership position of this group, also has the competence to act in reducing the risks to which the hospitalized patients are exposed, for this, they must know the errors that occur in their sector, to participate in the analysis of events and the elaboration of resolution measures. It is also important that they know the proportion of unidentified patients correctly to request the adequacy of the safety measures [5,17].

It is important to mention that many patients did not know how to answer some questions regarding the identification process, which made the data analysis process difficult.

CONCLUSION

The study showed that the form of identification of the patients in the researched institution is not standardized. This was verified by comparing the information provided by the professionals and the patients, which showed a statistically significant difference. The information collected from the survey shows that the most commonly used form of identification is not the bracelet, which is contrary to the Patient Identification Protocol, which shows that the hospital has not yet adapted.

About the way to identify the patients, it is concluded

that there is no unanimity, because according to the majority of patients, identification is arranged on the medication they are receiving, and according to most professionals, it is arranged in the patients' bed.

Regarding the importance of patient identification, 100% of nursing professionals attributed importance to identification in the prevention of adverse events, but among the patients, only 60% attributed their safety to the correct identification. This demonstrates patients' misinformation about safety measures that benefit them, as well as suggesting that the nursing staff is not adequately counseling patients about their safety while remaining in a hospital.

Although there is a normalization for the identification of patients and a deadline, there are still hospitals that have not been able to implement all the recommendations of the protocol, which shows the urgent need to establish planning for its implementation.

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