

Health professionals' perception of the limitations to the notification of the error/adverse event

Perceção dos profissionais de saúde das limitações à notificação do erro/evento adverso

Percepción de los profesionales de la salud sobre las limitaciones a la notificación del error/evento adverso

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Abstract

Background: Health organizations have a growing concern in patient safety and in the occurrence of errors/adverse events, which means a greater investment in innovative solutions that allow the continuous improvement of the clinical practice.

Objective: To identify limitations encountered by health professionals to the notification of errors/adverse events.

Methodology: Descriptive, exploratory study of quantitative approach. The data collection was performed from February to March 2017, using an electronic questionnaire. Two hundred twenty five health professionals professionally active in Portugal participated in the study.

Results: The greatest limitations encountered by participants in the study are of organizational nature (lack of reporting culture; insufficient knowledge about the notification system; work overload, pressure at work, and absence of feedback in the resolution of the reasons which led to the occurrence of the error/adverse event).

Conclusion: Given the nature of the limitations encountered by the participants, it is crucial that organizations promote a greater involvement of health professionals in risk management policies.

Keywords: health personnel; medical errors; near miss; notification

Resumo

Enquadramento: As organizações de saúde têm uma preocupação crescente na segurança do doente e na ocorrência de erros/eventos adversos, que se repercute num maior investimento em soluções inovadoras que permitam a melhoria contínua da prática clínica.

Objetivo: Identificar limitações sentidas pelos profissionais de saúde à notificação do erro/evento adverso.

Metodologia: Estudo exploratório, descritivo de abordagem quantitativa. A recolha de dados foi efetuada no período de fevereiro a março de 2017 com recurso a um questionário eletrónico. Participaram no estudo 225 profissionais de saúde a exercer funções em Portugal.

Resultados: As maiores limitações sentidas pelos participantes no estudo são de carácter organizacional (a falta de cultura de reporte; o conhecimento insuficiente sobre o sistema de notificação; a sobrecarga no trabalho, a pressão no trabalho e a ausência de *feedback* na resolução dos motivos que levaram à ocorrência do erro/evento adverso).

Conclusão: Dada a natureza das limitações percebidas importa que as organizações promovam um maior envolvimento dos profissionais de saúde nas políticas de gestão do risco.

Palavras-chave: pessoal de saúde; erros médicos; *near miss*; notificação

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Resumen

Marco contextual: Las organizaciones de salud tienen una preocupación creciente en la seguridad del paciente y en la ocurrencia de error/eventos adversos, que repercute en una mayor inversión en soluciones innovadoras que permitan la mejora continua de la práctica clínica.

Objetivo: Identificar las limitaciones sentidas por los profesionales de salud a la notificación del error/evento adverso.

Metodología: Estudio exploratorio, descriptivo de abordaje cuantitativo. La recogida de datos fue efectuada en el período de febrero a marzo de 2017 con recurso a un cuestionario electrónico. Participaron en los profesionales de la salud estudio 225 para realizar tareas en Portugal.

Resultados: Las mayores limitaciones sentidas por los participantes en el estudio son de carácter organizacional (la falta de cultura de reporte; el conocimiento insuficiente sobre el sistema de notificación; la sobrecarga en el trabajo, la presión en el trabajo y la ausencia de retroalimentación en la resolución de los motivos que llevaron a la ocurrencia del error/evento adverso).

Conclusión: Dada la naturaleza de las limitaciones percibidas, es importante que las organizaciones promuevan una mayor participación de los profesionales de la salud en las políticas de gestión del riesgo.

Palabras clave: personal de salud; errores médicos; *near miss* salud; notificación

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Introduction

The inadequate patient safety is currently considered a major public health problem and is recognized as a major burden on health resources (Conselho da União Europeia, 2009). The technical report entitled *Improving Patient Safety in the EU*, prepared for the European Commission by the RAND Corporation in 2008, has estimated that between 8% and 12% of hospitalized patients are affected by adverse events when they receive health care (Conselho da União Europeia, 2009). As there is a recognized need for awareness of health professionals about the notification of the error/adverse event, which aims at establishing a learning culture that implements actions to improve the quality of care resulting in an increased safety for the patient, a study was carried out to identify limitations encountered by health professionals regarding the notification of the error/adverse event.

Background

The concern about the quality of health care is present in the whole history of medicine since the safety of the patient is directly associated with the concept of health quality (McGeary, 1990). The health quality does not exist if patient safety is not guaranteed and if it does not establish itself as a pivotal concern during the provision of health care. The safety of the patient is considered a key component of care quality (Sousa, Uva, & Serranheira, 2010).

In 2004, the World Health Organization created the *World Alliance for Patient Safety* as it recognized the need to make patient safety a fundamental principle in all health systems (Machado, 2013). It is evident that health organizations are increasingly concerned about the patient's safety and the occurrence of adverse events and show the intention of developing, implementing, and evaluating innovative solutions, with the purpose of obtaining knowledge that enables risk reduction and its resulting security potentialization (Sousa et al., 2010).

The National Plan for Patient Safety 2015-2020 presents itself as a support tool for managers and clinicians in the application of good security practices, whose strategic objectives are: to increase the safety culture of the internal environment;

to increase the security of communication; to increase the surgical safety; to increase security in the use of the medication; to ensure the unambiguous identification of patients; to prevent the occurrence of falls; to prevent the occurrence of pressure ulcers; to ensure the systematic practice of notification, analysis, and prevention of incidents and to prevent and control infections and antimicrobial resistance (Despacho nº 1400-A/2015 de 10 de fevereiro, p. 3882-3).

It is imperative that the errors/adverse events are identified, analyzed, evaluated, and controlled by means of corrective measures based on a risk management policy. An effective and consistent risk management policy promotes the safety and quality of care, as well as a greater efficiency in the use of resources, thus becoming an excellent opportunity to learn from mistakes (Oliveira, 2007).

Risk management, associated with the improvement of care quality and patient safety, should be one of the main goals of all professional groups of health organizations (Machado, 2013). The National Health Plan for 2012-2016 adds that "the access to quality health care, during all the time and at all levels of provision, is a fundamental right of the citizen, who clearly possesses the legitimacy to demand quality in health care provided to them, given that security is essential for the confidence of the citizen in the national health system in particular" (Despacho nº 1400-A/2015 de 10 de fevereiro, p. 3882-2).

In order to know the error/adverse event, its origin should be identified and understood, monitoring what went wrong, how it happened and what are the factors that triggered it (Lima, 2011).

Thus, raising awareness of and instigating the notification of the error/adverse event becomes a priority, in order to optimize the learning through the identification and analysis of the error, thus promoting the continuous improvement of care (Fernandes & Queirós, 2011).

The position of the National Directorate of Health regarding the conceptual structure of the International Classification for Patient Safety classifies error as

the failure in the execution of an action planned in accordance with the desired or the incorrect development of a plan. Errors may manifest themselves as the practice of wrong action (committee) or inability to practice the right action (omission),

either in the planning phase or the implementation phase. (Direção-Geral da Saúde, 2011, p. 15)

An adverse event is classified as “an incident which results in harm to the patient” (Direção-Geral da Saúde, 2011, p.15).

It is known that the occurrence of errors/adverse events during the provision of health care is related to the level of safety culture of institutions and their organization, “being evident that the occurrence risk increases tenfold in the institutions that forget to invest in good security practices of health care” (Despacho nº 1400-A/2015 de 10 de fevereiro, p. 3882-2).

The existent literature reveals that even with notification of adverse events there is often underreporting of these (Siqueira, Silva, Teles, & Feldman, 2015). The notification consists in a “voluntary activity of the professional and/or citizen aimed at developing a causal analysis and taking systemic corrective measures to avoid that situations which generate actual or potential damage happen again” (Direção-Geral da Saúde, 2012, p. 53).

The notification of security incidents enables the sharing of error-based learning and is regarded as one of the tools to identify the risks, dangers, and vulnerabilities of an organization (Despacho nº 1400-A/2015 of 10 February).

However, there are health professionals who face errors in their contexts and choose not to report them (Soydemir, Intepeler, & Mert, 2016). Therefore, these authors report that the barriers to the notification of the error/adverse event are factors such as fear, the attitude of administrative bodies, barriers related to the reporting system, and the perceptions of error by health professionals.

Regardless of whether they bring or not injury to the patient, professional errors depict the vulnerability of the system, thus it is important to identify the limitations of the notification of the error/adverse event in our country, considering the topicality and relevance of the theme within the scope of the culture of safety and quality in health.

Research Question

What are the limitations perceived by health professionals for the notification of the error/adverse event?

Methodology

This is a descriptive, exploratory study of quantitative approach. The collection of data was based on a self-administered questionnaire. The questionnaire was constructed based on the best available evidence and is composed of 22 items that are distributed in two groups (group 1 with 10 items – types of errors/adverse events reported; another group with 12 items – limitations to the notification). The group of items included in the types of errors/adverse events reported is operationalized from 0 to 3 (0 – *not occurred*; 1 – *occurred and not notified*; 2 – *occurred and notified*). The group of items included in the limitations to the notification is operationalized from 1 to 3 (1 – *do not agree nor disagree*; 2 – *disagree*; 3 – *agree*). The questionnaire was subjected to a pre-test with 17 field experts, in order to assess the degree of understanding, concordance, relevance, and pertinence of the questions. The pre-test did not result in changes to the questionnaire.

The questionnaire was sent electronically to all health professionals of the e-mail addresses of the School of Health North of the Portuguese Red Cross. The data collection was carried out between February and March 2017 and the collected data were included in the study to send the e-mail: being a health care professional, working in Portugal and having virtual access to the questionnaire. The study sample is non-probabilistic and the participants in the study included 225 health professionals who meet the established inclusion criteria.

For the data analysis, the method of descriptive, correlational, and inferential statistics were employed, which is appropriate to the nature of the data, using the IBM SPSS Statistics, version 22.0.

Anonymity was guaranteed and no personal identifier of the participants was used in the questionnaire. The data were aggregated automatically on an Excel database that did not establish any relationship between the participant and the e-mail address from where the answers came, so the participants were coded with a number by order of filling it in. Participation in the study was voluntary and all participants were given the opportunity to withdraw from the study without any prejudice, if they so desired, which was not the case. The

study was approved (opinion no. 11) by the Administration Board and Ethics Committee of the Health School North of the Portuguese Red Cross.

Results

The study participants are mostly female (77.8%). As regards age, the majority of participants are 31-40 years (53.8%), followed by the age range of 22-30 years with 21.1%. As for the distribution by occupational group, the majority are nurses (84.1%; 191), being the remainder sample very diverse, including, in particular, doctors (5.3%), laboratory technicians (3.5%), and the remaining 7.1% of participants are distributed by professional fields such as a nutritionists, physical therapists, pharmacists, cardiorespiratory diseases and imaging technicians, with percentages below 1%.

In relation to the time of professional practice,

participants are distributed between 13-20 years (32.4%), followed by 8-12 years (29.3%), 3-7 years (19.1%), more than 21 years of experience (14.7%), 1-2 years (2.2%), 6-11 months (1.3%), and less than 6 months (0.9%).

The participants of the study are distributed evenly in relation to knowledge about the system of notification of error/adverse event of their institution. Thus, 56.4% of the participants know the notification system of the institution where they work and 42.7% do not know. Of the participants who know the notification system (128) 47.7% in the last 2 years never reported any error/adverse event, 32% reported one to two errors/adverse events, 13.3% reported three to five errors/adverse events, and 7% notified more than 10 errors/adverse events.

The analysis of the type of errors/adverse events showed that the highest mean values relate to interpersonal communication problems and falls (Table 1). The types of errors/adverse events that approach zero depict their nonoccurrence.

Table 1

Descriptive statistics of the type of reported errors/adverse events

Type of errors/adverse events	Minimum	Maximum	Mean	Standard Deviation
Unexpected death	0	2	0.44	0.71
Childbirth-related newborn death	0	2	0.08	0.31
Reactions to blood transfusion	0	2	0.57	0.86
Surgery-related error	0	2	0.23	0.54
Interprofessional communication problems	0	2	1.00	0.64
Medication error	0	2	0.92	0.80
Patient identification error	0	2	0.76	0.82
Falls	0	2	1.05	0.92
Pressure ulcers occurred during hospitalization	0	2	0.87	0.89
Patients with infection related to health care	0	2	0.81	0.77

Using the *Pearson* correlation coefficient (r) it was found that there is a positive and significant association between the participants' age and the notification of the adverse event of childbirth-related newborn death ($r = 0.247$; $p < 0.001$). The higher the age, the higher the notification of errors/adverse events associated with the transfusion ($r = 0.132$; $p = 0.049$).

Participants with higher age groups tend to notify more errors/adverse events associated with patient identification ($r = 0.136$; $p = 0.043$). The greatest time of professional experience is associated with a greater notification of errors/adverse events related to the unexpected death ($r = 0.180$; $p = 0.007$). There is a significant and positive association between the professional

experience of the participants and the notification of the adverse event of childbirth-related newborn death ($r = 0.243$; $p < 0.001$). Also participants with greater professional experience tend to notify more errors/adverse events associated with the transfusion ($r = 0.250$; $p < 0.001$). The higher the professional experience, the greater the notification of errors/adverse events associated with patient identification ($r = 0.186$; $p = 0.005$).

The analysis of the limitations to the notification of errors/adverse events showed that the greatest limitation identified by participants is related to the lack of reporting culture, the insufficient knowledge about the reporting system, the overload at work and the absence of feedback in the resolution of the reasons which led to the occurrence of the event (Table 2).

Table 2
Descriptive statistics of the limitations to the notification

Limitation to the notification	Minimum	Maximum	Mean	Standard deviation
Fear of censorship	1	3	1.96	0.64
Fear of losing professional dignity	1	3	1.92	0.59
Fear of economic/material/legal sanctions	1	3	1.90	0.60
Lack of reporting culture	1	3	2.36	0.75
Insufficient knowledge about the system	1	3	2.29	0.76
Little accessible reporting system	1	3	2.19	0.84
Difficulty in using the system/lack of functionality	1	3	2.11	0.84
Threatened anonymity	1	3	2.10	0.75
Hierarchical superiors with inadequate reactions to impact intensity issues	1	3	2.12	0.56
Work overload	1	3	2.28	0.79
Pressure at work	1	3	2.27	0.79
Lack of feedback in the resolution of the reasons which lead to the occurrence of the event	1	3	2.20	0.85

The limitations to the notification of the error/adverse event relate significantly and negatively to the age ($r = -0.140$; $p = 0.037$) of the participants and the professional experience ($r = -0.135$; $p = 0.043$).

Discussion

As regards the results presented in this study, 84.1% of the participants are nurses. Already in the Patient Safety Report - Evaluation of Culture in Hospitals, nurses were the most representative professional group (Direção-Geral da Saúde, Associação Portuguesa para o Desenvolvimento Hospitalar, 2015). Fernandes and Queirós (2011) fundamentals this fact on the nurses being the most representative professional group in Portuguese hospitals and,

due to the nature of their professional activity, constituting the only health professionals who spend the most time directly providing care to the patient.

Costa (2014) argues that the factors that influence a culture of security are the profession itself, the interaction with the patient, the certification of services and training in patient safety. Silva-Batalha and Melleiro (2015) add that the adverse events endanger the safety of patients, which can lead to undesirable complications, therefore it is crucial to invest in the continuous improvement of quality in this sector. Moreover, the authors add that the proposals for improving quality infer changes in work processes with impact on quality of care. The Portuguese Ministry of Health in Despacho nº 1400-A/2015 of 10 February (2015) directs ensuring the required conditions so the clinical

management promotes a policy of inclusion of health professionals with the purpose of supporting the evaluation of the culture of patients' safety.

Despite all the guidelines for an improvement of the culture of patients' safety, this study shows that only 56.4% of the studied sample knows the system of notification of their institution, which agrees with one of the main findings of the Patient Safety Report - Evaluation of Culture in Hospitals, presented by the Directorate General of Health in August 2015, which shows that the culture of notification in hospitals is minimum, adding that the "underreporting of security incidents is an international reality and, therefore, it is necessary to improve, in care provision institutions, the level of the notification culture and the error-based learning" (Despacho nº 1400-A/2015 de 10 de fevereiro, p. 3882-9). Nevertheless, Reason (1998) stresses the need for a fair organizational culture, aimed at reporting and error-based learning so that there is a safety culture in institutions.

To fight the lack of reporting culture, the National Plan for Patient Safety 2015-2020 determines, through the Strategic Objective 8, "Ensuring the Systematic Practice of Reporting, Analysis, and Prevention of Incidents", the creation of a "national system of notification of incidents, not punitive but rather educative, aimed at an error-based learning" (Despacho nº 1400-A/2015 de 10 de fevereiro, 2015, p. 3882-9).

Lima (2011) explains that, if the daily practice of the health professional caused damage to the patient, it is evident that the professional changes their way of working and professional conduct, however, the author alerts to the need to change the working conditions, thus promoting the quality of services provided, in order to ensure excellent care aimed at the patient's safety. The author adds that the error should provide a moment of reflection on the daily practice, therefore being a learning moment that enables the improvement of professional skills.

The interprofessional communication problems and falls represent the errors/adverse events most occurred and most reported. The National System for Notification of Incidents presents, in the 2016 third-quarter report, as

events most reported by health professionals, incidents related to the patient and incidents related to resources/organizational management (Direção-Geral da Saúde, 2016).

This analysis allows reflecting on the fact that the health professionals of the study are aware of the importance of reporting adverse events, such as a fall, which leads to high monetary and human costs to the patient, the caregiver, and the National Health System. The National Plan for Patient Safety 2015-2020 mentions in Despacho nº 1400-A/2015 of 10 February falls as a significant factor of morbidity and mortality, being one of the main causes of hospitalization. They may have a big impact and represent personal, family, social, and financial consequences to health services (Despacho nº 1400-A/2015 de 10 de fevereiro, 2015).

The interprofessional communication problem is reported by the health professionals of the study as the error/adverse event that occurs more often, being also the most reported. Communication is a fundamental pillar for the safety of the patient and a communication problem can cause serious flaws in care continuity and proper treatment, intensifying errors/adverse events (Despacho nº 1400-A/2015 de 10 de fevereiro, 2015). This idea is further reinforced by Santos, Grilo, Andrade, Guimarães, and Gomes (2010), alerting that the communication problems in health teams can facilitate the reduction of quality of care with potential damage to the patients.

Coincidentally, there is a positive and significant association between the participants' age and the notification of adverse events, such as childbirth-related newborn death, blood transfusion, and patient identification. This means that the greater the age range of health professionals, the more they tend to report these errors/adverse events. Since the professional experience is also associated with an increased error/adverse event notification related to the unexpected death, childbirth-related newborn death, blood transfusion, and patient identification, it can be concluded that the health professionals of this study with a higher age range and greater professional experience are more aware of the importance to notify errors/adverse events that may be fatal for the patient, thus contributing to the error-based learning process.

Fernandes and Queirós (2011) state that, in relation to the patient safety culture “younger nurses are less positive in their assessment . . . and more skeptical about the effectiveness of the strategies adopted to transform errors into learning and change opportunities, and in relation to activities undertaken to improve security” (p. 47).

The majority of the limitations encountered by health professionals are of organizational nature, namely, the lack of reporting culture; the insufficient knowledge about the notification system; the work overload, the pressure at work and the absence of feedback in the resolution of the reasons which led to the occurrence of the error/adverse event. Soydemir et al. (2016) mention that the greatest obstacle to the notification of errors/adverse events by nurses is the lack of feedback related to the cause that led to the notification.

Moumtzoglou (2010) adds that not only the professional, cultural, and organizational aspects are impeding the notification of the error/adverse event, but also structural issues of clinical practice such as security systems, regulations, and procedures.

Soydemir et al. (2016) emphasize in their study the fear as one of the main limitations to the notification of errors/adverse events, but this study shows that the higher the age range, the greater the professional experience and the least fear of loss of professional dignity.

This study has as limitations the existence of few studies on the subject in Portugal and the limited participation of all groups of health professionals in completing the questionnaire.

Conclusion

In this study, it was possible to know the limitations encountered in relation to the notification of errors/adverse events by Portuguese health professionals. It was concluded that there is a lack of knowledge about the notification systems of institutions and a lack of reporting culture of the participants who know the system. The main limitations to the error/adverse event reporting defined by this study are the lack of reporting culture; the insufficient knowledge about the notification system; the work overload, the pressure at work,

and the lack of feedback in the resolution of the reasons which led to the occurrence of the event, all of which are of organizational nature. This study emphasizes the need to reflect on the lack of reporting culture in health organizations, identifying vulnerabilities to the notification of the error/adverse event experienced by health professionals. This whole process includes an institutional policy which encourages the error/adverse event notification, contributing to the continuous improvement of care, aiming at error-based learning, while identifying areas for improvement, creating strategies and methodologies that will motivate and encourage professionals to notify the error/adverse event, contributing to a safety culture and gains in health. Future developments should develop strategies for the implementation of risk management policies from a bottom-up perspective, which allow health professionals to be increasingly involved in the changes for the purpose of safety and quality of care.

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