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RESEARCH ARTICLE (ORIGINAL)

Nurses' adherence to incident reporting in an operating room: Diagnosis of the situation

Adesão à notificação de incidentes pelos enfermeiros de um bloco operatório: Diagnóstico da situação

Adhesión a la notificación de incidentes por parte del personal de enfermería de quirófano: Diagnóstico de la situación

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Abstract

Background: Safety is a crucial aspect of healthcare provision. Incidents or adverse events in healthcare can often be prevented and must be reported when they occur.

Objective: To assess nurses' opinions about the process of reporting adverse events in their institution, the barriers to the process, and the strategies to promote it.

Methodology: A simple descriptive study was conducted with 62 nurses working at the operating room of a central hospital in the center of Portugal. A questionnaire was administered in February 2022.

Results: The main barriers identified were the lack of a reporting culture, work overload, lack of feedback, forgetfulness, and insufficient knowledge about the system and what to report. The strategies identified to promote the reporting process were training, feedback, and debriefings.

Conclusion: Institutions should create favorable environments for professionals to report incidents.

Keywords: nursing; adverse events; notification; barriers

Resumo

Enquadramento: A segurança na prestação de cuidados de saúde é um fator que assume grande importância. Sendo que a maioria dos incidentes ou eventos adversos associados à prestação de cuidados podem ser evitados e quando ocorrem devem ser notificados.

Objetivo: Avaliar a opinião dos enfermeiros relativamente ao processo de notificação de eventos adversos existente na instituição; conhecer na opinião dos enfermeiros as barreiras à notificação e estratégias a adotar para promover a mesma.

Metodologia: Estudo descritivo simples realizado com a participação de 62 Enfermeiros do Bloco Operatório Central de um Centro Hospitalar da zona centro de Portugal, que preencheram um questionário em fevereiro de 2022.

Resultados: As principais barreiras identificadas foram: a falta de cultura de reporte, sobrecarga de trabalho, ausência de *feedback*, esquecimento, conhecimento insuficiente sobre o sistema informático e o que reportar. As estratégias identificadas pelos profissionais como promotoras do processo de notificação foram a formação, o *feedback* e os *debriefings*.

Conclusão: As instituições devem criar condições favoráveis a prática de notificação.

Palavras-chave: enfermagem; eventos adversos; notificação; barreiras

Resumen

Marco contextual: La seguridad en la prestación de cuidados sanitarios es un factor de gran importancia. La mayoría de los incidentes o acontecimientos adversos asociados a la prestación de cuidados pueden evitarse y, cuando ocurren, deben notificarse.

Objetivo: Evaluar la opinión del personal de enfermería sobre el proceso de notificación de acontecimientos adversos en la institución; conocer, en opinión del personal de enfermería, los obstáculos para la notificación y las estrategias que deben adoptarse para promoverla.

Metodología: Estudio descriptivo simple realizado con la participación de 62 enfermeros del Quirófano Central de un Centro Hospitalario del centro de Portugal, que cumplimentaron un cuestionario en febrero de 2022.

Resultados: Los principales obstáculos identificados fueron: falta de cultura de notificación, sobrecarga de trabajo, falta de *feedback*, olvido, falta de conocimientos sobre el sistema informático y sobre qué notificar. Las estrategias identificadas por los profesionales como facilitadoras del proceso de notificación fueron la formación, el *feedback* y los *debriefings*.

Conclusión: Las instituciones deben crear condiciones favorables para la práctica de la notificación.

Palabras clave: enfermería; acontecimientos adversos; notificación; obstáculos

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Introduction

Safety is a crucial aspect of healthcare provision. Several studies have shown that most incidents or adverse events (AEs) in healthcare can be prevented Studies have (Hung et al., 2016; Siman et al., 2017).been conducted to identify which incidents occur during the provision of care that are life-threatening. Levine et al. (2020) state that speaking up about medical errors is an essential behavior for maintaining patient safety. However, these incidents can only be identified if someone reports and records them. Nurses are key elements in hospitals (Levine et al., 2020), with the skills and capacity to respond to this need. Despite these skills, AE reporting is very low worldwide (Yung et al., 2016), with rates of AEs ranging from 5% to 17%, of which 60% can be prevented (Siman et al., 2017). In Portugal, the rate of AEs is 11.1%, of which 42% to 66% can be prevented (Siman et al., 2017).

The World Health Organization (WHO) and the European Union (EU) recommend that Member States assess the safety culture to introduce changes in professionals' behaviors and enhance safety and quality in patient care. The Portuguese Directorate-General for Health (*Direção-Geral da Saúde*, DGS) has defined strengthening healthcare safety as a priority and strategic objective for 2021-2026 and has outlined five pillars to support its strategic objectives (Despacho n.º 9390/2021). One of these pillars refers to the prevention and management of patient safety incidents, which includes objectives such as encouraging reporting and increasing the reporting of incidents by 20%.

Several barriers to reporting adverse events have been identified in the literature (Cole et al., 2019; Hammoudi et al., 2018; Hung et al., 2016; Lima et al., 2018; Lozito et al., 2018; Resende et al., 2020; Siman et al., 2017; Yang et al., 2020). Their identification in Portugal is crucial to addressing them.

Therefore, this study aimed to assess nurses' opinions about the reporting process in their institution, the barriers to reporting, and the strategies to promote it.

Background

WHO defines AEs as unintended or unexpected incidents that occur during the provision of care and that may cause harm to the patient. When these actions do not cause harm to the patient or are identified before they cause harm to the patient, they are called near misses (Resende et al., 2020).

For the Agency for Healthcare Research and Quality (AHRQ), an AE can be preventable and consists of an injury that was caused by medical management and that prolonged hospitalization. "Errors" are defined as any act of commission or omission leading to an undesirable and potentially dangerous outcome (AHRQ, 2019).

The operating room is a complex environment with some specificities (Despacho n.º 1400-A/2015) that contribute to the occurrence of AEs. For this reason, several authors (Lozito et al., 2018) were concerned with understanding the reasons for these professionals to report incidents or AEs with a view to developing strategies to increase the number of incidents reported.

Several factors influence nurses' decision to report AEs or not. Several authors (Cole et al., 2019; Hammoudi et al., 2018; Yang et al., 2020; Yung et al., 2016) have mentioned fear as a barrier to reporting, along with the work environment, the supervisors' responsiveness, the coworkers' support, and the existence or not of a safety culture.

A safe healthcare environment is essential for minimizing AEs and improving the quality of care. It encompasses aspects such as a guilt-free environment, where it is possible to report incidents without fear of reprimand or punishment; a place where finding solutions to patient safety problems can be encouraged; and an organizational commitment with resources capable of solving problems related to the safety of care (AHRQ, 2019).

Interpersonal and organizational consequences must be considered when speaking up about medical errors, which include punishment for those who report errors (Levine et al., 2020), creating a culture of fear (Hammoudi et al., 2018).

Levine et al. (2020) cite several authors who consider that supervisor responsiveness encompasses leaders' respectfulness and fairness when employees report an error or problem. Responsiveness involves empowering workers with authority, autonomy, and responsibility (Gao, Janssen, & Shi, 2011 cited by Levine et al., 2020). The lack of positive feedback on the error also interferes with reporting (Hammoudi et al., 2018). In the absence of supervisors' responsiveness, nurses tend not to report AEs.

The coworkers' attitude can influence whether or not nurses report incidents (Hung et al., 2016). These authors found that coworkers' positive attitude toward error reporting increases nurses' willingness to report. These results reinforce previous studies showing that nurses are concerned about the negative impression of their competence coworkers' and supervisors' perspectives (Hung et al., 2016). Lack of time and nursing shortage also affect the reporting process (Chiang et al., 2019).

Patient safety is a priority for health services, which can adopt several strategies such as adhering to patient safety policies; using technology appropriately; adopting a non-punitive approach to the reporting of errors; effective communication, collaboration, and administrative support, as well as speaking up about medical errors as it allows learning about the process from the error that occurs (Hung et al., 2016; Levine et al., 2020).

Chiang et al. (2019) state that the reporting culture is an important aspect in patient safety culture, which can be defined as shared values and beliefs. These authors concluded that nurses' adherence to patient safety practices has a positive effect on their willingness to report incidents, which is aligned with other studies.

In addition to the factors associated with the feeling of fear, Hammoudi et al. (2018) also mention the definition of errors (although they did not show a significant result for incident reporting) and the reporting effort (time is a very important factor in the process) as reasons that influence

error reporting by nurses. These authors consider that the complex processes associated with incident reporting that increase nurses' reporting effort are a barrier to reporting. Hung et al. (2016) also assessed factors such as nurses' characteristics, namely altruism and type of unit, and concluded that altruism plays a key role in this process. Nurses with this characteristic tended to exhibit positive attitudes toward incident reporting.

Lozito et al. (2018) highlighted the need to improve communication and educate perioperative staff about the importance of reporting AEs to create a safe healthcare environment.

The reporting process can be improved through the adoption of strategies such as training on the reporting process and its importance in patient safety; a standardized and accessible reporting system; debriefing; feedback on the reporting process (Levine et. al, 2020; Lozito et al., 2018); leadership awareness of opportunities to learn about AE reporting (Cole et al., 2019), as well as positive opinion and response from peers; anonymity; the implementation of a culture free of guilt, fear, and reprisal; recognition from leadership (Chiang et al., 2019; Hung et al., 2016). It is important to develop strategies that get nurses to report more, to establish organizational cultures that promote incident reporting, and to create positive feedback mechanisms for those who report, minimizing their feeling of fear.

Research questions

What do nurses think about the process of reporting AEs? What do nurses think are the barriers to reporting AEs? And what strategies do nurses think should be adopted to promote AE reporting?

Methodology

A simple descriptive observational cohort study was carried out following the STROBE (STrengthening the Reporting of OBservational studies in Epidemiology) recommendations for observational studies. This study was based on the need identified by the operating room team of a hospital center in central Portugal. The population consisted of 85 nurses, of whom 10 were absent due to medical or parental leave. The only inclusion criterion was working in the operating room under analysis. For the sample to be representative (95% confidence level), 63 nurses should have taken part, and 63 did, with an 84% adherence rate.

A questionnaire was drawn up for data collection based on what is referred to by the DGS (2019) as sentinel events. Its content was validated by two experts in the field. The questionnaire consisted of five parts: Part 1 - Characterization of the sample through the variables of gender; age; length of service in years; length of service in the operating room in years; Part 2 – Nurses' opinion about the reporting process in the institution through a *yes/no* question: "In your opinion, does the existing system allow adverse events to be reported anonymously?"; "In your opinion, does the existing system allow adverse events to be reported confidentially?"; "Do you think that the adverse event reporting system contributes to a culture of safety?"; "Do you think that reporting adverse events promotes learning from mistakes?"; "Do you think that reporting is an important factor in preventing the occurrence of incidents and adverse events?"; "Does the existing reporting system facilitate the recording of incidents and adverse events?"; "Does the existing system motivate healthcare professionals to report adverse events?"; "In the last year, have you attended training on the prevention of incidents and adverse events in healthcare?"; "In the last year, have you attended training on the system for reporting incidents and adverse events in the institution?"; Part 3 - Recording AEs, where respondents indicated if a set of AEs had occurred and if they had reported them based on their professional experience; Part 4 - Barriers to the reporting process in the institution, where professionals answered *disagree* or *agree* to a list of barriers suggested based on previous research and could add more barriers through an open-ended question; Part 5 - Strategies to improve/promote reporting, where respondents were asked to list three strategies to promote AE reporting and three suggestions for what to do with AE reporting records.

The questionnaire was applied electronically via institutional email to all operating room nurses from February to June 2022, after the ethics committee had given a favorable opinion (Ref. CE-Nº11/22).

Participation in the study was voluntary and each participant could withdraw at any time. Confidentiality and anonymity were also ensured.

Data were analyzed using the IBM SPSS Statistics software. Descriptive statistics were used, including absolute and relative frequencies, measures of central tendency, and measures of dispersion and variability. Given their content (listing three strategies and three suggestions), open-ended questions were measured using relative and absolute frequencies.

Results

The sample consisted of nurses aged 28 to 60 years (46.02 ± 10.4); 83.9% (52) were women and 16.1% (10) men; 20% (13) had a mean length of service of 29.02 ± 52.6 years and had been working for a mean of 16.3 ± 11.3 years. Concerning the reporting process at the institution, 89.1% identified the reporting system as capable of ensuring anonymity and 81.3% confidentiality; 65.6% believed that the system facilitated recording, while 73.4% did not consider that the system motivated reporting; 92.2% believed that reporting contributes to a culture of safety; 90.6% said that it promotes learning, and 95.3% considered the reporting process to be important in preventing incidents and AEs.

In the last year, 20.6% of respondents had received training on the prevention of incidents and AEs and 12.7% on the reporting system (Table 1).

Table 1

Distribution of answers regarding training carried out in the last year

Training	Yes		No	
	No.	%	No.	%
Prevention of incidents/adverse events	13	20.6	50	79.4
System for reporting incidents/adverse events	8	12.7	55	87.3

Note. No. = Number % = Percentage.

When asked about the AEs that had occurred and were reported, there was a major difference between the number of occurrences and the number of reports. Nurses identified many safety incidents, namely medical device malfunction or defect (55.6%), of which only 25.7% were reported; followed by the lack of exams, tests, or preparation that prevented a procedure or surgery (44.4%), of which only 8.5% were reported; patient falls (31.7%), of which 65.0% were reported; adverse drug reactions (29.7%), of which 26.3% were reported; incorrect sponge count (17.5%), of which only 9.1% were reported; mix-up of patient data (25.4%), of which 12.5% were reported; patient misidentification (23.8%), of which 26.6% were reported; and errors in the administration of products/drugs (20.6%), of which only 7.7% were reported. Nurses recognized that they report a very low percentage of AEs. The most reported incidents were patient falls (65.5%); blood administration errors (33.3%); babies switched at birth (33.3%); adverse drug reactions (26.3%); patient misidentification (26.6%); medical device malfunction or defect (25.7%); serious transfusion reaction and death (25.0%); transfusion reaction and unexpected permanent damage, both with a reporting rate of 20.0%.

Medical device malfunction or defect, patient falls, and adverse drug reactions were the most common and most reported AEs (Table 2).

Table 2

Distribution of answers regarding the type of adverse events that occurred and whether or not they were reported

	Occurred						Reported*			
	Yes		No		Did not answer		Yes		No	
	No.	%	No.	%	No.	%	No.	%	No.	%
Unexpected death	8	12.7	48	76.2	7	11.1	0	0.0	10	100
Permanent/unexpected damage	5	7.9	49	77.8	9	14.2	1	20.0	4	80.0
Babied switched at birth	3	4.8	54	85.7	6	9.5	1	33.3	2	66.7
Serious transfusion reaction with death	4	6.3	53	84.1	6	9.5	1	25.0	3	75.0
Transfusion reaction	5	7.9	51	80.9	7	11.1	1	20.0	4	80.0
Blood administration error	6	9.4	52	82.5	5	7.9	2	33.3	4	66.7
Adverse drug reaction	19	29.7	39	61.9	5	7.9	5	26.3	14	73.6
Anaphylactic reactions with damage or death	5	7.9	54	85.7	4	6.3	0	0.0	5	100
Product/drug administration error	13	20.6	43	68.3	7	11.1	1	7.7	12	92.3
Workplace sexual abuse and/or violence	4	6.3	49	77.8	10	15.8	0	0.0	4	100
Wrong invasive procedure/surgery/ patient	3	4.8	54	85.7	6	9.5	0	0.0	3	100
Wrong invasive procedure/surgery site	5	7.9	51	80.9	7	11.1	0	0.0	5	100
Wrong invasive procedure/surgery	5	7.9	52	82.5	6	9.5	0	0.0	5	100
Injury of other organs during surgery	8	12.7	48	76.2	6	9.5	0	0.0	8	100
Retained foreign object/sponge on patient	6	9.4	51	80.9	6	9.5	0	0.0	6	100
Incorrect sponge count	11	17.5	46	73.0	6	9.5	1	9.1	10	90.9
Lack of necessary exams, tests or preparation for procedure or surgery	28	44.4	29	46.0	6	9.5	2	8.5	19	90.5
Error in patient assessment	11	17.5	43	68.3	10	15.8	0	0.0	11	100
Mix-up of patient data	16	25.4	37	58.7	10	15.8	2	12.5	14	87.5
Patient misidentification	15	23.8	38	60.3	10	15.8	4	26.6	11	9.4
Unexpected fire, smoke or flame	6	9.4	50	79.4	7	11.1	0	0.0	6	100
Mother's death during delivery/cesarean section	4	6.3	53	84.1	6	9.5	0	0.0	4	100
Patient falls	20	31.7	37	58.7	6	9.5	14	65.0	7	35.0
Medical device malfunction or defect	35	55.6	20	31.7	8	12.7	9	25.7	26	74.3

Note. No. = Number; % = Percentage.
*data were calculated based on the respondents.

Of the 18 barriers mentioned, the lack of a reporting culture (79.7%) and work overload (79.7%) were the most common barriers (64.1%; Table 3).
The respondents suggested the following four barriers in the questionnaire: the lack of available computers (1), an unintuitive platform (1), staff resistance to the reporting process (1), and not being able to report (*e.g.*, abuse and mobbing; 1).

Table 3

Distribution of answers regarding the barriers to the reporting process at the institution

Barriers to reporting	Agree		Disagree		Did not answer	
	No.	%	No.	%	No.	%
Fear of punishment by the institution	28	44.4	35	55.6	0	0
Fear of discrimination by the team	28	44.4	35	55.6	0	0
Fear of legal sanctions	25	39.7	38	60.3	0	0
Fear of reaction from superiors	37	58.7	26	41.3	0	0
Lack of reporting culture	51	81.0	11	17.4	1	1.6
Not knowing what to report	46	73.0	17	27.0	0	0
Difficulty in using the reporting system	37	58.7	26	41.3	0	0
Poor accessibility of the reporting system	28	44.4	34	54.0	1	1.6
Work overload	51	81.0	12	17.4	0	0
Forgetfulness	43	68.3	20	31.7	0	0
Lack of feedback	48	76.2	14	22.2	1	1.6
Recording does not contribute to quality of care	17	27.0	44	70.0	2	3.2
Did not report because the event did not cause harm	9	14.3	54	85.7	0	0
Insufficient knowledge about the system	41	65.1	20	31.7	2	3.2
I learn from the incident so there is no need to report it	12	19.0	51	81.0	0	0
Fear of discussing the incident at the unit	9	14.3	54	85.7	0	0
The system is difficult to use	41	65.0	22	35.0	0	0
Discouragement	49	77.8	12	19.2	2	3.2

Note. No. = Number; % = Percentage.

An open-ended question was included to identify strategies to promote reporting. The results revealed that the main strategy was training (21.3%), followed by feedback (19.4%), a more intuitive platform or computer system (18.5%), encouragement from the leadership (8.3%), more time available (6.5%), and eliminating the blame culture (6.5%) (Table 4).

Table 4

Distribution of answers regarding strategies to promote the reporting of adverse events

Strategies to promote the reporting of adverse events	No.	%
Increase the reporting culture	1	0.9
Encouragement from the leader	9	8.3
Valuing the professional who reports	2	1.9
Training	23	21.3
Eliminating the blame culture	7	6.5
Protecting the professional who reports	2	1.9
Feedback	21	19.4
Debriefing	9	8.3
Intuitive computer system/platform	20	18.5
Time for debriefing and reporting	7	6.5
Mandatory	1	0.9
Team motivation	4	3.7
To be done as a team	2	1.9

Note. No. = Number; % = Percentage.

Concerning what should be done with the records of AEs, 36.8% of professionals answered that the information should be disseminated and feedback should be provided; 15.8% believed that it should be analyzed and discussed within the team, and 13.2% that the information should be used to implement corrective measures (Table 5).

Table 5

Distribution of answers regarding what should be done with the records of adverse events

	No.	%
Identify the cause	3	3.9
Dissemination/feedback	28	36.8
Team analysis and discussion	12	15.8
Encourage reporting	5	6.6
Support from leadership	2	2.6
Correction of the adverse event	4	5.3
Corrective action	10	13.2
Provide training and identify training needs	7	9.2
Promote a safety culture	2	2.6
Statistical treatment	3	3.9

Note. No. = Number; % = Percentage.

Discussion

The results show that, like Cole et al. (2019), operating room nurses at the hospital center where the study was conducted believe that reporting is important for maintaining a safety culture (92.2%). Anonymity and confidentiality were key factors for nurses to feel safe while reporting. Despite this, they characterize the reporting system at the institution as demotivating (73.4%), which reduces the number of reported events. This result is aligned with Siman et al. (2017), who indicated a low percentage of AEs reported in Portugal. Despite this, 95.3% of respondents stated that it is important to report AEs to change practices, identify errors, and prevent future errors.

With regard to training on the prevention of AEs/incidents and the reporting system implemented at the institution, only 20.3% (prevention of AEs/incidents) and 12.5% (reporting system) had received training in the last year. This factor also affects the reporting process, as nurses are unaware of or forget the importance of this process. Lozito et al. (2018) argue that education of the perioperative team on the importance of reporting AEs is relevant to promoting reporting. Hammoudi et al. (2018) also conclude that the complex processes associated with incident reporting and increases nurses' reporting effort are a barrier to reporting.

The data collected on the type of AE reported are aligned with the 2019 Fourth Quarter Report of the National Incident Reporting System (DGS, 2019), with the exception of the medical device malfunction/defect AE, which was one of the events most frequently reported by nurses in the operating room. This result may be due to the fact that this type of AE is not directly related to the quality of care provided by the nurse who reports it. Hung et al. (2016) also believe that the perspective of nurses who report incidents can influence whether or not they want to report them.

The data related to medical devices may also be justified by the specificities of the operating room, given that it is a more complex care environment with a large amount of high-tech equipment (Despacho n.º 1400-A/2015). The high number of AEs identified by the sample, such as medical device malfunction or defect and lack of necessary exams, tests, or preparation for procedure or surgery, suggests that respondents are more likely to report events that are related to the provision of care by other professionals, rather than their own. These results confirm one of the main barriers experienced by the respondents, that is, the lack of a reporting culture (79.7%). Chiang et al. (2019) state that a positive reporting culture, in which learning promotes reporting, rather than a culture of punishment, improves the reporting process. This lack of a reporting culture shown by the nurses in the operating room is also associated with a sense of fear, as 57.8% of respondents agreed that one of the barriers to the reporting process in their institution is fear of the reaction of superiors. This result was confirmed by Araújo et al. (2016), Cole et al. (2019), Hammoudi et al. (2018), Yang et al. (2020), and Yung et al. (2016).

In addition to the lack of a reporting culture, nurses mentioned work overload (79.7%), lack of feedback (75%), not knowing what to report (71.9%), forgetfulness (67.2%), and insufficient knowledge about the computer system (64.1%) as barriers. This data is corroborated by Lima et al. (2018).

Work overload is a limitation confirmed by Hung et al. (2016). These authors consider that work overload

limits the time available for reporting. Not knowing what to report is also a major barrier to reporting, with many nurses presumably not reporting because they are unaware of what needs to be reported. Resende et al. (2020) state that nurses do not consider incidents that do not result in harm to the patient to be relevant, and this may be one of the factors of lack of knowledge that interferes with the reporting process.

This study also identified the strategies to promote the reporting process, namely training (21.3%) and feedback (19.4%), which, according to the sample, could change their attitude when it comes to reporting an incident or AE. This result is confirmed by Araújo et al. (2016) and Lozito et al. (2018).

In view of this analysis, the following strategies are proposed: Annual training on the topic; Finding a space to facilitate feedback; and Finding time and space to hold debriefings.

This study had some limitations. The fact that the researcher is a nurse in this department and that the topic raises some issues related to best practices may have influenced the answers to the questionnaire. Moreover, other limitations included the lack of implementation of the strategies identified to promote reporting and the assessment of effectiveness and the inclusion of only nurses in the sample. This study was conducted in a very specific department, which does not reflect the reality of the rest of the institution. Patient care is usually provided in the operating room using medical devices, in which case the majority of reported incidents are related to the use of devices, masking and somewhat minimizing the number of reported cases associated exclusively with patient care.

Conclusion

This study found that nurses consider that AE reporting improves patient care and increases patient safety.

However, as this study shows, there are still several barriers to the implementation of this process, such as the lack of a reporting culture, work overload, lack of feedback, forgetfulness, and insufficient knowledge about the system and what to report. It is therefore essential to implement strategies such as training, feedback, and debriefings. Although these barriers were also identified in the literature, this study provides information on strategies for overcoming most of them. Studies have shown that involving the population in identifying strategies improves adherence rates to those strategies.

It is essential that the institution encourages reporting.

This study should be further validated with a new analysis of the sample after the proposed measures have been implemented to assess the effects of these interventions on the sample.

Given the growing importance of patient safety in our society, it is crucial to conduct this type of research to identify the factors that influence these practices, implement necessary measures, and encourage reporting to ensure optimal care.

Author contributions

Conceptualization: Ferreira, T., Dixe, M.
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Investigation: Ferreira, T., Dixe, M.
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Validation: Dixe, M.
Visualization: Dixe, M.
Writing – original draft: Ferreira, T.
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References

Agency for Healthcare Research & Quality. (2019). *Pacient safety primer: Adverse events, near misses, and errors. Rockville, USA.* https://psnet.ahrq.gov/primer/adverse-events-near-misses-and-errors

Chiang, H.-Y., Lee, H.-F., Lin, S.-Y., & Ma, S. (2019). Factors contributing to voluntariness of incident reporting among hospital nurses. *Journal Nursing Management*, *27*(4), 806–814. https://doi.org/10.1111/jonm.12744

Cole, D. A., Bersick, E., Skarbek, A., Cummins, K., Dugan, K., & Grantoza, R. (2019). The courage to speak out: A study describing nurses' attitudes to report unsafe practices in patient care. *Journal of Nursing Management*, *27*(6), 1176–1181. https://doi.org/10.1111/jonm.12789

Despacho n.º 1400-A/2015 do Gabinete do Secretário de Estado Adjunto e da Saúde. (2015). *Diário da República: II Série*, nº 28. https://dre.pt/dre/analise-juridica/despacho/1400-a-2015-66463212

Despacho n.º 9390/2021 do Gabinete do Secretário de Estado Adjunto e da Saúde. (2021). *Diário da República: II Série*, nº 187. https://dre.pt/dre/detalhe/despacho/9390-2021-171891094

Direção-Geral da Saúde. (2013). *Norma n.º 015/2013: Consentimento informado, esclarecido e livre dado por escrito.* https://www.dgs.pt/normas-orientacoes-e-informacoes/normas-e-circulares-normativas/norma-n-0152013-de-03102013-pdf

Direção-Geral da Saúde. (2019). *Relatório de progresso de monitorização do 4º trimestre do sistema nacional de notificação de incidentes.* https://www.dgs.pt/ficheiros-de-upload-2013/notifica-rpm-2019_4-pdf.aspx

Hammoudi, B. M., Ismaile, S., & Yahya, O. A. (2018). Factors associated with medication administration errors and why nurses fail to report them. *Scandinavian Journal of Caring Sciences*, *32*(3), 1038–1046. https://doi.org/10.1111/scs.12546

Hung, C. C., Lee, B. O., Liang, H. F., & Chu, T. P. (2016). Factors influencing nurses' attitudes and intentions toward medication administration error reporting. *Japan Journal of Nursing Science*, *13*(3), 345–354. https://doi.org/10.1111/jjns.12113

Levine, K. J., Carmody, M., & Silk, K. J. (2020). The influence of organizational culture, climate and commitment on speaking up about medical errors. *Journal of Nursing Management*, *28*(1), 130–138. https://doi.org/10.1111/jonm.12906

Lima, S. M., Agostinho, M., Mota, L., & Príncipe, F. (2018). Preceção dos profissionais de saúde das limitações do erro/evento adverso. *Revista de Enfermagem Referência, 4*(19), 99 -106. https://doi.org/10.12707/RIV18023

Lozito, M., Whiteman, K., Swanson-Biearman, B., Barkhymer, M., & Stephens, K. (2018). Good catch campaign: Improving the perioperative culture of safety. *AORN Journal*, *107*(6), 705–714. https://doi.org/10.1002/aorn.12148

Marotti, J., Galhardo, A. P., Furuyama, R. J., Pigozzo, M. N., Campos, T. N., & Laganá, D. C. (2008). Amostragem em pesquisa clínica: Tamanho da amostra. *Revista de Odontologia da Universidade Cidade de São Paulo, 20*(2), 186-194.

Resende, A. L., Silva, N. J., Resende, M. A., Santos, A. A., Souza, G., & Souza, H. C. (2020). A importância da notificação de eventos adversos frente à segurança do paciente e à melhoria da qualidade assistencial: Uma revisão bibliográfica. *Revista Eletrônica Acervo Saúde, S39*, 1-7. https://doi.org/10.25248/reas.e2222.2020

Siman, A. G., Cunha, S. G., & Brito, M. J. (2017). The practice of reporting adverse events in a teaching hospital. *Revista da Escola de Enfermagem*, *51*, e03243. https://doi.org/10.1590/S1980-220X2016045503243

Yang, R., Pepper, G. A., Wang, H., Liu, T., Wu, D., & Jiang, Y. (2020). The mediating role of power distance and face-saving on nurses' fear of medication error reporting: A cross-sectional survey. *International Journal of Nursing Studies, 105*. https://doi.org/10.1016/j.ijnurstu.2019.103494

Yung, H. P., Yu, S., Chu, C., Hou, I. C., & Tang, F. I. (2016). Nurses' attitudes and perceived barriers to the reporting of medication administration errors. *Journal of Nursing Management*, *24*(5), 580–588. https://doi.org/10.1111/jonm.12360