Original Article

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IMPACT OF AN EDUCATIONAL INTERVENTION ON PATIENT IDENTIFICATION ADHERENCE BY NURSING PROFESSIONALS

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ABSTRACT

Objective: to verify the impact of digital educational strategies on nursing professionals' adherence to patient identification as well as the acceptance of these strategies by professionals.
Method: this is a pre and post-intervention pilot study developed in a public teaching hospital in a city in the countryside of the state of São Paulo, Brazil, carried out between March and September 2022, in three phases: 1) pre-intervention – audits of identification wristband at the bedside, elaboration and planning of educational strategies; 2) intervention – short-term online training offered to nursing professionals; 3) post-intervention – repeat audits. For comparative analysis between phases, Pearson's chi-square test and Fisher's exact test were used with a significance level of 5%.
Results: a total of 166 beds were audited with a high rate of adherence to the use of identification wristbands, in accordance with standards, and the presence of identification plates (> 80%) both in the pre- and post-intervention period, with a significant increase in patients who identified that professionals checked wristband (p=0.0410) during care. Participants positively assessed the strategies used, although low adherence to training was recorded.
Conclusion: there was a positive impact on adherence to patient identification, but management and motivational strategies will be necessary to enable future actions to implement online training.

DESCRIPTORS: Patient safety. Patient identification systems. Education nursing. Education distance. Professional training.

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IMPACTO DE UMA INTERVENÇÃO EDUCACIONAL NA ADESÃO À IDENTIFICAÇÃO DO PACIENTE PELOS PROFISSIONAIS DE ENFERMAGEM

RESUMO

Objetivo: verificar o impacto de estratégias educacionais digitais na adesão dos profissionais de enfermagem à identificação do paciente, assim como a aceitação destas estratégias por parte dos profissionais.
Método: estudo piloto de pré e pós-intervenção desenvolvido em um hospital de ensino público de uma cidade do interior do estado de São Paulo, Brasil, realizado entre março e setembro do ano de 2022, em três fases: 1) pré-intervenção – auditorias da pulseira de identificação à beira-leito, elaboração e planejamento das estratégias educacionais; 2) intervenção – treinamento *online* de curta duração oferecido aos profissionais de enfermagem; 3) pós-intervenção – repetição de auditorias. Para análise comparativa entre as fases, foi utilizado o teste qui-quadrado de Pearson e o teste exato de Fisher com nível de significância de 5%.
Resultados: foram auditados 166 leitos com alta taxa de adesão ao uso de pulseira de identificação, de acordo com as normas, e a presença de placas de identificação (> 80%) tanto no período pré quanto pós-intervenção, com aumento significativo dos pacientes que identificaram que os profissionais conferiam a pulseira (p=0,0410) durante a assistência. Os participantes avaliaram positivamente as estratégias utilizadas, embora tenha sido registrada baixa adesão ao treinamento.
Conclusão: houve um impacto positivo na adesão à identificação do paciente, porém estratégias gerenciais e motivacionais serão necessárias para viabilizar ações futuras de implementação do treinamento *online*.

DESCRITORES: Segurança do paciente. Sistemas de identificação de pacientes. Educação em enfermagem. Educação *online*. Capacitação profissional.

IMPACTO DE UNA INTERVENCIÓN EDUCATIVA EN LA ADHERENCIA A LA IDENTIFICACIÓN DE PACIENTES POR PARTE DE LOS PROFESIONALES DE ENFERMERÍA

RESUMEN

Objetivo: verificar el impacto de las estrategias educativas digitales en la adherencia de los profesionales de enfermería a la identificación de pacientes, así como la aceptación de estas estrategias por parte de los profesionales.
Método: estudio piloto pre y posintervención desarrollado en un hospital público docente de una ciudad del interior del estado de São Paulo, Brasil, realizado entre marzo y septiembre de 2022, en tres fases: 1) preintervención – auditorías del brazalete de identificación a pie de cama, elaboración y planificación de estrategias educativas; 2) intervención – formación en línea de corta duración ofrecida a profesionales de enfermería; 3) posintervención – repetición de auditorías. Para el análisis comparativo entre fases, se utilizó la prueba chi-cuadrado de Pearson y la prueba exacta de Fisher con un nivel de significancia del 5%.
Resultados: 166 camas fueron auditadas con un alto índice de adherencia al uso de brazaletes de identificación, de acuerdo con las normas, y la presencia de placas de identificación (> 80%) tanto en el período pre como posintervención, con un aumento significativo en pacientes que identificaron que los profesionales revisaban la pulsera (p=0,0410) durante la asistencia. Los participantes evaluaron positivamente las estrategias utilizadas, aunque se registró baja adherencia al entrenamiento.
Conclusión: hubo un impacto positivo en la adherencia a la identificación de pacientes, pero serán necesarias estrategias de gestión y motivación que permitan acciones futuras para implementar la capacitación en línea.

DESCRIPTORES: Seguridad del paciente. Sistemas de identificación de pacientes. Educación en enfermería. Educación a distancia. Capacitación profesional.

INTRODUCTION

Safety and quality in healthcare are topics of great importance today. Adverse events (AE) are responsible for longer hospital stays, higher medical costs, physical disability, and even death. In this context, the World Health Organization (WHO) established the Global Patient Safety Plan 2021–2030, with the aim of providing strategic guidance to all stakeholders to eliminate preventable harms in healthcare and improve patient safety in different domains of practice, through political actions on service safety and quality of health as well as implementation of recommendations at the time of care[1–2].

According to the WHO, 134 million AE occur each year due to unsafe treatment in hospitals in low- and middle-income countries, and this harm contributes to approximately 2.6 million deaths. Thus, the Global Patient Safety Action Plan seeks to promote concrete policies and actions based on the best scientific evidence available at all times, patient experiences and systems redesign to reduce all sources of risk and prevent harm to patients, families and caregivers (first victims) as well as healthcare professionals involved in safety incidents (second victims)[2]. Currently, around one in every 20 patients is exposed to preventable AE in healthcare. When we look at middle- and low-income countries, the data is even more alarming: 1 in 4 patients will suffer an AE as a result of unsafe care[2–3]. A university hospital in southern Brazil recorded 418 reports of AE in children and adolescents aged 0 to 18 years between 2019 and 2020, with a monthly average of 18.25 and 16.58 cases, respectively. Among the incidents, medication errors accounted for 33.3% of reports, followed by falls (15.3%) and incidents related to diet and food. The authors do not clarify which events were associated with failure to identify patients, but point out errors related to documentation at 2.6%[4].

The concept of patient safety is a set of actions that aim to reduce, to an acceptable minimum, the risk of unnecessary harm associated with healthcare, in addition to minimizing the impact of harm when it occurs[1–2]. To this end, national[5–6] and international[1,7] strategies aimed at safe and quality healthcare have been implemented, especially in the last ten years. Six first international goals for patient safety were established: identify patients correctly; improve communication effectiveness; improve high-alert medication safety; ensure surgeries with the correct intervention site, correct procedure and correct patient; reduce the risk of healthcare-associated infections; reduce the risk of harm to patients from falls[5].

Safe identification is described as the first action carried out by healthcare professionals, as failures may occur in patient identification from admission to discharge or death from the service, encompassing all phases from diagnosis to treatment. Therefore, error in identification can affect all clinical decision-making, triggering a chain reaction, with errors in laboratory or imaging test dissemination, in medication administration, in blood transfusions and in surgical procedures[1]. A survey carried out between 2013 and 2015 in 181 healthcare institutions in the United States identified that 70% of reported AE were related to patient identification errors[8]. The most frequent identification errors were: admitting a patient in another's medical record; using the room or bed number to identify a patient who has been transferred; asking patients to confirm their name instead of asking what their name is; patients with similar or homonymous names; administering medications without confirming patients' identity; trusting patients with impaired ability to confirm their identifying information[8].

In the institution where the study was developed, the record of AE reports related to patient identification errors constitutes a factor of continuous care, given its characteristic of a teaching hospital, which understands the constant need for education of vocational training, undergraduate, graduate and residency students. In 2021, during the residency internship at the Patient Safety Center (PSC),

110 AE reports related to identification errors were recorded. Of these, 54 (49.1%) were related to incorrect identification, 14 (12.7%) to incomplete identification, 11 (10%) to inadequate identification, 6 (5.5%) to illegible/erased identification and 25 (22.7%) to patients without any identification. Forty-seven (42.7%) reports were classified as a mild AE, 36 (32.7%) as a reportable circumstance, 23 (20.9%) as a harmless incident, 3 (2.7%) as a near miss and 1 (1%) as a moderate AE. Fifty-eight (52.7%, therefore the majority) of reports were related to errors in biological sample identification, followed by 22 (20%) related to forms and documents, and 10 (9%) related to identification wristbands. Furthermore, during the coronavirus disease 2019 (COVID-19) pandemic, despite there being no training focused on patient identification, in all new processes and hiring inherent to the time, checking data, wristbands and forms was addressed. A study carried out to assess patient safety culture in four Brazilian public teaching hospitals found a positive nursing professionals' perception towards the learning dimension, showing that the provision of professional training and qualification by institutions is perceived as a strong element for patient safety[9]. In this context, understanding that patient safety is integrally related to the quality of health services and the importance of correct identification as a precursor to safe care, the need for training health professionals who are in direct contact with patient care was evident as well as monitoring indicators.

Educational strategies are important tools that encourage healthcare staff to adhere to safe practices and raise awareness of the need for safe and correct patient identification[10]. The online learning environment has strengthened during the COVID-19 pandemic and has been used to promote knowledge about patient safety in different contexts, from primary to tertiary care. Technology as a means for continuing education has made the educational process more flexible, without the need for high costs, physical structure, available time during work shift and displacement of sector employees[11]. Therefore, this study aimed to verify the impact of digital educational strategies on nursing professionals' adherence to the patient identification protocol as well as the acceptance of these strategies by professionals.

METHOD

This is a pre- and post-intervention pilot study, which allows using the pre-intervention phase as a reference for all comparisons. This is a quasi-experimental design for immediate assessment of an intervention in a group of study participants, providing information for rapid refinement by researchers[12]. The study reporting was based on the Transparent Reporting of Assessments with Nonrandomized Designs[13]. The study was approved by a Research Ethics Committee.

The study was conducted at a quaternary public teaching hospital, assisting the population entirely through the Brazilian Health System and an operational capacity of 409 beds. The hospital has a well-structured PSC and the important role of a safe identification team, which is responsible for audits, preparation and implementation of institutional protocols on the subject and for training teams that provide patient care.

According to institutional protocol, identification wristbands used at the study site are white, waterproof and with at least two identifiers printed on the wristband (name, date of birth and hospital registration are the most used). When this wristband is not available, identifiers must be written by hand with legible writing and format.

The target population was made up of nursing professionals, regardless of time of employment or training, as well as nursing students, with those working directly with adult patients at the study site being eligible. A convenience sample was obtained based on the following inclusion criteria: a) belonging to the nursing professional category, working as a nurse or nursing technician, in addition

to undergraduate nursing students in a period of supervised curricular internship who were in the field internship during data collection; b) working in clinical or surgical wards for adult patients, or in the adult emergency unit; c) providing direct care to hospitalized patients through the execution of nursing procedures for which it is necessary to identify patients, such as measuring vital signs, administering medications, collecting tests or other procedures. Those on vacation or medical leave during the intervention phase were excluded.

Sample size was calculated considering the objective of comparing the two assessment periods according to variables relating to wristband use, knowledge and identification according to the audits carried out per patient bed. To carry out this calculation, the methodology of a sample calculation for a Pearson's chi-square test[14] was considered, resulting in 88 beds audited.

Data collection was carried out from March to September 2022 in three phases: pre-intervention, intervention and post-intervention.

Phase 1: Pre-intervention

To establish a baseline, secondary data from audits carried out by the safe identification team in March and April 2022 were analyzed, with an instrument containing the following information: hospitalization unit, room/bed; presence of identification wristband on patients; limb where the wristband was placed; presence of an identification sign at the bedside; whether wristband meets current standards in the patient identification protocol; whether patients understand the meaning of a wristband; and patient perception related to checking wristband by professionals before any procedure to be performed.

Still at this stage, educational materials with theoretical-practical content on patient identification were developed. All content was based on the patient identification protocol of the Ministry of Health in Brazil[6,15], in addition to the hospital's institutional protocols. The following educational strategies were used:

- Podcasts/videos: The podcast was recorded through the Anchor® platform and made available through the Spotify® streaming platform. The videos were recorded using a cell phone and edited using the Canva® platform and made available on YouTube®, both following a standard script containing a starting vignette, speaker presentation, presentation of the week's topic, introduction to the subject, motivational closing, warnings and acknowledgments.
- Slides: The slides were created with the help of Genially® software and made available through a link on Google Classroom®.
- Games: The games were created with the help of Wordwall® software. The following game styles were used: quiz, crossword, whack-a-mole and group classification.
- Instructional reminders: Preparation of posters that were printed and made available at nursing stations and in strategic locations (medication preparation room or counter) with information on the correct identification of laboratory tests and the importance of patient identification.

Phase 2: Intervention

The second phase lasted three months, running from the end of April to the first half of July 2022. During this period, professionals were recruited and training was offered. Recruitment was in-person and remote. One of the researchers visited each of the selected units explaining the research and presenting the Informed Consent Form (ICF). Furthermore, a virtual invitation containing a direct access link to the ICF on Google Forms® was sent to nursing supervisors from the same units to post in their respective teams' WhatsApp® groups. After accepting to participate in the research, by signing the ICF, participants responded to a questionnaire to characterize the sample, with a space to enter an email through which participants would have access to the virtual training platform.

Contents were planned on demand and in common agreement with the safe identification team (Chart 1). A virtual classroom was opened on Google Classroom®, and participants were registered as students using the emails provided during recruitment. This content was made available in digital format, with the first activity posted in the second week of June 2022, followed by two activities per week, for four weeks. Content access links were posted in the "Activities" tab, clicking on the "Create" icon and selecting the "Activity" sub-item. This opened a new page for editing the instructions and allowing content to be attached and delivery date to be scheduled. Reminders of notices about the week's activity, as well as billing for deliveries, were added to the wall. Participants received a report whenever a new activity or reminder was posted.

Chart 1 – List of digital content offered weekly to participants during patient identification training. Campinas, SP, Brazil, 2022**.**

Week	Activities	Topics	Duration	Adhesion
Week 1	Activity 1 – Podcast: Presentation, purpose and justification of safe patient identification.	•Presentation of training and its operation; •Introduction to the topic: patient safety concepts; •10 steps to patient safety; •Brazilian National Patient Safety Program; •Safe identification and importance of the topic.	5 minutes and 24 seconds	•Proof of delivery of the activity on Google Classroom®.
	Activity 2 – Slides: Standards for identification wristbands – Part I.	•What is patient identification; •How to reduce adverse events; •When should I identify?; •Risky situations that interfere with safe identification; •Identification wristband characteristics; •Identification of unknown patient; •Locations of choice for placing wristbands.	15 to 20 minutes	•Proof of delivery of the activity on Google Classroom®.

Chart 1 – Cont.

Week	Activities	Topics	Duration	Adhesion
Week 2	Activity 3 – Slides: Standards for identification wristbands – Part II.	•Identification of allergic patients; •Wristbands available at the institution: latex allergy, risk of falls and limb restrictions; •Identification wristband duration; •Sign at the bedside; •Outpatient identification.	15 to 20 minutes	•Proof of delivery of the activity on Google Classroom®.
	Activity 4 – Video: Patient and family education.	•User involved in care; •How is verbal confirmation carried out?; •And with an intubated patient?; •Family involvement in care.	7 minutes and 13 seconds	•Proof of delivery of the activity on Google Classroom®.
Week 3	Activity 5 – Games: Confirmation of patient identification before care.	•Crosswords with riddles: It is placed on the arm (wristband); first step for patient safety (correct identification); cord of identification wristband (white); It is not correct to use it as an identifier (bed); is an identifier (full name). •Questionnaire with questions related to: identifiers; unknown patient identifiers; how confirmation should be made before care; when to check the wristband and verbally confirm patients' name; and the factors that may be a potential risk in identifying patients.	5 to 10 minutes	•Proof of delivery of the activity on Google Classroom®; •Registration of the participant's name, requested by the website to start the game.
	Activity 6 – Games: Identification of laboratory test samples.	•Whack-a-mole: The game aims to click on the signs that contain the steps for safe patient identification related to the laboratory test collection procedure.	5 to 10 minutes	•Proof of delivery of the activity on Google Classroom®; •Registration of participants' name, requested by the website to start the game.
Week 4	Activity 7 – Games: Patient Transfer.	•Group sorting: The game aims to drag sentences related to safe patient transfer into the "right" and "wrong" groups.	5 to 10 minutes	•Proof of delivery of the activity on Google Classroom®; •Registration of participants' name, requested by the website to start the game.
	Activity 8 – Video: Report of cases of wrong patient identification.	•Adverse event; •Categories of adverse events; •Failures in the identification process; •Identifiers: quality of care; •Closing of training.	12 minutes and 17 seconds	•Proof of delivery of the activity on Google Classroom®.

Content could be reviewed by participants whenever necessary, and they could interact with the researchers and send their comments (questions, criticisms or compliments) through the wall itself, through comments added to posted activities or by private message via email. All posted content could be accessed by any web-enabled device, such as a computer, smartphone or tablet, and there was no set time for participants to access the activities, as they could be reproduced individually, according to professionals' routine. Through the virtual classroom, it was possible to check participants' participation and progress in the proposed activities. Through Google Classroom®, participants' adherence can be monitored according to the number of deliveries for each activity corresponding to participants' names. Participants who completed all activities within the established deadline were considered complete and received a certificate with the total training hours.

Still at this stage, posters were made available at nursing stations to alert professionals about the importance of correctly identifying patients.

Phase 3: Post-intervention

Shortly after the end of phase 2, post-intervention data collection began, using the same information obtained in the baseline. A new audit was carried out by the hospital's safe identification team as part of their routine activities. This period comprised two months, starting in the last week of July and ending in September 2022.

Data analysis

Data extraction, tabulation and primary organization was carried out in Microsoft Excel®, and the analysis was carried out in the Statistical Analysis System 9.4. A descriptive analysis was carried out to characterize the sample through frequencies and percentages, for qualitative variables, and through position and dispersion measurements, for quantitative variables. For the comparative analysis between the pre- and post-intervention phases, the categories of qualitative dependent variables were grouped, thus becoming dichotomous qualitative variables, and Pearson's chi-square test and Fisher's exact test were applied with a level of 5% significance.

RESULTS

A total of 105 nursing professionals were recruited from nine units in three shifts: morning, afternoon and night (eight Adult Inpatient Units and one Emergency Unit). Of the professionals recruited, 68 (64.7%) were nursing technicians, 32 (30.4%) were nurses and 5 (4.7%) were nursing students undergoing internship at the hospital, 93 (88.6%) of whom were female and 12 (11.4%) were male, aged between 21 and 65 years (average of 40 years). Of these, 27 began the 4-week training, and 10 completed all activities within the period proposed for collecting research data. Of the participants who completed the training, 4 are nurses (of which 2 are assistant nurses and 2 have management positions), 4 are nursing technicians, 1 is a resident nurse and 1 is a nursing student. The response rate was 9.52%.

A total of 166 beds were audited, 47 beds in two months of the pre-intervention phase and 119 beds for the same period in the post-intervention phase. There was an increase in professionals checking identification wristbands during care (Table 1).

Table 1 – Safe identification audits carried out in the pre- and post-intervention periods. Campinas, SP, Brazil, 2022. (n=47; n=119).

Variable	Pre		Post		p-value
	n	%	n	%	
Has an identification wristband					0,1562*
Yes, standard white with digital printing	39	82.98	108	90.76	
No/Yes, other type	8	17.02	11	9.24	
Identification according to standards					1.0000†
Yes	37	92.50	103	92.79	
No	3	7.50	8	7.21	
Patient understands the meaning of a wristband					0.7041*
Yes	15	60.00	59	64.13	
No	10	40.00	33	35.87	
Patient identifies which professionals check					**0.0410***
Yes	6	24.00	43	46.74	
No/Sometimes/Does not know how to assess	19	76.00	49	53.26	
Patient has identification plate					0.2170*
Yes	42	89.36	97	81.51	
No/Yes, but with incomplete or incorrect filling	5	10.64	22	18.49	

Caption: *p-value obtained by the chi-square test; †p-value obtained by Fisher's exact test.

At the end of the activities, some participants used the digital platform's wall to record their comments regarding training quality. There were reports of praise about the teaching strategy that they considered to be an interesting approach, with quality teaching material that encouraged learning.

DISCUSSION

The Brazilian National Patient Safety Program is completing 10 years since its implementation in 2013, and the need to establish educational strategies to strengthen leaders' and professionals' adherence to basic protocols and patient safety practices and, consequently, actually implement a patient safety culture in institutions is still observed in the practice environment.

Correct identification is a primary action of safe care. This study showed a high rate of adherence to wristband use in accordance, with recommended standards, and the presence of identification plates, with rates above 80% even in the pre-intervention period. There was greater checking of identification wristbands by professionals after the intervention, evidenced by patients' perception ($p = 0.0410$). At the institution where the study was carried out, there has been a safe identification team active since 2015, and its actions, developed over time, contributed to good practices regarding the patient identification protocol. In general, the literature points out that there are still difficulties in adhering to patient safety protocols, influenced by work overload and inadequate staffing of nursing professionals. Particularly with regard to patient identification, the lack of material for identification and poor communication between the healthcare team were identified as detrimental to adherence[16]. A Brazilian study that used different educational strategies, including distance learning courses on patient safety and patient identification, resulted in a gradual increase in the adherence rate to using identification wristbands from 42.9% to 94.37% between 2013 and 2014[11].

Considering that all healthcare professionals have a professional responsibility to improve patient outcomes and prevent AE, WHO established, in the Global Patient Safety Plan 2021–2030, strategic objective 5 (SO 5): Inspire, educate and skill health workers to contribute to the design and delivery of safe care systems. Among the actions proposed by the WHO, item 5.1 encourages staff to take online and onsite courses on patient safety for as part of continuing professional development[1–2]. In this context, the present study presents a viable and feasible proposal for a strategy for continuing education aligned with global objectives. However, as a disadvantage experienced during the pandemic, the context can influence professionals' adherence and participation in training actions.

There was low adherence among nursing professionals to online training. In on-site training, there is a deficit in professional participation, even with flexible working hours and during the work shift, especially in public hospitals[17]. On the other hand, researchers state that the e-learning method brings benefits to both participants and the institution through courses that can be accessed at any time, thus fitting into professionals' routine and not interfering with the work schedule[18]. From this perspective, short-term training on the patient identification protocol was planned and designed to take place online, with short and interactive activities, in order to encourage professional participation at any time or place. This was a pilot study, with voluntary participation, to verify the possibilities of implementing digital educational strategies based on continuing health education. Some researchers claim that the success of these actions is related not only to the service's needs, but to health professionals' perception of their clarity regarding the nature and importance of knowing the risks, understanding care processes and their weaknesses, and discomfort about the need to change their practices, presenting themselves spontaneously willing and motivated[11,19]. The COVID-19 pandemic has brought work overload to healthcare professionals, also resulting in a decrease in professional motivation. There was an increase in the absence of nursing professionals from 2020 to 2022, making adequate sizing even more difficult[20–21]. It is believed that this may also have influenced low adherence to training at this time.

Among the participants who completed the training, one nurse was the supervisor of inpatient units, and another was the director of the emergency unit. In addition to care professionals' involvement, there is also a need for managers' involvement both in training participation and development[11]. The best recommendations related to safe practices in correct patient identification reiterate the importance of multidisciplinary involvement at all levels of care, with emphasis on managers, employees, collaborators and service users[10]. The e-learning method brings freedom of learning at flexible times and eliminates the need for a physical space to carry out educational activities, thus reducing financial costs for institutions[18]. In the general assessment of training, a preference for interactivity, such as the use of games, was observed. The use of the podcast also had a positive assessment, as one of the participants reported that the audio can be paused to take notes. Satisfactory statements of acceptance of the educational strategies used were posted, and from the results obtained in the post-intervention, it is clear that the strategies used added value to care practice. A study demonstrated success in the online course tool, increasing AE report rate from 714 to 1,401 after the course, which shows that professional education contributes to patient safety culture dissemination and consolidation[22].

An important factor was the development of training that considered the use of spacing between sessions in order to promote knowledge acquisition. The online training proposed by this research considered one-week intervals between interventions, with a total duration of 30 days. Evidence defines that knowledge retention can be improved when learning strategies are spaced, since professionals' successive exposure to information over time can result in more effective knowledge storage[23–24]. This structuring of teaching programs has been effective in promoting changes in patient safety behaviors and knowledge about clinical practice guidelines, with reports of high participant satisfaction with

the strategy[25–26]. In the study presented in this article, some professionals reported positive aspects regarding the didactics applied in teaching, confirming previous findings.

The use of printed reminders and posters may have contributed to increased adherence to checking identification wristbands by professionals during patient care. Signs that encourage the following of safety protocols make up the use of behavioral insights, defined as an inductive approach that seeks to direct certain intended behaviors. Practical studies on the implementation of nudges in the healthcare area are still incipient. A recently published review identified such strategies to modify healthcare professionals' behavior in the field of prescriptions, procedures, hand hygiene and vaccination[27].

Regarding the limitations of this study, the number of participants was small and, among the difficulties faced during the recruitment period of professionals, a lack of affinity with the technology used was observed. Therefore, a welcome email and an explanatory video on how to access and use Google Classroom® were added to the training. Considering that this is a non-probabilistic sample, it is not possible to generalize the results obtained to other health units or institutions. The difference in the number of beds audited pre- and post-intervention is justified by the same data collection period for comparison, i.e., two months before the intervention and two months after the intervention. Therefore, the appropriate application of basic statistics allows the researcher to make associations in the results, however, even though the tests may present statistical significance, the results must be observed with caution regarding clinical practice. There is also inaccuracy related to knowledge acquired and its application over time. It is suggested that, when applying this training protocol, knowledge tests are also considered as a teaching strategy so that the effects of spaced learning are effective. Likewise, frequent audits and monitoring of AE report indicators related to safe identification can assist in situational diagnosis for professionals' continuing education.

This study brings contributions to nursing and other professionals who care for patients, hospitalized or not, and who must pay attention to issues of patient identification, forms and prescriptions, request, collection and exam reports, among others. Training and updating on safe identification, as well as a continuing education program focused on patient safety, can make professionals aware of good practices for safe and quality care, reducing the risk of harm. In this study, it was found that the safe identification team's constant work led to the incorporation of good practices related to the safe identification protocol in the institution. The intention is for training to be made available to all professionals involved in care.

Moreover, patient safety must be addressed since professional training as part of the Curricular Pedagogical Project, being transversal to the areas of knowledge and different disciplines of undergraduate and graduate courses[28]. The training offered from this study can be offered to students even in the initial years of the training period, through active or other methodologies, and can be updated or adapted to multidisciplinary teaching' needs.

This study highlighted patients' participation as an active agent in healthcare safety by recognizing that professionals check identification wristbands. In 2023, World Patient Safety Day had as its topic "patient engagement for patient safety", in recognition of the role that patients, family members and companions play in their care, with effective harm reduction. It is therefore reinforced that the patient must be increasingly included in this context as a participant in the process.

CONCLUSION

The educational intervention had a positive impact on checking patients' identification wristband. There were reports of preference for interactivity, such as the use of games. Management and motivational strategies will be necessary to enable future actions to implement online patient identification training for the entire team.

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