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Strategies for strengthening safety culture in intensive care units

Estratégias para o fortalecimento da cultura de segurança em unidades de terapia intensiva

Estrategias para el fortalecimiento de la cultura de seguridad en unidades de cuidados intensivos

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ABSTRACT
Objective: identify promotion strategies that contribute to strengthening patient safety culture in intensive care units. **Method:** in this qualitative, descriptive study, data were collected in 2016 by semi-structured interviews of five physicians, five nurses and 24 nursing technicians working in intensive care units at two hospitals in southern Brazil, and analyzed using discursive textual analysis. The study was approved by the research ethics committee. **Results:** three categories emerged: implementation of patient safety protocols; institutional and multi-professional involvement and patient safety in continuing professional development. **Conclusion:** health personnel considered the implementation of health care protocols, the inclusion of safety as a topic in continued professional development and the involvement of both the institution and the multi-professional team to be the main strategies for promoting and strengthening patient safety culture.
Descriptors: Nursing; patient safety; organizational culture; intensive care units.

RESUMO
Objetivo: identificar estratégias de promoção que contribuam para o fortalecimento da cultura de segurança do paciente em unidades de terapia intensiva. **Método**: estudo qualitativo, descritivo, realizado com cinco médicos, cinco enfermeiros e 24 técnicos de enfermagem atuantes em unidades de terapia intensiva de duas instituições hospitalares do sul do Brasil em 2016. A coleta dos dados foi realizada por meio de entrevistas semiestruturadas e o tratamento, pela análise textual discursiva. A pesquisa foi aprovada por Comitê de Ética em Pesquisa. **Resultados:** emergiram três categorias: implementação de protocolos de segurança do paciente; envolvimento institucional e multiprofissional; e segurança do paciente na educação permanente. **Conclusão:** os profissionais de saúde consideram a implementação de protocolos na assistência à saúde, a inclusão da temática da segurança na educação permanente e o envolvimento da instituição, bem como da equipe multiprofissional, como as principais estratégias para promover e fortalecer a cultura de segurança do paciente.
Descritores: Enfermagem; segurança do paciente; cultura organizacional; unidades de terapia intensiva.

RESUMEN
Objetivo: identificar estrategias de promoción que contribuyan al fortalecimiento de la cultura de seguridad del paciente en unidades de cuidados intensivos. **Método:** estudio cualitativo, descriptivo, realizado junto a cinco médicos, cinco enfermeros y 24 técnicos de enfermería que trabajan en unidades de cuidados intensivos de dos instituciones hospitalarias del sur de Brasil, en 2016. La recolección de los datos se realizó por medio de entrevistas semiestructuradas y el tratamiento de los datos por el análisis textual discursivo. La investigación fue aprobada por Comité de Ética en Investigación. **Resultados:** surgieron tres categorías: implementación de protocolos de seguridad del paciente; participación institucional y multiprofesional y seguridad del paciente en la educación permanente. **Conclusión:** los profesionales de la salud consideran la implementación de protocolos en la asistencia a la salud, la inclusión de la temática de la seguridad en la educación permanente y la participación de la institución, así como del equipo multiprofesional, como las principales estrategias para promover y fortalecer la cultura de seguridad del paciente.
Descriptores: Enfermería; seguridad del paciente; cultura organizacional; unidades de cuidados intensivos.

INTRODUCTION

Discussions concerning patient safety have made into the world agenda. Despite the various advancements obtained in the health field, patients are still exposed to various risks when they require care assistance. This exposure leads to demands on health facilities to adopt and implement safe care practices[1,2]. In the 1990s the Institute of Medicine published the report *To err is human: building a safer health care system*, which revealed the high rates of adverse events occurring in hospital facilities. This report encouraged many countries to turn their attention to the topic[3,4].

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The World Health Organization (WHO), acknowledging the importance of a discussion at the world level, launched in 2004 the World Alliance for Patient Safety. When the National Patient Safety Program (NPSP) was launched in Brazil in 2013, one of its objectives was to lower the risks of any potential harm associated with health care that is considered avoidable[5].

With the intent to implement a patient safety culture in health facilities, individual blame has been replaced by a reorganization of care processes aiming to foresee potential errors and correct them before injury or harm to patients results[3,6,7]. The Ministry of Health defines patient safety culture as a set of values, attitudes, competences and behaviors that determine a commitment to patient safety and care management[8]. A safety culture encourages workers to be accountable for their actions and promotes the abandonment of punitive practices against those who commit unintentional errors[8,9].

Therefore, for a safety culture to be firmly consolidated, it is extremely important that managers and workers understand errors and their consequences based on an ethical commitment to seek improved care and implement strategies intended to ensure patient safety[10].

Hence, one needs to identify the knowledge held by those who provide care concerning patient safety to implement actions intended to promote improvements[11]. For that, it is also important to verify what workers understand by safety culture in their practice. Intensive care units (ICUs) stand out among care settings because they are complex facilities where various emergent actions are implemented.

Considering the preceding discussion and seeking to understand issues that involve patient safety, the following *research question* emerged: what strategies can be implemented to strengthen a positive patient culture in ICUs? The *objective* was to identify strategies that promote and strengthen patient safety culture in ICUs.

THEORETICAL FRAMEWORK

Strengthening safety culture at an organizational level is essential to improving patient safety in the context of health facilities because, if implemented in a positive manner, it enables workers to establish patient safety as a priority when delivering care[12].

Among the main characteristic of patient safety culture in health organization is the participation of managers and all workers, being accountable for their own safety, that of their peers, patients and companions, giving priority to safety over financial or operational goals. Additionally, the identification and reporting of events should be encouraged in order to solve problems and promote organizational learning[5,13].

Therefore, a safety culture grounded on justice acknowledges errors as failures of the system itself, rather than at the individual level only. In a fair culture, workers do not feel intimidated by errors, though they may be held accountable for their actions. Thus, a fair culture makes a distinction between careful and competent workers, who may occasionally may a mistake, from those with consciously risky and unjustifiable behavior[6,11,13,14].

The idea, however, that health workers do not commit mistakes is still very present in society, but the system is supposed to create mechanisms such that errors do not harm patients[9,14,15]. Human error can be seen from two perspectives: that of people and that of the system. The first is based on actions workers perform under unsafe conditions or from being careless, reckless or negligent. The second is centered on the view that errors may occur even in the best facilities because humans are subject to failure. Therefore, errors are seen as consequences, not causes, and often originate from systemic factors[14-16].

One of the safety culture models proposed by James Reason is that of *informed culture*[17], in which all members of an organization are supposed to understand and acknowledge the risks existing in care delivery practice and be alert to the ways defenses implemented by an organizational system may be ignored or violated. In addition to the implementation of a fair culture, a reporting culture is also emphasized. That is, people should be encouraged to report errors[17,18].

Another model proposed by the same author is the Swiss Cheese model, which proposes a systemic approach to errors and error management. Layered defense (cheese slices), which refers to barriers imposed to avoid failure, is key. All systems have flaws (cheese holes), which in isolation do not cause harm; however, when flaws occur in many layers, that is, in various sectors, errors may occur[14-16].

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METHODOLOGY

This qualitative, descriptive study was conducted in the ICUs of two different hospitals located in the south of Brazil. The general ICU of the philanthropic hospital has 10 beds, three of which are at intermediate level, while the ICU of the university hospital has six beds.

Five nurses, 24 nursing technicians and five physicians recruited using a non-probabilistic sampling method (convenience sample), participated in the study, totaling 34 informants. The criteria used to select the participants were: being a nurse, a nursing technician or physician and having worked professionally for at least six months. Those on vacation or on leave were excluded.

Data were collected from September to October 2016 at the times chosen by the participants in their workplace. Semi-structured interviews were held and recorded. Interviews included closed-ended questions to characterize the participants and open-ended questions to address issues related to patient safety in the work environment. The characteristics of the participants are not analyzed in this study.

Data analysis was based on discourse textual analysis, which includes qualitative data analysis intended to acquire new understanding regarding discourses and phenomena[19]. Three stages were followed: unitization of texts; establishment of relationships; and identification of emergent concepts.

The unitization of texts is defined as the researcher immersing her or himself in the transcription of interviews, deconstructing the text and breaking it down into units of meaning. After this stage, similar meanings were related[19].

Relationships between units of meanings were identified during the categorization process. These relationships were categorized and similar meanings were grouped into final categories. The last stage included the description and interpretation of meanings based on the text, producing new perceptions of the aspects involved and strategies that contributed to strengthening a safety culture.

The study followed recommendations provided by Resolution No. 466/12, Brazilian Health Council and was approved by the Institutional Review Board (opinion report No. 126/2016). The participants received clarification about the research and signed free and informed consent forms. The reports are identified by letters N (nurse), NT (nursing technician) and P (physician) followed by the number corresponding to the order in which interviews were held, in order to ensure that the participants' identities remain confidential.

RESULTS AND DISCUSSION

Three categories emerged: implementation of patient safety protocols; institutional and multi-professional involvement; and patient safety in continuous education.

Implementation of patient safety protocols

This category revealed that workers believe that the promotion of safe care delivery based on the implementation of patient safety protocols is one strategy that can be used to strengthen the safety culture in ICUs. A lack of protocols may lead to behavior and practices that compromise the safety of the unit.

> *It's a struggle [...] even though pressure ulcers have decreased considerably. [...] If there were a specific protocol for that, it would certainly improve the quality of care, because we'd have a theoretical foundation to perform practice [...]. (N1)*

> *We do not have protocols; each physician works in accordance with his/her shift [...] there is a procedure for each shift. What I consider to be carelessness or an error, my colleague may not [...]. (TE21)*

In this sense, the Ministry of Health established that one of the axis of the NPSP would be the creation of a set of six basic protocols defined by the WHO, and which should be implemented to ensure safe care delivery and contribute to the qualification of care in all health facilities in Brazil[14]. They are: identification of patients; pressure ulcer prevention; safe prescription, use and administration of medications; safe surgery; hands wash in health services; and fall prevention.

These protocols are efficient to decrease errors and adverse events and the implementation of these protocols is of low cost[14]. Studies conducted in the context of ICUs report an increase of preventive actions after the implementation

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of patient safety protocols, showing the positive impact of these tools on patient safety and, consequently, the promotion of a positive safety culture among workers[20,21].

Even though there are particularities of each patient and of different care settings, protocols need to be institutionalized for care delivery to be standardized, reducing the occurrence of errors and adverse events. Therefore, the creation of an institutional structure that gives priority to patient safety is an important strategy for strengthening safety culture.

> *There should be a protocol, not for each unit, but a general one, for the entire hospital. There is no use for the patient to receive one type of care in the medical clinic and then get a different type when he gets here [...] The patient may start presenting ulcers. [...]. (TE 22)*

> *Each shift works one way and the entire hospital works like this. For instance, if I'm on duty in the emergency room and a patient starts receiving a medical prescription in the emergency room, say an antibiotic, and then he goes to the ICU, they will change the time he's supposed to take the medication [...]. If the patient goes to the medical clinic, he'll have to adapt to their routine and working scheme. This is bad; it is like we were working in different hospitals [...]. (NT3)*

The workers' reports show that the facilities included in this study have started to gather teams focused on the development of actions intended to promote patient safety including training and courses. Therefore, the work of Patient Safety Centers (PSC) was acknowledged as a possibility to promote institutional safety culture. The results show the importance of specific sectors to support workers.

> *We do not have an institutional protocol. It is under way; they have been putting together a patient safety group since last year, but it is going slow [...]. (N1)*

> *I've heard about the implementation of a sector specific for this. I haven't seen any results on the patients' end, though; I guess it is in development [...]. (NT2)*

In this sense, seeking to strengthen patient safety in health facilities, ANVISA (Brazilian Health Regulatory Agency) published RDC No. 36 in 2013, which establishes that health facilities are obligated to have a Patient Safety Center (PSC). Patient safety centers are responsible for developing and implementing health protocols intended to ensure the delivery of safe and quality care[13,14]. Additionally, PSCs have the responsibility to prevent, control, mitigate, and report adverse events to ANVISA, in order to promote the strengthening of the system and safe care[8,9,13].

Institutional and multiprofessional involvement

This category shows that even though the implementation of protocols is considered to be essential to minimizing potential errors and ensuring patient safety in ICUs, the workers also emphasized the importance of getting the commitment of staff members. Thus, among strategies intended to strengthen safety culture, is sensitizing health workers for them to assume the responsibility for providing safe care to patients.

> *For instance, there is a medical protocol to reduce aspiration of patients [...].*

> *These are protocols focused on safety and are currently in force in the unit; though the big problem is not a lack of protocols, but people. The problem is a colleague who enters the ICU and doesn't wear gloves, doesn't wear a cap, doesn't put an apron on to perform a procedure, [...] This is the biggest problem [...]. (P1)*

> *We work with people, with health; patient safety is required in every aspect, every care action, always involving professional commitment (...). There are various actions, [...] both records and practical actions, and commitment (N3)*

In this sense, we note that the development and implementation of protocols by themselves do not ensure the adoption of good practices. Thus, it is essential that managers design well-grounded practices and hire workers who are committed to patient safety so that such an issue is not considered a mere institutional requirement[22].

The results reveal that workers listed involvement, commitment and multidisciplinary teamwork as strategies to minimize the occurrence of errors and adverse events, factors that promote positive results in care delivery aiming to ensure patient safety. These factors influence how strong patient safety culture is in ICUs because team members work for a collective objective.

> *It involves the multidisciplinary team, everyone is supposed to be involved and committed because it does not help if one supports but another doesn't [...] everyone has to be involved, nurses, physicians. The rate of pressure ulcers decreased because the nurses started demanding and supervising more frequently [...] if*

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> *changes of decubitus were really happening [...] with the positive results, people started valuing this practice even more. (N1)*

We verified the importance of workers being involved with patients and the work performed within a multidisciplinary team to minimize the occurrence of errors. The participants realized that witnessing the positive results of care delivery that were achieved after changing multidisciplinary practices, encouraged the staff to provide care that is focused on patient safety.

One of the purposes of patient safety culture is to transform care practice in a way that the entire staff seeks co-responsibility among its members. Thus, health workers need to improve the idea of collective responsibility and view teamwork as a basic assumption to achieve patient safety[23,24].

The workers also mentioned the importance of support services, considering that the implementation of a safety culture cannot be seen as the sole responsibility of those directly providing care to patients. Thus, the work performed in partnership with other sectors, such as sanitation, laundry, pharmacy, and hospital-related infection control services were listed by the workers as being essential to promoting and strengthening a safety culture.

> *It is a large context because not only nurses, but also the entire staff is involved with patients. Support services are something we need to work better; we do not focus much on safety. [...] Often, mistakes are not only ours; the environment needs to be improved [...]. It influences things in many ways and can be both positive and negative. [...]. (N2)*

> *The entire staff influences care delivery and patient safety. Infection control is very important because whenever a patient is hospitalized, he has contact with bacteria [...] the HAICC [hospital-associated infection control committee] provides safety measures for patients and others. The pharmacy is also a very important sector due to the manipulation of medication and the antibiotics that are used [...]. (TE12)*

Risk management associated with the care provided to patients should be seen as a transversal and multi-professional issue that includes all support services within health facilities. Note that a failure to integrate support services weakens the work performed by the multidisciplinary team, harming the delivery of quality care and leaving loopholes for the emergence of failures[25], consequently compromising safety culture.

Patient safety in continuous education

Continuous education in health is broadly understood as a construction that should be a collective process, able to debunk old models and open space for new concepts and possibilities, promoting important changes in health organizations[26]. Therefore, workers highlight the importance of disseminating knowledge of patient safety through continuous education. Note that theoretical courses and practical training were suggested as strategies that can promote patient safety culture in ICUs.

> *Teachings, lectures. [...]. It's no good wanting to implement something if you don't explain how it works for patient safety. (TE11)*

> *The idea is to assemble this group [aiming for] patient safety. There is continuous education that promotes training. But the focus is on patient safety; I guess that the best thing to do would be to establish this group for it to start [...] working (N1)*

The participants also highlighted the importance of updating practices developed in the units and valuing the professionals who seek training. In the same way, they reported that training and courses should be appropriate to the needs of the health staff, considering working hours, with the objective to include the greatest number of people to contribute to changing and strengthening the safety culture in ICUs.

> *I believe training is important; I think we do very little. The thing of seeking qualification is less than what would be necessary. The team providing continuous education tries to do a lot, but it doesn't do much because it is free-of-charge or because it happens in our working hours. (N2)*

In this sense, the sector of continuing education in health facilities is essential to promoting a positive patient safety culture. The workers who were interviewed highlighted the importance of disseminating knowledge of patient safety. This evidence is in line with what is advocated by the third NPSP axis, that it is necessary to include patient safety in the teaching of health and in continuing education programs[14].

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Note the importance of developing educational activities and interventions in order to promote continuous improvement in care delivery processes[27]. Such activities also encourage workers to report errors and adverse events[28]. Thus, healthcare facilities increasingly need to incorporate new technologies and discuss patient safety at all levels and in all areas, so that it is essential to equip workers to prevent adverse events and promote safe healthcare delivery. Therefore, providing continuous education to all health workers is fundamental to promoting collective awareness for safe care to occur[25,29].

CONCLUSION

The health workers participating in this study consider the implementation of protocols, institutional and multi-professional involvement, as well as the inclusion of patient safety in continuing education programs to be the main strategies to strengthen patient safety culture in ICUs.

The implementation of patient safety protocols in the units under study, as well as the work of PSC in health facilities is important to minimizing the occurrence of errors and adverse events, ensuring safe and quality delivery of care. There is also a need to provide continuous training and courses for those working in ICUs and the other sectors within hospitals for simple and effective measures to be in place contributing to preventing and reducing risks associated with care delivery, which in turn will strengthen safety culture.

This study's limitations include the fact these results cannot be generalized, considering this study was conducted in two ICUs located in a single city in the south of Brazil; that is, the characteristics of this study settings are not similar to the multiple contexts of health delivery existing in Brazil. Thus, further studies are needed to contribute to the understanding of strategies that contribute to strengthening patient safety culture in these units.

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