

SAFETY IN THE TRAINING OF HEALTH PROFESSIONALS<sup>1</sup>

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## ABSTRACT

**Aim:** To understand the perception of undergraduate students of a higher education institution on teaching the subject of patient safety. **Method:** It is a qualitative research, developed between August and October 2016, with undergraduate students of the Nursing, Medicine, Physiotherapy, Pharmacy, Nutrition, Occupational Therapy, and Biomedicine courses, through a semi-structured interview. **Results:** The participants were 21 students and from the analysis of content seven thematic categories were listed: Insertion of the theme of patient safety during academic training; Human fallibility and learning about care risks and errors; Performance of the health team and the inclusion of the patient as a partner in decision making; Organizational systems and their interface with the quality of care; Protocols as tools for patient safety; Safety and quality as fundamental elements in the drug chain; Addressing the theme of patient safety: strategies and teaching methodologies. **Final considerations:** Students perceive teaching on patient safety; however, there was a need for a formal and equitable approach to content in the course of training, through interdisciplinary strategies, as well as the relevance of sensitizing teachers to integrate this theme in curricular units.

**Keywords:** Patient safety. Quality of health care. Higher education. Curriculum. Patient care team.

## INTRODUCTION

Patient safety is recognized as an intrinsic dimension of quality and must permeate the activities performed in health facilities. For this to occur it is necessary for professionals to have knowledge, skills and attitudes inherent in the subject. In this sense, vocational training courses in health play an important role in the promotion of competences, with regard to patient safety when demonstrating their relevance in the training and care provided<sup>(1-2)</sup>.

Teaching about patient safety and improving care quality is necessary for the future of health care<sup>(3)</sup>. Recognizing this importance, the World Health Organization (WHO) published in 2011 the Patient Safety Curriculum Guide: Multi-professional Edition, whose main purpose was to contribute to the teaching of patient safety in the health area, in view of the relevance of developing and integrating this theme into the curricula of the different professions. To do so, 11 basic topics were established in the guide: What is patient safety? Why is the application of human factors important for patient safety? Understanding the systems and the effect of complexity on patient care; Being a participant of an effective team; Learning from mistakes to avoid damage; Understanding and managing

clinical risk; Using quality improvement methods to improve care; Interaction with patients and caregivers; Prevention and control of infection; Patient safety and invasive procedures; and Improving the safety of the medication process<sup>(2)</sup>.

This publication is of paramount importance in the context of educational reforms and the growing recognition of the need to introduce patient safety into the curricula of health training courses, teaching them to act in an evidence-based way to reduce the risk of errors, in addition to helping teachers to incorporate patient safety topics into clinical practice in a comprehensive and structured way<sup>(4)</sup>.

Following the worldwide trend, the Ministry of Health launched the National Patient Safety Program (PNSP, acronym in Portuguese), which includes, in one of its specific objectives, the promotion of the inclusion of patient safety in the curricula of health training courses at the technical, higher and post-graduate level<sup>(5)</sup>.

Training in patient safety and quality can be the driving force for interdisciplinary and interprofessional education, with the development of innovative programs that contribute to align the education of professionals with the health needs of the population, in addition to preparing them to work deliberately

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in an integrated way towards a safer health system, with joint action of the different professionals throughout the training<sup>(6)</sup>.

In this sense, and acting for six years in teaching, the need arose to elucidate the following questions: How is patient safety perceived by undergraduate students in the health area, in their curricular matrices? Do the students have contact with this theme during their training? And do they associate it with their professional practice?

Thus, we believe that the realization of this study will allow the knowledge of the approach of this theme in the training of health professionals, which is intrinsically related to the qualification of these professionals for the exercise of their activities in the areas of assistance, health institutions management and teaching and research.

In view of this context, this study aimed to understand the perception of undergraduate students of a higher education institution about teaching the subject of patient safety.

## METHODOLOGY

This is a qualitative research, using an exploratory-descriptive design, in the case study modality, developed in a private higher education institution (IES, acronym in Portuguese), located in the city of São Paulo, whose participants were students enrolled in the last three semesters of the courses Nursing, Medicine, Physiotherapy, Pharmacy, Nutrition, Occupational Therapy and Biomedicine. It was considered exclusion criterion the student transferred from another IES and that, therefore, did not receive all his training in the scenario institution of the study.

After approval by the Research Ethics Committee under opinion No. 1,427,184, the students of the mentioned courses were approached in the classrooms by the researcher herself, who presented the research objectives and made the invitation to participate. Through spontaneous acceptance, the interviews were scheduled in a place, date and time agreed between the parties and occurred between August and October 2016. In the face of formal agreement and signing of the Informed Consent Term, semi-structured interviews were

conducted guided by the following questions: How do you perceive the patient safety issue in undergraduate teaching? Describe in which moment of the undergraduate course you had contact with the subject of patient safety and; Facing the 11 topics suggested by WHO and presented to you in this interview, how do you believe this could be inserted in your training?

At the time of the interview, participants presented an illustrative material prepared by the researcher, composed of pictures and texts with key elements referring to the 11 topics recommended by the WHO, which served as support in conducting the interviews and whose objective was to allow the students to recall, through the situations represented, the experiences and discussions that occurred during practical or theoretical classes.

The number of students was defined as the research questions were answered and, consequently, they met the objective of the study.

The interviews were audiotaped, transformed into narratives, and e-mailed to the participants for reading, conferencing, and content validation. All returned without adjustment; they were identified with letters corresponding to the initial of the course and numbered. For the treatment of the data the content analysis was employed and the theoretical reference of the interdisciplinarity of Edgar Morin was adopted<sup>(7)</sup>.

## RESULTS AND DISCUSSIONS

Twenty-one undergraduate students participated, and of these, three students were enrolled in the last semester of each course, except the Biomedicine students attending the sixth semester. There was a predominance of females (n=17) and participants' ages ranged from 20 to 45 years.

From the analysis of content, the seven thematic categories were listed, namely: Insertion of the theme of patient safety during the academic formation; Human fallibility and learning about care risks and errors; Performance of the health team and the inclusion of the patient as a partner in decision making; Organizational systems and their interface with the quality of care; Protocols as tools for patient

safety; Safety and quality as fundamental elements in the drug chain; Addressing the theme of patient safety: strategies and teaching methodologies.

### **Insertion of patient safety during academic training**

In this category it was possible to verify the lack of uniformity in the patient safety approach in undergraduate courses. The subject may be inserted during the training and reinforced when the student initiates the clinical practice; it may be present in a specific discipline or appear subliminally in content discussed during the course.

During nursing graduation, it can be seen that teaching about patient safety occurs since we were in the beginning of the university, because the subject was approached in several disciplines. [...] From the moment we started the care traineeships, in the fifth semester, this subject was much more discussed. (E2)

At the undergraduate level there is little talk about patient safety. We have had technical approaches, such as the importance of hand washing and proper dressing, which are indirectly linked to patient safety and prevention of infection. But we have never got to have a broad discussion on the subject itself. (M1)

We had a discipline that addressed the safety of the patient and the health professional [...] It was a short discipline; we had never seen the subject before. If any teacher mentioned it, it did not draw attention or it still made no sense to us. (Fa1)

The international literature recommends that the teaching of patient safety occur from the first day of graduation and be present throughout the courses in all teaching activities, so that it contributes to the acquisition of skills, attitudes and behaviors for the performance of future professionals<sup>(2,8)</sup>.

However, a national study evidenced the predominance of the patient safety approach in curriculum matrices only when students were included in the scenarios of care practice and mandated supervised internships, which occurred in the last semesters of undergraduate health courses<sup>(9)</sup>.

### **Human fallibility and learning about care risks and errors**

Human fallibility is contemplated in the study of human factors, which understands and relates the human limitations and their interfaces with the work environment and the equipment used, considering the variability of people when performing their professional activities<sup>(2)</sup>.

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Regarding the application of human factors, it was also not discussed; on the contrary, one always blames the other person. For example, if the radiology technician took the wrong patient examination or recorded it wrong, at no time did we stop to think that that professional might have flu or be tired. (M1)

Job overload, limited or scarce resources, lack of professional qualification, lack of leadership and multiple working hours increase fatigue and stress and, as a result, lead to errors<sup>(10-11)</sup>.

The engineering of human factors applied in the health area aims to ensure safe, effective and efficient care, assuming that the structure shapes and influences the behavior of individuals who, even trained, make mistakes if the system is not well adapted to their cognitive and physical abilities<sup>(12)</sup>.

The approach of human factors and their relationship with patient safety was partially contemplated in some courses and, in others, besides not being addressed, the error on the part of the professional is also based on individual blame and not from a broad perspective that focus on the review of organizational processes and systems.

We have the vision of notifying the mistakes to precisely know where the process has failed and improve patient safety, but people are afraid to expose themselves and be scolded [...] We had the opportunity to discuss and understand the real meaning of the notice of occurrence at college to discover the errors to work upon them and not focusing on punishment. (E1)

If you prescribed something wrong for a patient, you simply erased that prescription and put another on top. We never notify it as a failure or plan to review the process. It is so, quite naturally

and the mistakes even end up being covered up. We did not discuss this issue of reporting, of being more attentive and managing these failures. (M1)

It is crucial that students have a basic understanding of nature and the different types of errors. Thus, they can use strategies that avoid new mistakes or intercept them before causing harm to patients, and commit to reporting and analyzing incidents in a systemic way as a form of prevention<sup>(2,13)</sup>.

I'm not sure if what we learned was managing the risk, because we learned about a particular pathology and what we should do as therapy; in some cases it was explained the complications of the procedures or therapies, in others not [...] I had never stopped to think about it, but we had to learn those risks for all the manipulations we do. (Fi3)

Numerous factors contribute to the occurrence of care-related incidents in complex health institutions, so it is necessary to identify and treat the risks to which the patients are submitted<sup>(2)</sup>. However, the risk management approach is not clearly demonstrated during the training of participants, and while it is impossible to eradicate all risks, management allows the identification of potential failures and the introduction of measures to minimize them.

### **Health team performance and the inclusion of patients as partners in decision making**

Teamwork consists of a collective work modality that is configured in the reciprocal relationship between the multiple technical interventions and the interaction of agents from different professional areas, through the connections that exist between the different activities performed<sup>(14)</sup>.

Teamwork was also discussed. Today, because of the internet, the patient knows the treatment before even starting it. Therefore the importance of talking, of speaking the same language, or else the patient will question. [...] The issue of having a multidisciplinary view was also well worked out with us. (E1)

"The importance of the multidisciplinary team was discussed in several semesters. It is important that team meetings occur to discuss how each professional can collaborate on patient care." (T1)

There was discussion about teamwork in undergraduate courses, according to participants. It should be noted that an effective team is one whose members, including patients, communicate with each other, reconcile their observations, competencies and responsibilities for decision making<sup>(2)</sup>.

Thus, it is important for students to be aware of the benefits of multidisciplinary teams and how they can be effective in improving care and reducing errors, as well as the concept that the health team includes patients and their caregivers, and that they play a key role in ensuring safe care<sup>(2)</sup>.

[...]it has been much discussed in various disciplines that involving and teaching patients, family members or caregivers in treatment is critical to the success and improvement of patients in activities. (T2)

In order for patient-centered care to occur, professionals need to develop empathy, compassion, and ability to respond to the needs, values, and preferences expressed by patients or family, as well as transparency in care<sup>(15)</sup>. Therefore, it is essential to discuss these aspects in the training of health professionals, so that they can be effectively reflected in practice.

### **Organizational systems and their interface with the quality of care**

In the complex health system, there are numerous parts interacting simultaneously, which makes it difficult to predict the behavior and outcome of the system as a whole<sup>(4)</sup>. This complexity is related, among other aspects, to the diversity of information sources and the relationship between health professionals, teams, patients, technology and the need to perform in different environments<sup>(15)</sup>.

We had the bureaucratic and technical part of the SUS, but we never discussed thinking about patients who will go through all this process; we only realize that they get lost and sometimes do not return in a proper way. (M1)

In the discipline of Public Health, it was explained how our system is structured, but we do not relate this to patient safety; we just learn how SUS works. (T2)

The organization of the health system was

addressed, but the discussion about the complexity of this system was not clearly evidenced. It is important to note that the organizational structure and the work processes with their complexities and interdependencies interfere in the quality and safety of patient care in the different spheres of performance<sup>(4)</sup>. However, if patient care outcomes are not measured, it is difficult to know whether the actions taken to solve a problem have actually been effective<sup>(2,4)</sup>.

### Protocols as tools for patient safety

The protocols are elaborated based on the principles of evidence-based practice and aim to assist professionals in making decisions regarding specific clinical situations. Its implementation is related to the improvement and safety of care by ensuring that best practices are applied in health care by minimizing the variability of conduct among professionals<sup>(16)</sup>.

[...] We have learned the general protocols, including sanitizing the hands and materials we use, and that each institution has protocols that we must follow. (T2)

Infection prevention has been very much addressed from the outset, at all times and in all subjects. (E1)

The protocols, with special attention to the prevention of infection related to health care (IRAS, acronym in Portuguese), were observed, highlighting the relevance of hand hygiene in the different undergraduate courses.

The existence of these protocols in the field of internships demonstrates the institutional commitment, as co-responsible in the training of professionals, and must ensure their effective implementation<sup>(13)</sup>.

### Safety and quality as key elements in the drug chain

The drug chain contains the prescription, dispensing and administration of medications, each with different professionals involved and with potential failures in the execution of its subprocesses. It is, therefore, extremely relevant to patient safety issues, as future professionals need to understand the nature of the error and

which damages are associated with the use of medications<sup>(2)</sup>.

The third global challenge for patient safety - No-Damage Medication, launched in 2017 by the WHO, had as its main challenge to reduce the frequency and impact of severe and preventable drug-related injuries, since such errors can be reduced, improving systems and practices throughout the drug chain, with priority for three areas: high-risk drugs, polypharmacy and care transitions<sup>(17)</sup>.

The letter is a big problem. In the boarding school we had teachers who valued that the letter was beautiful, the name of the medicine always in block letters for the patient to understand; we should explain how to take it; if the patient was illiterate we had to make a scheme on another sheet, but there are other preceptors who do not care about it. Then neither the pharmacist understands nor the patient does not take the medication. (M1)

The item security in the medication process was mentioned all the time. The five correct items, which are now eleven, were much cited in both classroom and laboratory classes and in the internships. (E3)

Another important aspect for the prevention of errors in the drug chain is related to the involvement of patients or their relatives, and it is imperative that they understand and participate in all the processes of the proposed treatment<sup>(2)</sup>.

### Addressing the theme of patient safety: strategies and teaching methodologies

In order to ensure that future professionals work safely in the various health activities, it is necessary to have a training that includes the concepts of quality of care and patient safety, as well as the interdisciplinary approach that favors collaborative practice in the team.

[...] I think all these topics should be addressed in a discipline; it could be a whole semester discussing the subject with the other courses, because in the hospital we will work with the occupational therapist, the speech therapist and the nursing staff and everyone needs to learn about it. (Fi2)

[...] because the application of human factors is important for patient safety, and

multidisciplinarity could also have been discussed differently to further establish the importance of the team in patient care; perhaps there could be a discipline about patient safety, with students from all courses[...].Realistic simulation containing people from various teams could be used. I think it would be much sharper for us the importance of multidisciplinarity and it would be much better for fixing the subject. (E2)

The incorporation of teaching strategies using teamwork, and emphasizing cooperation and communication in a context of care in complex systems can significantly improve the educational process and the care practice regarding patient safety<sup>(18)</sup>.

From this perspective, health students can benefit from a curriculum that uses problem-based learning methodology that encourages discussion and collaboration, as well as simulated experiences that promote a more realistic view of care practice and provide the development of skills to perform in complex situations with a focus on patient safety, from the perspective of interdisciplinarity and interprofessionalism<sup>(18)</sup>.

Currently, we are experiencing the compartmentalization of knowledge in specialties, which makes it difficult to interface different knowledge. Although specialization contributes to the production of specific knowledge, the fragmentation of complex and multidimensional phenomena makes it impossible to understand and reflect on different prisms and eliminate the opportunities for a more assertive approach<sup>(7)</sup>.

In this direction, interdisciplinarity represents a new awareness of reality and results in the integration and reciprocity between distinct areas of knowledge and aims to produce new knowledge and solve complex problems<sup>(7)</sup>.

Patient safety can be understood as a complex phenomenon involving health systems and requires an interdisciplinary and interprofessional approach, with the collaboration of all professionals involved in health care sharing and adding their specific knowledge in the search for new knowledge and models that improve care outcomes at different levels of health care.

The perception of this scenario favors the understanding that patient safety requires effective strategies to prevent avoidable damages

and that educational institutions must effectively concern themselves with training professionals with the necessary skills to deal with this context and seek the construction of safer health systems<sup>(19-20)</sup>.

[...] We need to take classes on patient safety, basic definitions and concepts, as we have had fragments of the subject, which seems to me to be much broader. I think that the topic should have been approached as a discipline for all courses together and then, in each discipline, the teachers would deepen the discussion in their specialties. (T1)

I believe that patient safety should be addressed in several disciplines throughout the course, as each has a focus and the subject would be discussed according to its specificity. [...] because human error is present in all areas. (B2)

Comprehensive and safe assistance requires the implementation of interdisciplinary and interprofessional education, using active teaching methodologies, in accordance with the general principles established by Resolution No. 569 of 2017 published by the National Health Council, in conjunction with the PNSP, which should be incorporated into the National Curricular Guidelines of all undergraduate courses in the health area<sup>(21)</sup>.

The challenges related to this training model are also related to the development of teachers, since for most of them teaching how to learn about certain subjects and learn from each other is a new experience<sup>(20)</sup>. Nevertheless, it is important to create an academic culture that supports collaborative practices among teachers as an institutional praxis<sup>(20,22)</sup>.

The WHO Curriculum Guide points out that one of the factors that hamper the inclusion of patient safety in the training of professionals is the lack of recognition by teachers of the essentiality of the subject matter in curricula<sup>(2)</sup>.

From this point of view, it is necessary to rethink the preparation of the teacher to integrate the theme of patient safety in the teaching-learning process and to add it to their experience and specialty and, thus, to positively influence both the formation of the students' professional identity and the improvement of the assistance processes in healthcare facilities<sup>(22)</sup>.

Therefore, it is imperative to broaden the patient safety approach in order to be present

transversely in the academic curriculum, favoring the meaningful learning of this subject during the training of future health professionals.

### FINAL CONSIDERATIONS

The results show that students perceive the teaching of patient safety during their academic training, although there is no uniformity in the way in which the different undergraduate courses approach it.

Therefore, it is possible to recognize the need for a formal and equitable approach to patient safety content during the academic training, through an interdisciplinary and interprofessional strategy that stimulates the effective participation of students of different courses, sharing and aggregating their knowledge in the search for new knowledge and better care results in the complex health system.

Moreover, for the effective insertion of patient safety during the construction of academic knowledge and professional identity, it is necessary to raise awareness and training of teachers, so that they value and integrate this theme in the curricular units under their responsibility.

It is considered that this study had as its main limitation the absence of documents about the implementation of patient safety in the curricula of the courses investigated.

Finally, it can be inferred that the integration of the subject in the curriculum of undergraduate courses in the health area will influence the incorporation of conscious attitudes by the future professionals and may collaborate to the creation and strengthening of the safety culture, in the collaborative practice, as well as positively impact the assistance results in the different areas of health care.

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## SEGURANÇA DO PACIENTE NA FORMAÇÃO DOS PROFISSIONAIS DE SAÚDE

### RESUMO

**Objetivo:** Compreender a percepção de discentes de graduação de uma instituição de ensino superior acerca do ensino da temática segurança do paciente. **Método:** Trata-se de uma pesquisa qualitativa, desenvolvida entre agosto e outubro de 2016, com discentes de graduação dos cursos de Enfermagem, Medicina, Fisioterapia, Farmácia, Nutrição, Terapia ocupacional e Biomedicina, por meio de entrevista semiestruturada. **Resultados:** Participaram 21 discentes e a partir da análise de conteúdo foram elencadas sete categorias temáticas: Inserção da temática segurança do paciente durante a formação acadêmica; Falibilidade humana e o aprendizado acerca dos riscos e erros assistenciais; Atuação da equipe de saúde e a inclusão do paciente como parceiro nas tomadas de decisão; Sistemas organizacionais e sua interface com a qualidade assistencial; Protocolos como ferramentas para segurança do paciente; Segurança e qualidade como elementos fundamentais na cadeia medicamentosa; Abordando a temática segurança do paciente: estratégias e metodologias de ensino. **Considerações finais:** Os discentes percebem o ensino sobre a segurança do paciente, todavia, foi constatada a necessidade da abordagem formal e equitativa de conteúdo acerca do tema no decorrer da formação, por meio de estratégias interdisciplinares, bem como a pertinência de sensibilizar os docentes para integrar essa temática nas unidades curriculares.

**Palavras-chave:** Segurança do Paciente. Qualidade da Assistência à Saúde. Educação Superior. Currículo. Equipe de Assistência ao Paciente.

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## SEGURIDAD DEL PACIENTE EN LA FORMACIÓN DE LOS PROFESIONALES DE SALUD

### RESUMEN

**Objetivo:** comprender la percepción de discentes de pregrado de una institución de enseñanza superior acerca de la enseñanza de la temática seguridad del paciente. **Método:** se trata de una investigación cualitativa, desarrollada entre agosto y octubre de 2016, con discentes de pregrado de las carreras de Enfermería, Medicina, Fisioterapia, Farmacia, Nutrición, Terapia ocupacional y Biomedicina, por medio de entrevista semiestructurada. **Resultados:** participaron 21 discentes y a partir del análisis de contenido fueron detalladas siete categorías temáticas: Inserción de la temática seguridad del paciente durante la formación académica; Falibilidad humana y el aprendizaje acerca de los riesgos y errores asistenciales; Actuación del equipo de salud y la inserción del paciente como aliado en las tomas de decisión; Sistemas organizacionales y su interfaz con la calidad asistencial; Protocolos como herramientas para seguridad del paciente; Seguridad y calidad como elementos fundamentales en la cadena medicamentosa; Tratando la temática seguridad del paciente: estrategias y metodologías de enseñanza. **Consideraciones finales:** los discentes llevan en cuenta la enseñanza sobre la seguridad del paciente, pero, se ha registrado la necesidad del abordaje formal y equitativo de contenido sobre el tema en el curso de la formación, por medio de estrategias interdisciplinarias, así como la pertinencia de sensibilizar a los docentes para integrar esta temática en las unidades curriculares.

**Palabras clave:** Seguridad del Paciente. Calidad de la Atención a la Salud. Educación Superior. Currículum. Equipo de Atención al Paciente.

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