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RESEARCH

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“Infection Control is a Safety Indication”: Discussions Based on the Student’s Perspective

“Controle de Infecção é Sinal de Segurança”: Discussões a partir da Perspectiva Discente

“Control de la Infección es Señal de Seguridad”: Discusiones a partir de la Perspectiva de Estudiantes

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ABSTRACT

Objective: This study aims to identify, as far as nursing training is concerned, how the patient safety related to hospital infection is expressed considering the perception of undergraduate students. **Methods:** It is a descriptive and exploratory study with qualitative approach, which has had the participation of 42 nursing students. Data were collected through interviews, later processed and analyzed by the Descending Hierarchical Classification and based on the Collective Subject Discourse. **Results:** The following four classes were obtained: challenges in the infection control aiming the patient safety; observance of procedures and standards; hospital admission as a risk factor for patient safety; professional training for infection control aimed at the patient safety. **Conclusion:** Patient safety is closely associated with the development of good practices for the prevention and control of infection. Assistance based on the patient safety requires biopsychosocial and management factors articulation, which must be worked out since graduation time..

Descriptors: Patient safety, Infection, Nursing education.

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RESUMO

Objetivo: Identificar, na formação da Enfermagem, como se expressa a segurança do paciente relacionada à infecção hospitalar na percepção de alunos graduandos. **Método:** Pesquisa descritiva, exploratória de abordagem qualitativa, com 42 discentes de enfermagem. Os dados foram coletados por meio de entrevista, posteriormente processados e analisados pela Classificação Hierárquica Descendente e fundamentada no Discurso do Sujeito Coletivo. **Resultados:** Obteve-se quatro classes: Desafios no controle da infecção visando à segurança do paciente; Adesão às normas e procedimentos; A internação hospitalar como fator de risco à segurança do paciente; A formação profissional para o controle de infecção visando à segurança do paciente. **Conclusão:** A segurança do paciente está intimamente associada ao desenvolvimento de boas práticas de prevenção e controle da infecção. Uma assistência pautada na segurança do paciente necessita da articulação de fatores biopsicossociais e de gestão, que devem ser trabalhados desde a graduação.

Descritores: Segurança do Paciente, Infecção, Educação em Enfermagem.

RESUMEN

Objetivo: Identificar, en la formación de enfermería, como se expresa la seguridad del paciente relacionada con la infección hospitalar en la percepción de los estudiantes. **Método:** Estudio descriptivo, cualitativo exploratorio con 42 estudiantes de enfermería. Los datos fueron recolectados a través de entrevistas, más procesados y analizados por clasificación descendente jerárquica y se basada en el discurso del sujeto colectivo. **Resultados:** Se obtiene cuatro clases: Desafíos en el control de infecciones para la seguridad del paciente; La adhesión a las normas y procedimientos; La hospitalización como un factor de riesgo para la seguridad del paciente; La formación profesional para el control de la infección para la seguridad del paciente. **Conclusión:** La seguridad del paciente está estrechamente vinculada con el desarrollo de buenas prácticas en la prevención y control de la infección. Un cuidado guiado sobre la seguridad del paciente requiere la articulación de factores biopsicossociales y de gestión, que deben ser trabajadas desde la graduación.

Descriptores: Seguridad del paciente, Infección, Educación em enfermería.

INTRODUCTION

Health Care-Related Infections (HCRI) have been a worldwide serious concern. The HCRI have high prevalence, morbidity and mortality, especially after increasing reporting of multidrug resistance to available antibiotics.¹⁻² In the hospital, the HCRI impacts are even more severe and constantly end up in patient death.³

The presence of incidents and adverse events, such as HCRI, compromise patient safety and are currently an important challenge for the improvement of health quality, which seeks to offer the minimum risk of unnecessary harm associated with health care to acceptable levels. Errors, violations, and failures in the care process generally increase the risk of incidents that can cause serious harm to patients and threaten their safety.⁴⁻⁵

One of the greatest difficulties in the prevention of healthcare-related infections is the training and training of human resources sensitive to the problem, aware of and

responsible for the maintenance of the biologically secure environment, which is decisive for providing safe care.³⁻⁵

It is understood that patient safety is a key point in the quality of care provided by health teams, especially the nursing team, because it has unique responsibilities in most patient procedures.⁶

Professional training focused on patient safety in the training of health professionals is difficult to measure, which is why there is a shortage of current scientific literature on the subject, despite its great impact. In the case of nursing professionals, the absence of systematic models that guide this formation can cause greater damages, since the nurse is one of the main promoters of patient safety.

Based on the exposed problem, this research chose as a central question: How does the Nursing Education provide an action focused on patient safety focused on the infection acquired while in hospital environment? In order to answer such questioning, this study was developed aiming to identify, as far as nursing training is concerned, how the patient safety related to hospital infection is expressed considering the perception of undergraduate students.

METHODS

It is a descriptive and exploratory study with qualitative approach, which has been performed in a Superior Educational Public Institution from the Brazilian Northeast.

The participants of the research were 42 undergraduate students of the Nursing Graduation course of that institution, selected by the process of stratified random sampling. In the elective course, students develop their academic training in theoretical and practical contents with advanced simulation practices, carried out in the outpatient and hospital settings, in basic health units and patients' homes.

For inclusion in the research the students should be properly enrolled in the educational institution, attending the penultimate or last period (respectively, 8th and 9th) of the graduation, and also being inserted in academic practices aimed at the clinical assistance in the health services. Students who were locked in the course were excluded, being replaced by other students aiming to reach the total sample.

A semi-structured script was applied and submitted to an initial judgment by expert judges on the topic, with three central questions, which aimed to analyze students' knowledge about infection prevention and control in hospital services, as well as its relationship with maintenance and promotion of patient safety. The interviews with the participants were recorded, and they took place in rooms of the institution itself, being later transcribed. They had an average duration of 35 minutes and were performed by the researchers after training and pre-test. At the end of each interview, it was asked if any participants would like to give up participating

in the research or change something that was said, yet no member gave up or requested changes.

The transcribed data were then grouped into a corpus, submitted to statistical analysis in the software IRaMuTeQ (acrônimo de Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires) [acronym of R Interface for Multidimensional Analyzes of Textes of the Questionnaires], processing method based on classic lexical analysis on the discourse of the participants, quite useful in the apprehension of research objects in the area of health.⁷

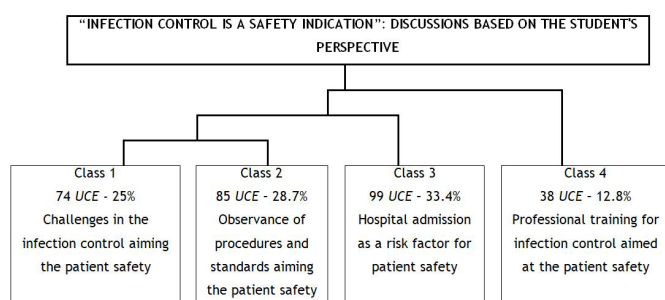
The generated data were then analyzed by the Descending Hierarchical Classification method, which classifies the text segments according to their respective vocabularies, allowing a lexical analysis of the same and providing contexts for a better understanding of these vocabularies.⁷

The study met all the ethical criteria that govern research involving human beings, and the research project was approved by an Ethics Committee in Research (Legal Opinion No. 1,015,785), establishing prior contact with the students to conduct the interviews. In the data collection, the objectives, risks and benefits of the research were exposed, so that participants were able to express their willingness to participate. All the participants signed the Informed Consent Term.

RESULTS

The study included 42 participants, of whom 30 were women, with a mean age of 24 years. The IRaMuTeQ recognized the corpus separation in 296 elementary text units. There were 12,159 occurrences, and the utilization was around 77.2%. From the results obtained, we analyzed the textual domains, interpreting the meanings and giving them names with their respective meanings in classes (Figure 1).

The results were analyzed based on the behavior of the classes, according to the Descending Hierarchical Classification, and in the statements that were grouped and formed. During the processing, two axes appeared, being the first one formed by the classes 1, 2 and 3, that carried the majority of the contents considered valid by the software, linked to the subjects that permeated the training of the participants. The second axis is formed by a single class (4), in which professionals seek to characterize their training aimed at patient safety by linking it to infection control. These classes and their contents are exposed and analyzed below.



Class 1 – Challenges in the infection control aiming the patient safety

In the view of the study participants, patient safety is a goal to be achieved, through the establishment of some indicators (hand washing rate, professionals using Personal Protective Equipment - PPE, and infection in general). Then, it is necessary integration and interaction between professionals, patients and relatives.

They see the nurse as a central figure in this process of forming a culture of patient safety, and this professional is able to move and articulate with other team members, patients and family members.

"One thing is directly related to the other: if I want to protect my patient I have to avoid infections, wash my hands, treating..." (ST11)

"In the chain of infection, the professionals are central figure, bringing and carrying pathogens between people and environments. The nursing professional mainly..." (ST16)

In this regard, the participants highlight the challenge of managing material and human resources, allied to the routine of the nurse, characterized as follows: exhaustive, repetitive and stressful, involving delegating, improving and supervising standards and routines as well as rationalizing the human factor and activities, Especially those related to procedures; which places him/her within a highly bureaucratic routine, and keeps him/her away from the patient even more.

"Nursing is no longer the art of caring, but the art of delegating to the technician and signing papers..." (ST23)

"It is inhumane what we have to do in services, how can we take care of humans inhumanly? That is why the error occurs, so it is so insecure" (ST40)

In order to better incorporate the culture of patient safety into the hospital environment, it is necessary for academic training to offer subsidies to health professionals to deal with errors, mainly because they are associated with feelings of incapacity, guilt, shame and scientific knowledge deficit, thus, influencing the care provided to patients. Based on the above, there is a need for changes in professional care, which lead to the development of better practices in health care, leading to a reduction in the rate of adverse events.

Class 2 - Observance of procedures and standards aiming the patient safety

This class is complementary to the previous one, which is why they are closely linked. Although patient safety was influenced by a number of factors, when we emphasized infection control, maintenance of the technique and adhe-

rence to standards were highlighted in the subjects' reports, which were related to the same great significance.

The reason for this may lie in the fact that one of the greatest challenges to maintaining a biologically secure environment is the health team responsible for this task. Therefore, it is of paramount importance that the health team appropriate the standards and operational procedures aimed at patient safety, as well as the professional, based on the recommendations of national agencies (such as the *Agência de Vigilância Sanitária - ANVISA* - [Sanitary Surveillance Agency] and international organizations as the World Health Organization - WHO and Centers for Disease Control and Prevention - CDC). Additionally, some respondents reported difficulty in adhering to these norms, which are often neglected due to personal, professional and structural factors.

"I think practicing care is still very limited to repetition. Who has time to stop, read a 20 page English article and then do a probe? Are you going to do this between one shift and another?" (ST02)

"Every year the ministry launches a new ordinance, but do the professionals adhere? For how many decades have you said that it is important to wash your hands, and nothing changes ..." (ST20)

"It ends up that information is restricted to those who seek it, and it does not occur to the recycling of the professional." (ST17)

"We have learned that in theory it is one thing, and in practice it is another. So when I get into practice, what will I follow?" (ST38)

"I've seen a professional being proud that he had an eye puncture closed and without a glove...." (ST33)

"You can tell the emergency professionals that they clean their hands on the right occasions." (ST13)

It is notorious in the testimonies a kind of professional empathy with those who are already in the services, as well as a projection of these students, who put themselves as professionals of these institutions in the near future, which brings them fear and concern. Nonetheless, they acknowledge their duties with regard to the execution and promotion of a harmless assistance. It is also worth mentioning the need for training and training aimed at the continuous updating of professionals.

Class 3 - Hospital admission as a risk factor for patient safety

The participants recognize the hospital as a trending environment to the appearance and development of hospital infection, listing it as a risk factor to be "handled". They emphasize the "inherent vulnerability" to hospitalization and care, in which patients enter services to improve their health condition, and become more exposed to new diseases and injuries outside the institution.

"It's quite funny, I mean... you get the guy, put him there to take care of him, and possibly heal, but actually there (in the hospital) he's much more exposed to risks, and we, as health professionals, are the major risk factor" (ST09)

As can be seen, the participants place professionals as a key player in the transmission chain of some infections at various times. They also highlight the high prevalence of microorganisms harmful to patient safety, and the number of invasive procedures performed in the hospital environment; factors that can be minimized through the use of simple procedures such as hand washing and the PPE use.

"An elderly patient, super fragile, and you still have to expose him to invasive mechanical ventilation, delayed catheterization and other more aggressive measures." (ST37)

"The PPE protects not only me, but also my client." (ST20)

Class 4 - Professional training for infection control aimed at the patient safety

According to the participants, infection control is a little explored topic. Mainly, this topic assessment occurs in a superficial and punctual way. The small articulation given to the subject has direct reflexes in the learning process. Also, it is added to this fact that the connection of the binomial infection control-patient safety is made by the students, which is based and propitiated in the knowledge passed by the professors.

"(...) The teacher says: 'you have to wash your hands, because you do not contaminate the patient, and you have to keep the aseptic technique in order not to contaminate...' and that's it!" (ST12)

"I really missed a discipline about infection control, and especially about patient safety! It's the basis, if you do not know the importance of keeping the environment clean, it is done!" (ST21)

The students assigned infection control and patient safety, care in a hospital environment, and they seem to see the home and the community as an environment free from risks and damages to patients and professionals. This is largely due to the academic spaces in the area of nursing and health, reflecting the practices developed in health care services strongly focused on curative care and the hospital-centered model.

"At the hospital you have to always work on patient safety, and working to avoid infection is very important." (ST27)

"Hospital infection is one of the major threats to the patient safety, and also to the professional who can get something." (ST09)

DISCUSSION

In the perspective of nursing undergraduates, patient safety is an indicator of desired quality, but it is difficult to be achieved. When related to infection prevention and control, complex challenges arise and are linked to personal, professional and institutional factors that must be considered.

In their testimonies, the participants sought to list the main challenges in infection control aimed at patient safety. They emphasized professional factors, such as those related to adherence, to standard norms and procedures, which nevertheless seem to suffer a strong personal and cultural influence from these professionals, as well as factors characterized as "inherent", such as hospital admission and training aimed at controlling infection, which was said as punctual and superficial.

Study has shown that every three minutes more than two Brazilians die in a hospital (public or private), due to errors and other adverse events related to professional care. Among the adverse events, the hospital infection stands out. Despite the current relevance of the data, the role of hospital infection related to patient safety is a classic public health problem, pointed out by researchers.⁸⁻⁹

Regarding the obedience to standards, infection control in patient safety is a constant concern in Brazil. Also in 2011, following the recommendations of international agencies, the ANVISA through the *Resolução Diretoria Colegiada (RDC)* [Collegiate Directors Resolution] No. 63 determines the establishment of strategies and actions focused on patient safety, which includes the prevention of HCRI10. In 2012, through the Regulation 158, the 'National Commission for Prevention and Control of Infections Related to Health Care' was established to advise the Board of Directors of the ANVISA on the elaboration of guidelines, standards and measures aimed at the prevention and control of HCRI. This culminated in the publication in 2013 of the National Patient Safety Program, which contemplates and focuses on the importance of prevention and control of HCRI mainly in the hospital.

This discussion has come out of the regulatory scope, and increasingly penetrates and conquers the academic spaces of Superior Educational Institution. In these institutions, the understanding of the phenomenon has been accompanied by initiatives in different areas of attention, organization and management of health services, always linking the binomial HCRI-patient safety, and one's ability to influence the other.

In this research, the binomial was scored by the students and restricted to some assistance indicators, which expressed a positivist line of thought, anchored in quality indicators of a practical and utilitarian nature, with a high valorization of technique and procedures.

The anchoring in technical and procedural indicators has become common in the assessment of nursing work processes, in part by its easy measurement. However, a study aimed at systematizing the recommendations of nursing professionals for patient safety, highlighted recommendations that focused

on professional conduct, such as dedication, commitment and awareness at work.¹¹

Other researchers on the behavioral aspects that affect the performance of professionals regarding patient safety emphasize the involvement of patients and caregivers in the care process at all levels of health care, as partners and/or co-responsible people, mainly in activities related to the maintenance of the biologically safe environment, such as hand hygiene and use of Personal Protective Equipment.^{9,12,13}

In this sense, the importance of the nursing team, listed by students, should be considered, and explored in view of the large contingent of nursing professionals working in the institutions and their responsibility in patient care. However, in order to the nursing professional remain at the forefront of patient safety actions, changes are required that embrace academic training and daily performance.

The process of academic training in health must support future professionals, not only to avoid mistakes, but to deal with it in the best way possible. When learning is limited to "simple avoidance", an overload burden is placed on the professionals, opening up a precedent for the establishment of punitive culture. The punitive culture that focuses on professional error contributes too much to the decrease in the safety culture because the error is not worked out to improve practice. This way, error handling in a negative way can become recurrent.¹⁴⁻¹⁵

This culture focuses too much on the mistakes made by the professionals, either taking or diminishing the patient charge, and the actions that surround it. This structure leads students to believe that only correct "techniques" are enough to prevent adverse effects, partially evaluating the safety culture, which also involves the functions of the manager, the system and the patient as an active individual in your care.

This interpretation can be corroborated by a study carried out having health professionals working in Intensive Care Units, which showed that the reports of errors were not performed because they were intimately associated with immediate punishment.¹⁶ This picture can also be visualized in other realities, such as the United States, where professionals show difficulty in reporting their mistakes by either fear of the supervision or the co-workers. Another study, inserted in the North American reality, showed evidence of the same difficulty.¹⁷

The personification of guilt in itself, as a health professional, and in its activities, leads the nurses to indicate the hospital environment as a "risk factor" for hospital infection.

This understanding seems to be still transposed to the notions of prevention and control of HCRI of students who, in the absence of adequate knowledge, end up performing their actions in a unidirectional and faulty way.

Because of this, students express the need to update their knowledge about the procedures involved in improving patient safety care. The characterization of training, as something flawed and punctual regarding patient safety, is a historical problem already faced by the teaching directed to

HCRI. As well as the prevention and control of infection, the teaching of patient safety, and all the details that permeate it must be part of the nurse's pedagogical project, preferably explored throughout the higher education, implementation and evaluation of initiatives aimed at patient safety.^{16,17}

The undergraduate-nursing curriculum does not have a specific patient safety disciplinary strategy that addresses the subject in sufficient hours, nor does a database capable of informing the range of patient safety actions, both in Bachelor and in Licentiate courses.¹⁸

This approach consolidates the expansion of the pedagogical space and expands beyond the classrooms transforming the work process of health professionals into a dynamic process of teaching and learning allowing the exchange of knowledge that improves care and makes the care process even safer.¹⁹

Establishing effective communication among professionals to avoid possible errors due to communication failures is also important, as well as a greater adoption of risk management by the nursing team, identifying the probable origin of an adverse event, the damages evaluation caused to the patient and the adequate solution to these damages.¹⁸

Nursing practices have a duty to be based on patient safety, and the team needs to be aware that health users are constantly subjected to adverse risks, such as falls, infections, and even pressure injuries. Through autonomy in the face of risk management, then the patient stability management can be facilitated, which contributes to the patient safety efficacy.²⁰

CONCLUSIONS

Patient safety is closely associated with the development of both good infection prevention and control practices, especially in the hospital environment. Nursing care based on the patient safety encompasses biopsychosocial aspects, as well as good management, which must be worked on since graduation time. Therefore, it has been noticed a need for changes in the training of the health professional, especially in nursing graduation courses, as well as a reformulation of the curricular structure of undergraduate courses. The training focused on patient safety culture must be included in the curriculum in an obvious and proportionate way, avoiding differences between theory and practice, together with the training continuity through courses and updates.

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