PATIENT SAFETY: KNOWLEDGE OF UNDERGRADUATE NURSING STUDENTS

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ABSTRACT: Study to identify the knowledge of Nursing students at a public university in the interior of the State of São Paulo about patient safety. Quantitative, cross-sectional study developed between May and June 2011. The participants were 118 students regularly enrolled in the third, fourth and fifth year. A self-applied questionnaire was analyzed with the help of descriptive statistics. The results indicate that part of the students consider that nursing care is unsafe and can entail risks. The team's lack of preparation is considered a factor that hampers safe care delivery. In addition, a large part of the students is unfamiliar with the term adverse event. In conclusion, the students are able to consider aspects of patient safety and nurses' responsibilities to achieve safe care. Nevertheless, the scope of teaching on this theme needs to be expanded.
DESCRIPTORS: Nursing service, Hospital; Security measures; Patient safety.

SEGURANÇA DO PACIENTE: CONHECIMENTO DE ALUNOS DE GRADUAÇÃO EM ENFERMAGEM

RESUMO: Estudo com o objetivo identificar o conhecimento de alunos em Enfermagem de uma universidade pública do interior paulista sobre segurança do paciente. Trata-se de estudo quantitativo, transversal, entre maio e junho de 2011. Participaram 118 alunos regularmente matriculados no terceiro, quarto e quinto anos. Questionário autoaplicável foi analisado com estatística descritiva. Os resultados apontam que parte dos alunos considera que a assistência de enfermagem é insegura e pode trazer riscos. A falta de preparo da equipe é considerada como fator dificultador para que se preste assistência segura. Além disso, grande parte dos alunos desconhece o termo evento adverso. Conclui-se que os alunos conseguem contemplar os aspectos relacionados à segurança do paciente e as responsabilidades do enfermeiro para alcance de assistência segura. Porém, é necessário ampliar o escopo do ensino sobre esta temática.
DESCRITORES: Serviço hospitalar de Enfermagem; Medidas de segurança; Segurança do paciente.

SEGURIDAD DEL PACIENTE: CONOCIMIENTO DE ALUMNOS DE GRADUACIÓN EN ENFERMERÍA

RESUMEN: Estudio con el objetivo de identificar el conocimiento de alumnos en Enfermería de una universidad pública del interior de São Paulo sobre seguridad del paciente. Es un estudio cuantitativo, transversal, realizado entre mayo y junio de 2011. Participaron 118 alumnos matriculados de modo regular en el tercero, cuarto y quinto años. Cuestionario autoaplicable fue analizado con estadística descriptiva. Los resultados apuntan que parte de los alumnos considera que la asistencia de enfermería presenta inseguridad y puede traer riesgos. La falta de preparación del equipo es considerada factor dificultador para que se presente una asistencia segura. Además de eso, gran parte de los alumnos desconoce el término evento adverso. Se concluye que los alumnos logran contemplar los aspectos relacionados a la seguridad del paciente y las responsabilidades del enfermero para el alcance de la asistencia segura. Sin embargo, se necesita ampliar el escopo de la enseñanza acerca de esta temática.
DESCRIPTORES: Servicio hospitalar de Enfermería; Medidas de seguridad; Seguridad del paciente.

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INTRODUCTION

In 2004, the World Health Organization (WHO) created the World Alliance for Patient Safety. This Alliance was conceived to arouse awareness and political commitment to improve the safety in care delivery, besides supporting countries to develop public policies and patient safety practices all over the world[1].

Safety can be defined as the absence of exposure to danger and protection against the occurrence or risk of injury or loss[2]. According to the World Health Organization (WHO)[3], patient safety is the absence of potential or unnecessary damage to the patient associated with healthcare.

Patient safety is a current and increasingly important theme. Literature data indicate that, in Europe, more than ten years ago, for every ten hospitalized patients, one was a victim of avoidable damage and adverse events, brought about during care[4]. Additional very recent information shows that between 50 and 60% of these events are avoidable[5-6].

As they follow the patients along their stay in hospital and are responsible for coordinating the nursing care practice, nurses play a fundamental role in patient safety promotion during the care process[7]. That entails the need for scientific training of these professionals, assuming an ethical commitment to systemic assessment and prevention actions, in the attempt to permit the reduction of unwanted outcomes and to analyze the impact on the quality of care offered[8].

In any quality analysis, the lack of information about adverse events involving patients and their causal factors are severe problems the managers and researchers are confronted with, impeding the knowledge, assessment and discussion about the consequences of these events for the professionals, users and family members. This gap negatively affects the managers' actions in the planning and development of strategies focused on the adoption of safe practices, the minimization of events and the improvement of care, putting the patients' safety at risk[9].

The complexity of health care the nurses have been confronted with in recent times have aroused discussions about investments in the preparation of future more critical and reflexive professionals to provide safer care. Consequently, as novels in the profession, it is fundamental for the nursing students to add patient safety to teaching as a core humanistic nursing value and a vital patient right(10).

With a view to a change in the health institutions' safety culture, the new professionals need to display knowledge and skills to identify and take suitable measures after an error is committed. Undergraduate health programs can play an important role in promoting concepts and skills about human error and patient safety. Studies demonstrate that, when they are introduced to this theme, the students are encouraged and acknowledge the relevance of these contents for their education. In addition, the great impact in patient care delivery can be distinguished[11-13].

In view of the above, the objective in this study is to identify the knowledge of students from a nursing bachelor and teaching diploma program at a public university in the interior of the State of São Paulo about patient safety. It can be of interest to a broad public that also aims to investigate patient safety aspects, specifically regarding nursing undergraduates from all over the country, as the same strategy can be applied to different teaching institutions. In addition, the theme shows a contemporary focus, mainly in view of the recent publication of the Basic Patient Safety Protocols as part of the National Patient Safety Program (NPSP), approved in Ministry of Health Ordinances 1.377/2013[14] and 2.095/2013[15].

METHOD

A cross-sectional, descriptive-exploratory(16) study with a quantitative approach was undertaken at a public university in the interior of the State of São Paulo between May and June 2011. The study population consisted of students regularly enrolled in the third, fourth and fifth years of the nursing bachelor and teaching diploma programs. Approval for the research was obtained from the Research Ethics Committee at the University of São Paulo at Ribeirão Preto College of Nursing (protocol 1149/2010) and considered all ethical principles for scientific research involving human beings.

To collect the data, a semistructured, self-applied questionnaire was used, consisting of six closed and four open questions on patient

safety and nursing care quality, based on the literature and previously tested in an equivalent group of 10 students who were excluded from the final sample. Before the data collection, the researchers clarified all doubts in the attempt to facilitate the students' understanding without compromising their answers.

The results of the closed questions were analyzed in terms of frequencies and percentages, using the software Epi Info®. The results of the open questions were analyzed descriptively, through the analysis and classification of the interview contents.

RESULTS

To identify the teaching diploma students' knowledge about patient safety, this study obtained answers from 118 students from the third (38), fourth (39) and fifth year (41), between 19 and 35 years of age. Most of the interviewees (84.7%) were female.

As regards the definition of patient safety in hospital nursing care, the content of the third-year students' answers highlighted: patient care guaranteeing a better recovery, good hygiene, biosafety, not exposing the patient to other illnesses, besides the responsibilities to perform procedures without any harm to health.

The analysis of the fourth-year students' answers demonstrated that, according to them, safety means avoiding that the patient's health condition gets worse while, for the third-year students, safety means accomplishing all the necessary procedures in a safe and responsible manner, based on maintaining the patient's health, avoiding iatrogenic effects and promoting wellbeing through appropriate care delivery.

According to the fifth-year students, safety is the accomplishment of procedures aiming for the absence of damage to the patient, prevention of risk factors, minimization of physical and psychological damage/care promotion, patient protection, promotion of integrity, a safe environment and techniques and humanized care.

When asked about whether nursing care can cause risks for the patients, 94.7% of the third-year, 92.3% of the fourth-year and 95.1% of the fifth-year students agreed. In addition, 52.6% of the third-year, 35.9% of the fourth-year and 48.8% of the fifth-year students answered that the nursing care offered is not safe for the patients.

It was also analyzed in this research which aspects are considered factors that hamper or prevent nursing from developing a more risk-free care to inpatients. The answers were distributed in Table 1.

As regards the knowledge on the term "adverse events", the data indicate that 47.4% of the third-year, 69.2% of the fourth-year and 46.3% of the fifth-year students do not know what the term means. Among those who indicate that they do know the term, they describe it as an unforeseen, unwanted or unexpected event.

According to the third-year students, adverse events are medication and procedural errors; patient falls and hospital infection. The fourth-year students consider it are facts that happen due to the team's lack of preparation, lack of knowledge or a problem; non-programmed risks; something that hampers/interferes in the course of care; an event that goes against expectations, such as procedural errors. Finally, the fifth-year students believe adverse events are beyond the team's control; an error committed by the professional; an unwanted event or that causes damage to the patient; a complication due to an inappropriate action.

Table 1 – Difficulties for nursing to deliver more risk-free care to inpatients according students from a Nursing teaching diploma program. Ribeirão Preto-SP-Brazil, 2011

Difficulties	3rd year (%)	4th year (%)	5th year (%)
Team knowledge on the theme	71,1	64,1	73,2
Flaws in the services' physical structure	78,9	89,7	75,6
Staff dimensioning	63,2	66,7	78,0
Availability and quality of material and drugs	63,2	84,6	73,2
Technical-theoretical preparation of the team	89,5	92,3	80,5
Management policies of hospitals and nursing services regarding adverse events	28,9	66,7	61,0

As regards the adverse events the students are familiar with, Board 1 summarizes the answers.

DISCUSSION

The results demonstrate that the students essentially understand the theme, recognize strategies and know about their importance in care. This shows that all participants in a uniform manner understand the meaning of patient safety and acknowledge the need for improvements in this aspect of the hospital services.

Flaws in the services' physical structures were some of the aspects the students most highlighted as a factor to deliver more risk-free care, in line with the literature, which mentions that a good infrastructure promotes quality and productivity. Nevertheless, the excellence of the physical installations and equipment merely informs the institution's potential, without assessing its effectiveness and efficiency. In that sense, the human element that delivers the care, with its moral values, professional education, technical-scientific training and commitment influences the

Board 1 – Adverse events related to nursing care according to Nursing teaching diploma students. Ribeirão Preto-SP-Brazil, 2011

Adverse event	3rd year	4th year	5th year
Fall	x	x	x
Medication error	x	x	x
Hospital infection	x	x	x
Procedural error/flaw	x		x
Wound contamination	x		
Pu (pressure ulcers)		x	x
Phlebitis		x	x
Use of bad-quality/inappropriate materials		x	x
Cross-contamination		x	
Patient identification error			x
Wrong prescriptions			x
Inappropriate material disposal			x
Occupational accidents			x

care quality and productivity much more[17].

As regards the team's theoretical-practical preparation, a strategy the students mentioned and which according to them is part of undergraduate students and hospital practicums, a Brazilian study(18) affirms that the nursing team not only needs technical knowledge on the procedure they are about to perform, but also about the theoretical framework for this purpose. Therefore, the work will be done in a qualified manner if theory is linked with practice.

The results assertively discuss the importance of staff dimensioning in patient safety. According to the literature, nursing staff dimensioning should include all categories and use methods and criteria that permit the adaptation of human resources in quantitative and qualitative terms. Dimensioning the number of staff members needed for nursing care implies the identification and characterization of the clients, structuring the team to attend to the care demands and improve the quality of care[19].

Another aspect that was correctly mentioned was the dimensioning and quality of material and drugs, as it is difficult to disseminate patient safety when the material resources are scarce or the technological support is lacking, in combination with an economics-based policy that hides errors and a dispersion of resources between private and state-owned institutions[20].

Although a large part of the students declared they did not know the term adverse event, coherence was observed between the definitions the students cited and those found in the literature, which show that adverse event is any event that happens during health care and can cause an injury, physical or psychological damage to the patient or the organization[21]. In addition, a Brazilian study considered the events related to the indicators quality, medication, falls,

catheters, lines, drains and skin integrity are more frequent[22]. These assertions are similar to the students' answers in this study.

In general, medication error was the adverse event the students mentioned most. Among the factors that can give rise to these errors, unreadable handwriting or bias in the medical prescription, separation of drugs different from the prescription, administration route errors and medication interaction are highlighted[23].

In this context, one of the strategies the students referred to is related to the electronic medical prescription, which is one of the ways to prevent and reduce medication errors, as it facilitates the data reading, is more beneficial, organized, fast and practical for the professionals to handle[24].

Another strategy that was properly mentioned is the patients' identification in the health institution, which is another potential problem in the analysis chain of adverse events related to medication administration and, therefore, more systemized studies on the feasibility of the identification system adopted at the institutions are needed[17,25].

Studies have demonstrated that some simple changes in care practices can reduce the adverse events. Examples are actions to encourage hand washing, reducing the infection rates in the patient care environments[25], an initiative most of the students referred to in this study, as a strategy discussed in a course subject and observed in hospital practice. Another important tactic that favors patient safety is risk management, which involves the identification of the probable origin of adverse events, the assessment of the damage caused and appropriate decision-making with regard to these problems[26].

Communication is an important tool discussed in the undergraduate program, but which is not observed in clinical practice. There is scientific evidence that interpersonal relationships are negatively affected at the health institutions, as the number of cases in which a relation between patient and professional is observed are few and, when this occurs, the positive experiences are suppressed by the strong expression of multiple negative events[27].

It is highlighted that many tactics to improve patient safety the students mentioned were discussed in undergraduate course subjects, but not observed in the inpatient contexts. This information is in line with scientific studies that affirm that the link between what is taught and what actually happens in the health professionals' work contexts is pending, so that nursing needs to transform the discourse of patient safety research into solid activities[9,27].

It is known, however, that the undergraduate nursing curricula do not contain a patient safety strategy. There are no rules for the inclusion of specific safety courses or a certain number of hours to teach the theme in the classroom, laboratory or clinic. There is no database whatsoever either to inform on the range of patient safety-related actions in bachelor and teaching diploma programs. Therefore, recently, new curricular contents on patient safety in the clinical context have emerged in the literature and, in addition, educators and other stakeholders can autonomously plan, implement and assess some patient safety initiatives[10].

In that sense, hospital environments that heed their patients' safety accomplish constant assessments, the professionals are trained, a non-punitive culture is created, error reporting is encouraged and processes are simplified, with a view to intercepting possible errors and failures before they affect the patient(28). Therefore, health organizations should have control over all of their critical processes, mainly regarding the complexity of the risk factors involved in the procedures[29].

This study comes with one important limitation regarding the sample size, which was small, so that the results found only apply to the research population. Therefore, as the study sample only includes students from a single higher education institution, the results cannot be generalized to students from other institutions.

FINAL CONSIDERATIONS

This study was focused on undergraduate nursing students' knowledge on patient safety and its results present evidence on the understanding of patient safety concepts and strategies in hospital care.

It was concluded that the students are able to consider various aspects of patient safety and the nurses' responsibilities towards the

achievement of safe care and recognize strategies to disseminate it. They also understand that care can entail risks and is not safe, with variations among the students from different course years.

It should be highlighted that, for the students, safe care is mainly achieved through the health team's theoretical-practical aptitude. The results did not show that they understand the aspects of the multiprofessional processes and institutional policies as decisive factors to improve the safety of care.

It is fundamental for undergraduate nursing programs to discuss patient safety as part of their education, supporting nursing actions and establishing knowledge and skills related to strategies that minimize errors and cultivate patient safety, which are not only focused on technical knowledge issues, but also on the need to work on safety as organizational culture and as a management tool for nurses.

Finally, concerning this study's contributions to society, the nurses should be equipped with knowledge about patient safety, competences and attitudes, with a view to improving the quality and safety of health care in the country and arouse the educators and students' interest in this matter. In summary, the development of competences towards the quality and safety of care as part of undergraduate nursing programs should be considered essential for the education of professionals committed to patient safety.

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