





ORIGINAL ARTICLE

**TEACHING OF PATIENT SAFETY IN UNDERGRADUATE
NURSING COURSES****HIGHLIGHTS**

1. Teaching of Patient Safety to undergraduate nursing students.
2. Need for more in-depth information on patient safety during graduation.
3. Professional training of future nurses.
4. Weaknesses in teaching, according to the curricula available on the websites.

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ABSTRACT

Objective: To identify the insertion of the theme "Patient Safety", as a separate discipline, in undergraduate Nursing courses in the State of Paraná – Brazil. **Method:** Exploratory, descriptive, documentary-type study, with a quantitative approach, developed through analysis of information described in the curriculum guidelines, collected in January 2023 and analyzed using the document analysis method. **Results:** Of the 54 undergraduate nursing courses offered in the State of Paraná, nine teach specific subjects on the topic "patient safety", three in public institutions and six in private institutions. **Conclusion:** Curricular weaknesses were observed in the approach to this topic, with a noticeable need to introduce concepts about patient safety into the curricular guidelines, integrating theory into professional practice.

KEYWORDS: Patient Safety; Educational Evaluation; Competency-Based Education; Quality Assurance; Undergraduate Nursing Programs.

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INTRODUCTION

Adverse events (AE) are defined as incidents that result in harm to patient health, making up the indicators of the quality of care provided by health institutions. Thus, studies show that AEs cover around 10% of hospital admissions, pointing to a possible gap between qualified care and the care provided, due to the reduction in human resources, high demand for care and high workload¹.

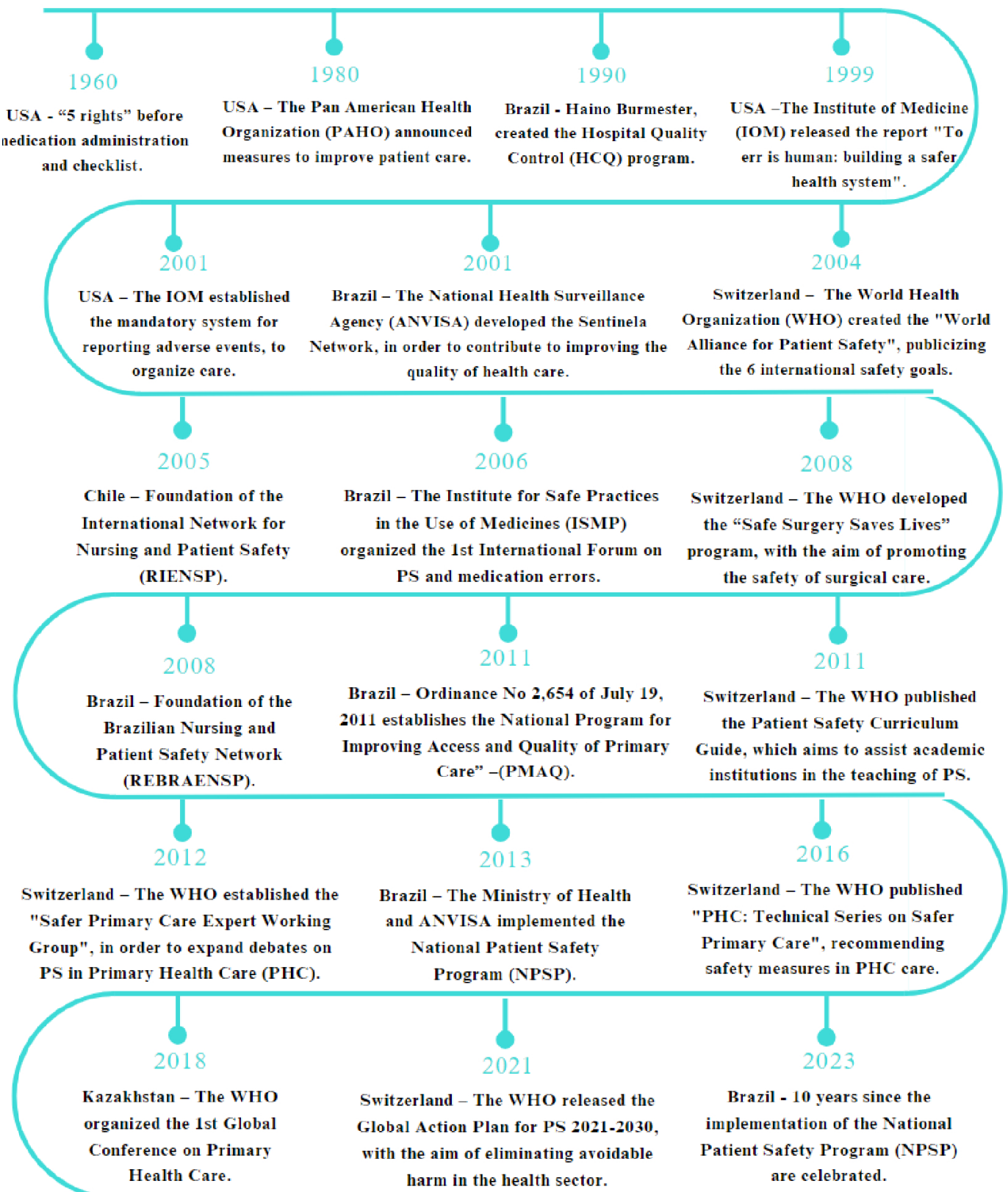
The occurrences of AEs related to healthcare practices in Brazilian hospitals, both public and private, correspond to more than two deaths every three minutes and are the leading cause of deaths in the country².

According to information published in NOTIVISA - Paraná, from July 2022 to June 2023, 23,334 incidents were reported. Of these, 165 notifications are AEs that led to death, such as failures during healthcare (with 102 records), followed by bronchoaspiration (19), failures during surgical procedures (11), and patient falls (7)³.

Thus, there is a concern with investments in prevention and health education protocols, aiming to reduce the risks related to the provision of care to improve the care provided, as well as encouraging the practice of patient (PS) and worker safety culture in work processes. It should be noted that PS is defined as the act of reducing to the maximum acceptable or improving the results of AEs or injuries arising in the care process⁴⁻⁵.

The high frequency of the referred unintentional damages caused by health professionals has raised reflections on the academic training of these professionals, especially given the accelerated pace of technological innovations in the field, as can be seen in the analysis of notable facts about PS over time (Figure 1).

Figure 1 - Timeline of insertion of the Patient Safety theme from 1960 to 2023, worldwide and in Brazil. Londrina, PR, Brazil, 2023



Source: The authors (2023).

In addition to the aforementioned programs and guides, mention should be made to the National Curricular Guidelines (DCN), which state that one of the skills required of

undergraduate students is the development of strategies that guarantee the quality and safety of care, as well as evaluating the impact of results on the complexity of care.

Therefore, the importance of including content about PS in the curricula of undergraduate nursing courses is evident⁶. This is because nursing plays a key role in PS, being responsible for continuous assistance to patients, as well as the management and flow of care, and because nurses are responsible for implementing protocols to prevent adverse events, infections and other incidents, with the aim of promoting a safe care environment⁶.

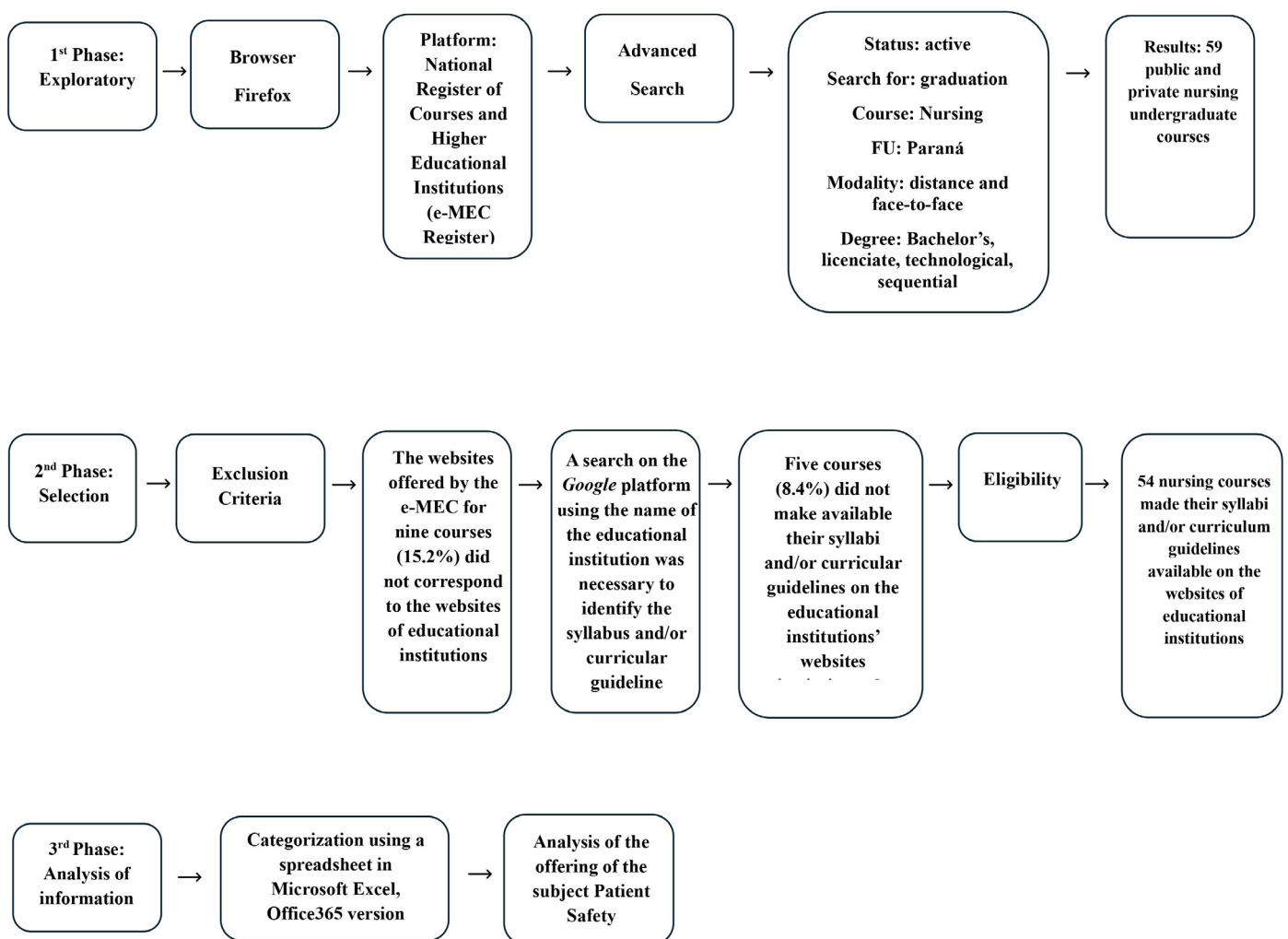
In view of the above, it is recommended that undergraduate nursing courses have effective pedagogical planning regarding the PS theme, addressing it in its breadth, as well as aiming to consolidate the nurse profile required in the job market. Therefore, the present study aimed to identify the inclusion of the theme "Patient Safety" in undergraduate Nursing courses in the State of Paraná – Brazil.

METHOD

This is an exploratory, descriptive, documentary-type study, with a quantitative approach. The research was carried out through queries to open access websites of public and private universities that offer undergraduate nursing courses in the State of Paraná - Brazil.

Data was collected in January 2023 by the platform: National Register of Higher Education Courses and Institutions - e-MEC Register, available on the website of the Ministry of Education (MEC) (<https://emec.mec.gov.br/>), in order to identify colleges and universities registered by the MEC in the State of Paraná that offer nursing courses. The Firefox browser was used for better visualization of the results, with the option 'Advanced Search' selected from among the search options on the platform (Figure 2).

Figure 2 – Flow of data collection steps on the National Register of Higher Education Courses and Institutions platform - e-MEC Register. Londrina, PR, Brazil, 2023



Source: The authors (2023).

To organize the information, a Microsoft Excel spreadsheet, Office365 version, was created with the following data: name of the institution, teaching modality - face-to-face and/or distance learning, location, funding of the institution - public or private, insertion of the discipline/module "Patient Safety", period of the course in which the topic is covered, total workload of the subject, workload of practical and theoretical activities, workload and shift of the course, curriculum guideline and syllabus.

The website of the teaching institutions available in the e-MEC database was used to fill out the spreadsheet and the presence of the syllabus and/or curriculum guideline was checked, in order to identify whether a subject was offered that explicitly described the expression "Patient Safety" in the title of the subject/module, located in the curriculum guideline.

Those institutions that did not include the expression "Patient Safety" in the title of the subject/module, but highlighted the subject in the curricular syllabi, were considered as a heterogeneous/varied form of the analyzed topic.

Curricular guidelines and syllabi not found directly on the institutions' websites were marked as unavailable, just as other information requested in the tables were marked with

an "x" when not located. For a better visualization of the results, the data were identified by order and color, with institutions that did not offer the subject/module in the syllabus marked in red, those that offered the subject, marked in green, and institutions that did not present the syllabus on the website highlighted in blue.

Document analysis was carried out through the pre-analysis stages, and the objective of the study was defined, namely: finding the PS discipline/module in the curricular guidelines and syllabi, followed by the preliminary selection of the information available in the database. After categorization of the information and document analysis, both the scope and delimitation of the topic were identified in the available curricula and on the institutions' websites, according to the assumptions of Sá-Silva, Almeida, Guindani⁷.

As this is a research in which secondary and public domain data were used, without the involvement of human beings, there was an exemption from submission to the Research Ethics Committee and the application of the Free and Informed Consent Form (TCLE), but the anonymity of the institutions analyzed was guaranteed.

RESULTS

Of the 59 recognized undergraduate nursing courses in the State of Paraná with active registration on the e-MEC portal, five (8.5%) courses did not make their syllabi and/or curricular guidelines available on the educational institution's website, which made it impossible to analyze the offering of the subject/module in these courses. Thus, the sample investigated consisted of 54 educational institutions.

Consistently with the teaching modality of the 54 institutions identified, 49 (90.7%) offer the course in the face-to-face learning format, four (7.4%) in blended learning mode and one (1.9%) institution in distance (online) learning mode. Regarding the funding of teaching institutions, 10 (18.5%) nursing courses were provided by public institutions and 44 (81.5%) by private institutions.

Regarding the identification of the PS theme in the guideline and/or curriculum syllabus, it was presented by only nine courses, equivalent to 16.7%. Thus, in the majority of courses (83.3%), which corresponds to 45 courses, no explicit approach to the subject analyzed was identified. When analyzing the courses that offered teaching on PS to nursing students, it was found that four (44.4%) courses addressed the theme explicitly, all of which were in private institutions.

Regarding whether the subject/module is mandatory or not, of the four institutions (44.4%) that explicitly offered the PS subject in the curriculum, only one (25%) private institution made it optionally available.

The five (55.5%) courses that included the SP theme in a variable way, taught it in the subjects entitled: Nursing Management, Risk Management, Fundamental Nursing, Safety and Quality in Nursing Care, Technical Fundamentals of Nursing. Of the five (55.5%) courses analyzed, three (33.3%) were publicly funded and two (22.2%) were private (Table 1).

Table 1 - Distribution of undergraduate nursing courses with information on the title, syllabus and period in which the discipline/module is taught in the course, course modality, course duration (n=54) Londrina, PR, Brazil, 2023

Title of the Subject	Subject syllabus	Period of the subject/ module‡	Teaching modality	Subject WL/ Course WL/ Ratio	Theoretical/ Practical WL of the subject
PUBLIC EDUCATIONAL INSTITUTION					
Nursing Management	Skills and abilities for quality and safety management in health and nursing	3 rd	Face-to-face	0.1% (120 hours / 4,000 hours)	§T: 02 hours §P: 02 hours
Risk Management	Teaching of Patient Safety principles	4 th	Face-to-face	0.01% (51 hours / 4,080 hours)	†
Fundamental Nursing I	Professional and patient safety in nursing care	1 st	Face-to-face	0.02% (136 hours / 5,458 hours)	†
PRIVATE EDUCATIONAL INSTITUTION					
Patient Safety	†	Optional	Face-to-face	0.01% (80 hours / 4,340 hours)	§T: 60 hours §P: 20 hours
Patient Safety	†	†	Face-to-face	†	†
Patient Safety	†	†	Face-to-face	†	†
Environmental, professional and patient safety	†	2 ^o	Face-to-face	0.02% (90 hours / 4,000 hours)	§T: 60 hours §P: 20 hours
Safety and Quality in Nursing Care	†	5 ^o	Face-to-face	0.01% (80 hours / 4,090 hours)	†
Technical Fundamentals of Nursing	Safety in medication administration. Practice for safety measures in medication administration	3 ^o	Face-to-face	0.04% (160 hours / 4,000 hours)	§T: 80 hours §P: 60 hours §I: 20 hours

Note:†= Information not found in the available curriculum guidelines and syllabi; ‡ = Year in which the subject is taught; § =T: theory; P: Practice; I: internship. **WL:** Workload

Source: The authors (2023).

The subjects/module with the expression “Patient Safety” were identified in the guidelines and/or curricular syllabi in five (55.5%) undergraduate nursing courses in a variable way and clearly titled in four (44.4%) courses.

Regarding the period of the course in which the topic was covered, it was found that the initial contact with the PS subject occurred between the 1st and 5th periods, considering

the semester of the course, with the ratio of workload of the subjects on the topic divided by the total workload of the course, with a result between 0.1 and 0.04 hours, and all subjects/modules were face-to-face.

Regarding the workload of practical activities available on the institutions' websites, only three courses made this information available. Only one (11.1%) course included information on theoretical workload, laboratory practice and internship practice. It was not possible to analyze the other courses, nor whether the practice was carried out in the laboratory or on an internship, due to the lack of information in the register.

As for the methodological proposal for teaching the courses that offered the discipline/module on PS, this also could not be analyzed due to the lack of information on the institutions' websites. Only one public face-to-face teaching institution provided this information, indicating the active methodology and integration of theoretical and practical teaching into academic activities. Two face-to-face and private teaching institutions mentioned the traditional methodology, without providing further information about the integration of practical and theoretical teaching in academic activities.

DISCUSSION

The PS theme must be addressed in debates and be offered on a mandatory basis in nursing course curricula, as this profession deals directly with care management and provides direct care to patients and families, on an ongoing basis. Knowledge of the six international PS goals and their application, from the initial training of nursing students, aims to reduce harm to patients, at the same time, and allows reducing the chances of AE occurring in care provided in an unsafe manner⁸.

As the National Patient Safety Program (PNSP), instituted by ordinance No. 529, of April 1, 2013, indicates the need to approach teaching about PS in educational institutions in the health sector⁹, the need to analyze the nursing teaching scenario regarding the development of disciplines/modules on PS is understandable, making it possible to identify potentialities and weaknesses to adopt strengthening strategies between theoretical and practical teaching⁹⁻¹⁰.

The PS theme in higher nursing education provides opportunities for learning how to systematize care and manage safe care, generating awareness about the culture of safety from the beginning of training and provides valuable opportunities to discuss the topic during the professional training process, both in theory and in practice. This allows future nurses to effectively apply such knowledge and skills in their professional environments, ensuring that safe and qualified actions are strengthened through the different health care scenarios¹⁰⁻¹¹.

According to the World Health Organization (WHO), PS teaching must be carried out through cognitive strategies and practices with retention and learning activities, taking into account the resources and time available. This process aims to integrate teaching and practice, to allow the functional performance of skills proposed for the full development of safety¹²⁻¹³.

However, the findings of this study identified curricular weaknesses regarding the approach and availability of the topic in nursing courses in the State of Paraná, with a noticeable need to introduce the PS theme in written form in the curriculum guidelines

and syllabi in the educational institutions investigated. It is necessary to carefully evaluate the possibility of reformulating the curricular guidelines, explicitly addressing the teaching about PS, since the WHO Guide on professional teaching on this topic is a reference for formulations and curricular changes linked to the implementation of content on the theme in public and private institutions. The WHO emphasizes that academic and professional training must be a priority in the search for excellence and safety in health services¹⁴⁻¹⁵.

Regarding the difficulty in finding information on nursing course websites, and as these are open access websites, it is recommended that such information be updated¹⁶, aiming at the dissemination of teaching methodology, content development, skills that will be developed in students and fields of practices. Through the websites of the courses, students and interested parties seek information to enroll in the courses. Websites are showcases for choosing courses and institutions.

A study evaluated the implementation of the PS theme in higher education health courses, in low- and middle-income countries, in 2017. According to the results, most countries (69%) considered the possibility of structuring a new curriculum, based on the guide recommended by the WHO. However, barriers were identified such as lack of government commitment, undefined evaluation tools, lack of financial and human resources, as well as leaders with insufficient knowledge or skills to carry out the planning and development of its construction¹⁷.

Therefore, it can be said that the courses examined in this study that did not include the PS theme may have had difficulties when structuring a new curriculum, as mentioned¹⁸. However, according to the guidelines of the WHO Guide, institutions can analyze courses that do not explicitly offer the discipline/module PS and stipulate the disciplines/modules already taught, through mapping, looking for opportunities to insert the principles and concepts about PS within each reality and circumstance¹⁸⁻¹⁹.

In one of the nursing courses investigated, the initial contact with the PS theme occurred between the 1st and 5th period, on an optional basis, demonstrating that only a part of undergraduates have access to this content, which associates international goals with safe care practice²⁰. It should be stressed that this theme must be incorporated by more people, and this logic must be assimilated by all nursing undergraduate students, as mandatory subjects/modules²¹.

The subject workload/course workload ratio demonstrated that it is possible to further improve the theme in its disciplines/modules specific for the topic. The courses that informed workloads of practical subjects indicated an interest in applying theory in practice.

Since the theory of teaching applied in practice, both laboratory and care practice, is important for the assimilation of the content, it is necessary to encourage theoretical teaching of the international goals of PS, first applied in laboratory practices with realistic simulation dummies, so that it later achieves favorable goals in direct patient care and professional training. This allows for a greater approximation with professional reality during the nursing training process, which is considered a quality in teaching²¹.

All courses addressed the topic in face-to-face classes. Considering that technology contributes and noticeably gains space in higher education, since the COVID-19 pandemic, teaching remote classes has become a prevalent strategy. On the other hand, the importance of face-to-face teaching is highlighted, both for teachers and students, and practice can be applied after theoretical teaching²².

The active methodology shows favorable results both in student learning and in the perception of learning and assessment by teachers regarding students. Therefore, it is necessary to invest in this teaching methodology, because of the possibility of globally evaluating performance, the need for adaptations in teaching, such as revisions and reevaluations, theoretical and practical. Furthermore, this methodology allows for critical and reflective training of the students on the topic²².

Thus, the findings of this study exposed weaknesses in the teaching of PS, such as the description of the topic in only nine undergraduate courses, out of a total of 54. Only four courses offered the subject/module explicitly, two of them did not inform the period in which the subject/module was taught and only three institutions present the methodology adopted in the subjects. This is a challenge to be overcome by health education institutions based on the PS culture.

From this perspective, a measure to be considered is the development of policies and practices in higher nursing education in the State of Paraná, with the purpose of providing training for educators in a continuous approach during graduation.

Another aspect to be considered refers to the duration of PS teaching. Since the average workload of undergraduate nursing courses is 4,000 hours, there is enough time to cover information on patient safety and adverse events. This will culminate in the development of strategies that improve curricular and professional practice improvement, the quality of teaching and the learning of future nurses who will assist patients and their families in different life cycles.

The State of Paraná offers 7,280 seats annually in 59 undergraduate nursing courses, with "active" registration in e-MEC. Even in the hypothesis that these vacancies are not filled, it can be seen that there are seats and course hours available to include the topic in nursing courses. Therefore, it is necessary to reflect on the need to include high quality teaching about PS in the curricula for many future nursing professionals who will integrate multidisciplinary teams, in accordance with what is recommended by Ordinance No. 529/2013, in the PNSP, which focuses on the best scientific evidence for the reduction of health problems and iatrogenic injuries²³.

A limitation of this study was the difficulty in finding information on the websites of the educational institutions investigated, which made it impossible to carry out a complete analysis of all nursing courses in the State of Paraná.

Furthermore, due to the incompleteness of information on the websites provided by the e-MEC platform, which did not correspond to the official websites of educational institutions, it was necessary to carry out an additional search on the Google platform search website to identify the syllabi and/or curriculum guidelines. There was also a lack of information on the websites of educational institutions and in the syllabi and/or curriculum guidelines about teaching methodology and regarding the pedagogical strategies adopted for the integration of theoretical and practical teaching, which prevented an in-depth analysis of the integration between these components in academic activities.

However, the results obtained represent an important contribution to higher education in the area of nursing, awakening the need to review academic curricula, in order to contemplate teaching in PS in an intentional and qualified manner, focusing on the development of skills that both professional practice as the job market demands.

CONCLUSION

The undergraduate nursing courses in the State of Paraná that offer content on patient safety were discrepant, since each institution researched addresses the topic at different periods and even optionally.

In summary, the topic of patient safety was approached in a heterogeneous way in the curricular periods, and it was not possible to identify whether there were successive approaches to the topic in other periods of graduation, as well as the relationship between theory and practice. The methodological proposal adopted by educational institutions could not be analyzed due to the lack of information available on the websites of the institutions.

The need to promote discussions and reflections on the implementation of assumptions about patient safety in pedagogical projects is considered, with the integration of theory and practice throughout the series of undergraduate nursing courses.

The study is relevant in contributing to improving the quality of teaching, specifically in undergraduate nursing, demonstrating a gap in professional training and emphasizing the need for a curricular reformulation, including this theme in the curriculum grids and/or guidelines systematically. The findings of the study can also contribute to the implementation of safe care practices, reducing the occurrence of errors and adverse events, and improving patients' outcomes.

The study promotes awareness and reflections on the curricular scenario experienced and the need to implement pedagogical strategies that contribute to the restructuring of teaching actions in the area of nursing, on the importance of patient safety among educators, managers and students, serving as a basis for future research in the area of patient safety.

In short, the present study contributes to the scientific strengthening of international patient safety goals, proposed by the World Health Organization, enabling the provision of safe services, high quality and well-being to patients.

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