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# Support provided to nursing students in the face of patient safety incidents: a qualitative study

*Suporte aos estudantes de enfermagem diante de incidentes de segurança do paciente: pesquisa qualitativa*

*Soporte a los estudiantes de enfermería delante de incidentes de seguridad del paciente: investigación cualitativa*

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## ABSTRACT

**Objectives:** to identify the support provided to nursing students after a patient safety incident. **Methods:** qualitative study developed with 23 students attending an undergraduate nursing program in southern Brazil. Data were collected between September and November 2021 and submitted to textual discursive analysis using the Iramuteq software. **Results:** the students reported that mainly classmates and professors of the practical courses provided support. The students showed no knowledge of organizational support or protocols available to students who become second victims of such incidents. **Final Considerations:** the primary support sources available to nursing students involved in patient safety incidents were identified. Note that support provided to nursing students is still incipient both in Brazil and internationally. Hence, further studies are needed to address potential victims and support resources to mitigate this phenomenon.

**Descriptors:** Students, Nursing; Patient Safety; Risk Management; Clinical Clerkship; Qualitative Research.

## RESUMO

**Objetivos:** conhecer o suporte ofertado ao estudante de enfermagem após um incidente de segurança do paciente. **Métodos:** pesquisa qualitativa, desenvolvida com 23 estudantes de um curso de bacharelado de enfermagem do Sul do Brasil. Os dados foram coletados entre setembro e novembro de 2021 e submetidos à análise textual discursiva, com a utilização do software Iramuteq. **Resultados:** os estudantes relataram que receberam apoio principalmente dos colegas e professores das disciplinas do campo de prática, mas demonstraram desconhecer qualquer tipo de suporte organizacional, protocolo ou apoio quando se encontram na condição de segunda vítima desses incidentes. **Considerações Finais:** foram identificadas as principais fontes de apoio quando o estudante de enfermagem se envolve em incidentes de segurança do paciente. Destaca-se a incipiência dos recursos de suporte oferecidos a esse estudante, tanto nacional como internacionalmente, sendo prementes mais pesquisas direcionadas a essas potenciais vítimas, bem como recursos de suporte para mitigar esse fenômeno.

**Descritores:** Estudantes de Enfermagem; Segurança do Paciente; Gestão de Riscos; Estágio Clínico; Pesquisa Qualitativa.

## RESUMEN

**Objetivos:** conocer el soporte ofrecido al estudiante de enfermería después de un incidente de seguridad del paciente. **Métodos:** investigación cualitativa, desarrollada en el curso de licenciatura de enfermería en el Sur de Brasil, con 23 estudiantes. Los datos fueron recolectados entre septiembre y noviembre de 2021 y sometidos al análisis textual discursivo, con la utilización del *software* Iramuteq. **Resultados:** los estudiantes relataron que recibieron apoyo principalmente de los compañeros y profesores de las materias del campo de práctica; también, ellos demostraron no conocer ningún tipo de soporte organizacional, protocolo o apoyo cuando son por segunda vez víctimas de esos incidentes. **Consideraciones Finales:** se identificaron las principales fuentes de apoyo, cuando el estudiante de enfermería se envuelve en incidentes de seguridad del paciente. Se destaca la insipiencia de los recursos de soporte ofrecidos al estudiante de enfermería, tanto en el ámbito nacional como internacional; así, es necesario realizar más investigaciones dirigidas a esas potenciales víctimas e proporcionar recursos de soporte para mitigar ese fenómeno.

**Descriptores:** Estudiantes de Enfermería; Seguridad del Paciente; Gestión de Riesgo; Prácticas Clínicas; Investigación Cualitativa.

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## INTRODUCTION

The topic of patient safety has gained attention in the last two decades, and managers and members of services focusing on quality health care, government agencies, professionals, and patients have advanced in discussions, reflections, and research. For example, the report To Err is Human: Building a Safer Health Care System by the Institute of Medicine (IOM) represents a landmark in patient safety internationally. It showed the world the high incidence of adverse events in hospital facilities caused by unsafe care, reinforcing the importance of restructuring the health care model and the quality of services[1].

The Brazilian Ministry of Health implemented the National Patient Safety Program (PNSP), through Ordinance MS/MG No. 529, on April 1st, 2013, to contribute to health care qualification. Patient safety is intended to reduce the risk of harm associated with health care to an acceptable minimum and avoid patient safety incidents or Adverse Events (AE)[2].

According to the International Classification for Patient Safety (ICPS), incidents are events or circumstances that could have, or did result, in unnecessary harm to a patient. These are classified as a near miss, an incident that caused no damage, or an AE. An AE is any unexpected action that causes harm to a patient but which could have been avoided[3]. In the United States, one out of 10 hospitalized patients experiences an AE, while medical errors are the third leading cause of death in the country, with 400,000 deaths per year[4].

Despite various initiatives to mitigate incidents and adverse events, such events remain due to the immutable condition of health professionals to make mistakes. Thus, when an incident or AE occurs, the patient and family are considered the "first victims", and the workers involved in care delivery are the victims of their own mistakes, called "second victims"[4].

Hence, the individual directly or indirectly responsible for delivering care, who experiences distress or trauma after being involved in a patient safety incident, becomes the second victim. Therefore, the second victim definition, used as a reference in this study, concerns professionals from different fields, students, managers, and professors who may also be in a situation in which they are considered second victims[5].

From this perspective, the term "third victim" concerns health organizations, managers, and educational institutions not directly involved in the error but which may still bear losses[6].

When a professional experiences an adverse event, especially when the patient is seriously harmed, s/he has many negative experiences given the stress, exposure, ethical precepts, and legal punishment to which nursing workers are subject. Meanwhile, if a student witnesses or becomes involved with such an event at the beginning of his/her professional practice, s/he may experience even more severe disorders than professionals, conditions that must be timely identified and treated[7].

Health students experience high-stress levels when facing an AE, the psychological and physiological manifestations of which are more severe among nursing undergraduates. These students feel vulnerable to the various university demands, such as problems related to the educational environment, personal situations, uncertainty about their professional future, growing number of information, and stress resulting from practical activities, especially when an error is involved[8].

Considering the severity and extent of the psychological, physical, or psychosocial impacts the "second victim" phenomenon may cause on nursing professionals, and especially on students, the support provided by health and educational institutions is essential to support these victims, aiming to modify and alleviate the students' symptoms and attitudes.

The impact of the second victim phenomenon and support provided to health workers have been addressed by studies conducted in China, the United States, Denmark, Korea, and Argentina[9-12]. However, this phenomenon involving nursing students has seldom been addressed in Brazil or internationally.

## OBJECTIVES

To identify the support provided to nursing students after a patient safety incident.

## METHODS

### Ethical aspects

This study was submitted to *Plataforma Brasil*, obtained a favorable opinion report, and was approved by the Institutional Review Board. It complied with all ethical guidelines concerning voluntary informed and consented participation. Hence, the participants signed free and informed consent forms and were ensured of their autonomy, dignity, and confidentiality, as determined by Resolution No. 510 from April 7th, 2016, Brazilian National Health Council.

### Study design, period, and setting

This is an exploratory-descriptive study with a qualitative approach. The Consolidated criteria for reporting qualitative studies (COREQ) were used. Twenty-three nursing students were selected according to non-probabilistic sampling. The study setting was the undergraduate nursing program at a federal university in Rio Grande do Sul, Brazil. The program's total workload is 4,140 hours, with courses distributed into ten semesters; the last semester concerns 960 hours of supervised clinical internship[13].

### Population or sample, inclusion and exclusion criteria

Students regularly enrolled in the last year of the undergraduate nursing program, attending the ninth or tenth semester, and directly or indirectly experienced patient safety incidents were included. Those enrolled in a different program or who had temporarily suspended studies were excluded.

Note that the questionnaire did not include a specific question to determine which students had experienced such an event. The reason is that once students are included in a clinical setting, they are potential authors of an incident themselves or may witness a colleague or even a health worker experiencing it. Thus, all students in the program's final stages were invited to participate in the study.

### Data collection and organization

A semi-structured script guided the face-to-face and online interviews. Eighteen interviews were conducted in person in a private room on the university hospital's premises, complying with all sanitary protocols concerning the need to keep physical distance, wearing face masks, and using alcohol gel. In addition, five students agreed to participate via a video call meeting. Data collection ceased when theoretical and empirical data saturation was reached.

The interviews were audio-recorded (to ensure greater reliability) and transcribed verbatim after the participants consented and signed free and informed consent forms. The letter "S" (student) followed by a sequential number "S1, S2, S3…" was the code used to ensure the participants' identities remained confidential. The interviews lasted 20 minutes on average.

The questionnaire comprised close-ended questions to characterize the participants and open-ended questions to address aspects related to the participants' experience with patient safety incidents and support provided after an incident. First, we contextualized the interview by asking the participants about their perceptions regarding the occurrence of incidents in health care settings. Next, questions were intended to elucidate the type of academic or organizational support was available after one was involved with patient safety incidents and which strategies the students deemed essential to minimize the consequences of the second victim phenomenon: "Did you receive support from the health care facility?", "Did you receive support from the university?", "What support do you believe is important for students and professionals having this experience?".

### Data analysis

Textual discourse analysis was used to interpret data in depth. It is a data analysis approach connected to two well-established data analysis approaches in qualitative research: content analysis and discourse analysis. It can be described as a process initiated with unitarization, and categorization, to finally capture the new emergent meaning. Unitarization consists in deconstructing and fragmenting a text to obtain units of meanings, which are grouped into categories of analysis. The process culminates with a meta-text that contains new interpretations that emerged from the phenomenon under study[14].

The Iramuteq software (free software) has been used in qualitative research to assist the first two stages of textual discursive analysis. The analysis of data collected through the interviews was conducted using the Iramuteq software, developed in Python, with features provided by the *R* statistical software. Note that the software only processes data and is not a research analysis method[15].

In this study, we adopted the lexical data analysis of the REINERT method or Descending Hierarchical Classification Method (CHD), in which text segments were classified according to the vocabulary adopted, and the set of texts was allocated according to the frequency of reduced forms. The general corpus originated from the doctoral dissertation "*O fenômeno da segunda vítima no contexto dos estudantes de graduação em enfermagem*" [The second victim phenomenon in the context of undergraduate nursing students]. Twenty-three texts resulted in 937 TS (text segments), and 839 TS (89.54%) were used. The general corpus resulted in five lexical classes: class 1 with 96 TS (11.44%), class 2 with 133 TS (15.85%), class 3 with 219 TS (26.1%), class 4 with 164 TS (19.55%), and class 5, with 227 TS (27.06%). The classes identified by Iramuteq resulted in the dendrogram below with its respective relationships (Figure 1).

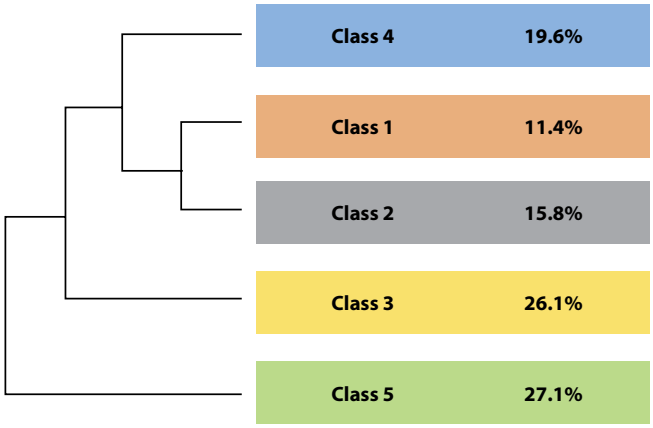


**Figure 1 –** Descending Hierarchical Classification Dendrogram, Rio Grande, Rio Grande do Sul, Brazil, 2021

Class 4 gave rise to three categories: "nursing students' distress after experiencing a patient safety incident", "support provided to nursing students after a patient safety incident", and "support that the nursing students expected". The last two categories gave rise to this paper Support provided to nursing students in the face of patient safety incidents: a qualitative study.

## RESULTS

Regarding the participants' characterization, all were women, aged between 20 and 46. Twenty-three were students; nine were attending the ninth semester, and the remaining were in the tenth semester; four reported experience as nursing technicians.

### Support provided to nursing students after a patient safety incident

This category concerns the support provided to nursing students during and after being involved with a patient safety incident, including those situations in which incidents caused severe harm to a patient.

The students reported that, during practical classes and internships, the professors are their first and primary reference and support. Most of the time, the students considered such support sufficient to reassure them after a patient safety incident.

> *The professors made contact, talked to her, and gave her all the support she needed at the time* [...]. (S12)

> *I felt really bad, really sad. I talked to a professor; she reassured me a little on that day* [...] *the situation made me very upset* [...]. (S9)

> *The professor talked and provided guidance to all of us, but I can't tell what happened later* [...]. (S19)

> *So, first, I told the situation to my professor because she was with me at the time, and I felt terrible; I had to correct a nurse and how she talked to me later.* (S9)

The speeches show that how the professors address the situation during an internship may be crucial for the students' well-being. Feeling free to talk about the incident and not being judged determines the students' physical and mental well-being. Additionally, such support mitigates the negative impacts such an experience may have in their training process:

> *That day I felt like s*[...]*, but then, the professor talked to me and said it can happen to anyone, so the professor provided me good support* [...]. (S11)

> [...] *I talked to my professor, too; she was shocked by what had happened but praised my attitude.* (S2)

Note that when a student was involved in an adverse event with severe harm to the patient, she needed to resort and seek the support of the program's coordinators:

> *I received support from the nursing school. I told them what had happened and asked them for a few days off* [...] *because you are not allowed to miss a day in these internships.* (S2)

The nursing students also reported that they received support from their classmates. They see an internship colleague as someone who can provide support without judging, as they are on the same hierarchical level.

> *She was feeling awful. Now, I don't remember exactly, but she was really upset. She even told me during the week that she almost caused harm to a patient; we almost made a mistake.* (S20)

> [...] *Later, I talked to other colleagues too, because that situation really bothered me* [...]. (S9)

> [...] *for instance, I'm not a technician, and since we are not technicians* [...]. *So whenever we did something, we'd talk to a technician and ask her to help us out, so we could revert the situation because we were afraid of telling the professor, considering some professors we met at the beginning of the program* [...]. (S23)

Another aspect that emerged from the reports was the hospital staff's support. The reports show that the unit's nurse and physicians provided support in some cases. However, in other cases, the staff was not very receptive and did not provide support to students who experienced undesirable situations. The nursing team was the one that mainly portrayed this behavior:

> *I guess it was ok, like, I thought about it afterward, talked to the unit's most experienced nurses* [...]. *I also talked to the physicians; it was a mess that day; the physicians also provided some support because I felt so wrong for what I had done* [...]. *I apologized to the physicians at the time and talked to them later; they gave me counseling. The medical staff was more receptive, but the nurse was harsh* [...]. *I had no support from the nursing staff; the unit's head, sector's doctor, she talked to me too, reassured me, and said I was receiving many compliments.* (S2)

**The support that the nursing students expected after a patient safety incident**

In this category, the nursing students reported the support they wished they had received or deemed necessary for someone involved in this situation. Some students noted that they were unaware of any organizational support or protocol available in case they became second victims of incidents.

The reports show that the students believe that psychological support is vital to alleviate the effects of the second victim phenomenon. Additionally, they recognized the unit's head nurse and professors as references to provide reassurance when they face such a situation by revising and providing guidance on what is the most appropriate way to provide nursing care:

> *I've thought about it, psychological support, and in the case of a near miss, the professors would have to review the technique* [...]. (S3)

> *We often deal with dilemmas and feel insecure in an internship program. Now, this time we went without the university's supervisors, and I felt really insecure. I'm glad there were nurses there to reassure us, but I guess psychological support is really helpful* [...]. (E12)

> *I guess that people need support, yeah, both from professors and the unit's nurse. If I do anything wrong, someone will correct me, but if the person knows how to explain and talk, they will make me feel better, I won't feel so guilty for having caused harm to a patient. So if you come and talk to me, explain how I should have done it, what I could have done, it will help me, yes.* (S20)

> [...] *because when you do something wrong, you blame yourself, and if someone tries to alleviate your guilt, saying that you could have done it like this and that, it makes you feel relieved* [...]. (S20)

Another important finding concerns the lack of organizational support or protocols established between teaching and health institutions to assist students, victims of an AE, or near miss. The students are not aware of any sources of support or resources, which makes them even more vulnerable:

> [...] *I know that there are psychologists at the hospital and the university, and they have also offered support. I know classmates who consulted with psychologists, and I don't know how it is currently working, but students were receiving psychological assistance at the university*. (S12)

> [...] *I don't remember exactly, but I guess I've heard something about support; I don't know the exact name, but I've already heard something about it* [...]. (S20)

> *I don't know about any support that is provided to students. I don't think anyone in my class ever needed it. I know that the Dean's office has some psychologists available when the students need support. You need to make a request, and they provide psychological support to students.* (S23)

Note that even though the students share the same feelings, insecurities, and desire to receive appropriate organizational support in these situations, they diverge regarding whom or which organization should be responsible for providing such support:

*I believe both the hospital and university should provide support, especially the nursing school.* (S23)

*I guess that the nursing school is the main one responsible for providing support by monitoring the student and paying attention to what is going on and why it happened; in case you were not on a good day, how are you psychologically speaking?* [...]. (S22)

*I guess that only the university is supposed to provide support. In my opinion, only the university is responsible because we are linked to the university, our relationship is with the university, so I believe that only the university is supposed to provide it* [...]. (S22)

## DISCUSSION

The context nursing students experience during their training differs from their expectations when they enter an undergraduate program: complex scraped health systems with long working hours and insufficient human and material resources. These obstacles compromise the students' safety and self-assurance when playing their role, leading to unsafe care delivery because these obstacles favor the occurrence of errors in care delivery, making them potential victims of their own errors[16].

In Belgium, a third of 844 nursing students were involved in patient safety incidents, and (84.7%) of these experienced second victim symptoms. The symptoms most frequently reported were hypervigilance, stress, and doubts about their skills and abilities. The conclusion is that students become second victims when experiencing patient safety incidents; thus, they deserve respectful and appropriate support to alleviate symptoms[17].

Still, most students in Belgium identified the team's nurse and the course's professors to be their primary support. Additionally, they consider having classmates' and the medical staff's support more important than talking to friends or family[17]. These results corroborate this study's results because when the Brazilian students were asked about the support they received when they were involved in an incident, the primary support they identified was their classmates, followed by the practical course or internship professors, and then the unit's nurse.

When turning to their classmates and professors, the students suggest a gap between them and the health staff. Immediately seeking the support of classmates reflects the students' perception that classmates allow them to vent, which they hope will alleviate feelings. Additionally, they identify with their classmates and believe they are not judgmental. These findings are in line with the results reported by a study conducted in China, where nursing students reported that discussing the incident with classmates and professionals, especially those with similar experiences, helped them calm down[18].

Regarding the support provided by professors, the students may sometimes feel intimidated to report errors due to shame and fear of negative consequences associated with academic performance. However, the support the students receive when the professors are receptive, nonjudgmental, and listen to the report of a patient safety incident, is determinant for their physical and mental well-being, mitigating the potential negative impacts of this experience in their training process[18-19].

The more a worker is involved with a patient, the more significant the impact of an incident. Considering the severity and extension of the psychological, physical, and psychosocial impacts the second victim phenomenon may cause on nursing students, the support provided by health and educational institutions is essential to modify and alleviate the students' symptoms and attitudes[17].

The students' psychological aspect was impacted after a patient safety incident. The students' reports corroborate this statement; they noted that psychological support was the most important. These results align with the Chinese study that addressed the extent to which the second victim phenomenon affected 147 students and their rehabilitation process. Most reported experiencing psychological distress, including fear, remorse, worry, and embarrassment, for a long time[17].

Note that psychological assistance was the only formal support the nursing students reported in this study. The literature shows that psychological support is limited in health services due to a failure to identify potential second victims, insufficient support interventions, and a lack of a culture of patient safety[20-23]. Even though the students considered the support provided during incidents by classmates and professors appropriate to relieve distress, they recognized that the teaching and health institutions provided limited guidance[18].

Nursing students in the United States experiencing an adverse event receive different types of assistance depending on the nursing school, as each school deals with AE differently. For example, students may receive counseling or be dismissed from internship programs[24].

Some schools ask students to write a report about the event and reflect upon ways such an error can be prevented; other students are counseled by professors or receive a reprimand; while other students are asked to write a literature review about the topic, but if an AE led to the patient's death, the student might be even dismissed from the internship program[24].

The lack of protocols reflects the students' lack of knowledge of support available. For example, in the United States, 19% of the nursing students reported that they did not receive any support from the hospital, though the university and professors supported them; 7% reported various ways to deal with this type of event and could not identify this type of support. Additionally, 55% of the schools addressed reported they had no policies to assist students after an AE and virtually no tools to report an AE or near miss[24].

Unfortunately, most teaching institutions and health facilities do not support care providers. Some reasons include that faculty members do not find it a priority or problem; there is no knowledge about the occurrences, or they may believe that current policies are sufficient to deal with the situation[24].

Many strategies are identified in the international literature to support health workers who develop second victim-related symptoms, among which the following stand out: the University of Missouri's forYOU Team[25], the Resilience in Stressful Events (RISE) team at The Johns Hopkins Hospital[26], and the Medically Induced Trauma Support Services-MITSS[27], in addition to individual and collective actions and interventions[28-29].

### Study Limitations

As with every study, this also presents strengths and weaknesses. Because it is a cross-sectional study and addresses a topic that

elicits negative feelings and embarrassment among students, the participants' memories may be inaccurate, and some information may be missing. The lack of a protocol or any system specifically established to support students within the institutions also restricted this study's findings. However, these limitations show a need for further research in the Brazilian context to address the second victim phenomenon, not only among nursing students but also in other disciplines in the health field.

### Contributions to the field

The institutions can use such strategies as a reference to adapt the support provided to the students because this phenomenon affects nurses and health workers but while nursing students may also be personally, academically, and professionally affected.

The objective was to highlight the importance of expanding the support to second victims. Such support can be provided through a conversation or discussion with students who experienced a patient safety incident to help them reorganize their ideas and learn from their mistakes, minimizing the effects of such a phenomenon. Additionally, the population in general, patients, and their families need to be sensitized about how essential it is to provide support and be understanding to minimize student symptoms. Hence, an effort is needed to strengthen a culture of patient safety among organizations and society[30-31].

International studies have proposed strategies to help workers and students cope with incidents and AE. For example, the National Quality Forum, which promotes healthcare quality, and other health organizations, recommend that all institutions adopt programs to support healthcare providers that become second victims[32]. Therefore, health and teaching organizations are responsible for ensuring the care and well-being of patients, family members, health workers, and students[20,31-32].

Meanwhile, the Global Patient Safety Action Plan 2021-2030 provides strategies to prevent incidents in health care delivery and eliminate all risks imposed on patients or health care providers. Therefore, seven guiding principles were established to develop and implement these actions, among which the following stand out education, engagement, and protection to health care providers, so workers can contribute to the project and deliver safe healthcare systems[33].

## FINAL CONSIDERATIONS

This study is unprecedented in the Brazilian context. It enabled identifying the primary sources of support provided to nursing students involved in patient safety incidents; classmates and professors were the first to whom the students turned.

Additionally, no protocols or systems were identified, so the students did not know how to proceed in the face of an incident. The support provided to nursing students is still incipient in Brazil and internationally, so further studies are needed to address potential victims and support resources to mitigate this phenomenon.

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