

Patient safety centers: profile of human resources in the Brazilian scenario

Núcleo segurança do paciente: perfil dos recursos humanos no cenário brasileiro
 Núcleo Seguridad del Paciente: perfil de los recursos humanos en el contexto brasileño

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Abstract

Objective: To characterize the profile of professionals working in the Patient Safety Centers and to analyze whether there are variables correlated to the application of tools for investigating adverse events.

Methods: Quantitative, cross-sectional, prospective study, with a total of 95 professionals from 24 public and private hospitals, which have Patient Safety Centers from the regions: Southeast, Central-West, Northeast and South. The recruitment of participants was carried out in three stages by videoconference and data collection was carried out using a structured form with 14 closed questions. The SPSS (Statistical Package for the Social Science) software was used for descriptive statistical analysis. The Spearman test was used to analyze the correlation and significance.

Results: The predominance of nurses (89.5%) responsible for investigating adverse events in the participating institutions is highlighted. The nurses had an average age of 39.5 years old, 14.3 years of professional training and 9.2 years of experience in healthcare practice. Regarding their specialization, 58.8% were post-graduated in intensive care and 79% graduated in quality management. The most used tool for investigation is the London Protocol (95.8%), in addition, the number of applied protocols showed high variability (CV=0.46).

Conclusion: Nurses are the professionals who work in the Patient Safety Centers, leading the process of investigating adverse events; and no strong and significant correlation was found among the quantitative variables to the application of adverse event investigation tools.

Resumo

Objetivo: Caracterizar o perfil dos profissionais que atuam nos Núcleos de Segurança do Paciente e analisar se existem variáveis correlacionadas à aplicação de ferramentas de investigação de eventos adversos.

Métodos: Estudo quantitativo, transversal, prospectivo, com 95 profissionais de 24 hospitais públicos e privados, que possuem Núcleos de Segurança do Paciente, das regiões: Sudeste, Centro Oeste, Nordeste e Sul. O recrutamento dos participantes foi operacionalizado em três etapas por videoconferência e a coleta de dados foi realizada através de um formulário estruturado com 14 perguntas fechadas. O programa SPSS (*Statistical Package for the Social Science*) foi utilizado para análise estatística descritiva. O teste de Spearman foi utilizado para analisar a correlação e significância.

Resultados: Ressalta-se a predominância de enfermeiros (89,5%) responsáveis pela investigação de eventos adversos nas instituições participantes. Os enfermeiros possuíam idade média de 39,5 anos, 14,3 anos de formação profissional e 9,2 anos de atuação na prática assistencial. Já sobre a especialização, 58,8 % eram pós-graduados em terapia intensiva e 79% formados em gestão da qualidade. A ferramenta mais utilizada para investigação é o Protocolo de Londres (95,8%), além disso, o número de protocolos aplicados apresentou alta variabilidade (CV=0,46).

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Conflicts of interest: none.

Conclusão: Os enfermeiros são os profissionais que atuam nos Núcleos de Segurança do Paciente, ademais, liderando o processo de investigação de eventos adversos; e não foi encontrada nenhuma correlação forte e significativa entre as variáveis quantitativas à aplicação de ferramentas de investigação de eventos adversos.

Resumen

Objetivo: Caracterizar el perfil de los profesionales que actúan en los Núcleos de Seguridad del Paciente y analizar si existen variables correlacionadas con la aplicación de herramientas de investigación de eventos adversos.

Métodos: Estudio cualitativo, transversal, prospectivo, con 95 profesionales de 24 hospitales públicos y privados, que tienen Núcleo de Seguridad del Paciente de la región Sudeste, Centro Oeste, Nordeste y Sur. El reclutamiento de los participantes fue realizado en tres etapas por videoconferencia y la recopilación de datos se llevó a cabo mediante un formulario estructurado con 14 preguntas cerradas. Para el análisis estadístico descriptivo se utilizó el programa *SPSS (Statistical Package for the Social Science)*. La prueba de Spearman fue utilizada para analizar la correlación y significación.

Resultados: Se observa un predominio de enfermeros (89,5 %) responsables de la investigación de eventos adversos en las instituciones participantes. Los enfermeros tenían edad promedio de 39,5 años, 14,3 años de formación profesional y 9,2 años de actuación en la práctica asistencial. Respecto a la especialización, el 58,8 % tenía posgraduación en terapia intensiva y el 79 % estaba formado en gestión de la calidad. La herramienta más usada para la investigación es el Protocolo de Londres (95,8 %) y el número de protocolos aplicados presentó una alta variabilidad (CV=0,46).

Conclusión: Los enfermeros son los profesionales que actúan en los Núcleos de Seguridad del Paciente y además lideran el proceso de investigación de eventos adversos. No se encontró ninguna correlación fuerte y significativa entre las variables cuantitativas y la aplicación de herramientas de investigación de eventos adversos.

Introduction

In recent years, there has been an increasing evolution on the theme Patient Safety, especially about the search for quality, continuous improvement and reduction of incidents. According to the WHO, patient safety is the reduction of the risk of unnecessary harm associated with health care to an acceptable minimum.⁽¹⁻⁴⁾

The occurrence of incidents may compromise patient safety, becoming a permanent challenge in health institutions to detect, investigate and plan improvement actions.⁽³⁻⁵⁾ Incidents, according to the WHO, are classified as: risk circumstances; incidents without injury, near miss and the incident with injury, also known as adverse event (AE). The never event, according to ANVISA, is considered an event that should never occur and should be prioritized in health services.⁽¹⁾

According to international studies, AEs have affected approximately 4.0% to 16% of hospitalized patients in developed countries, mainly those associated with medication errors, healthcare-related infections (HCRIs), perioperative complications and falls. In addition, the occurrence of AE generates a big financial loss and increases in hospital costs.⁽⁶⁻⁸⁾

Recently, in Brazil, a study relating the care and economic impacts of AE showed that annually more than one million hospitalized patients would be affected by at least one incident and between 100

thousand and 450 thousand deaths would be associated with the incidents, generating a cost to health between R\$ 5 billion and R\$ 16 billion.⁽⁹⁻¹²⁾

With the purpose of instituting actions aimed at patient safety in health services, in April 2013, in Brazil, the Ministry of Health (MH) published Ordinance No. 529 that institutes the National Patient Safety Program (NPSP) whose objective is to contribute to the qualification of health care through the implementation of risk management and Patient Safety Centers in all health centers in the national territory.⁽⁵⁾ Subsequently, in July 2013, RDC No. 36/2013 that establishes the obligation to build and implement the Patient Safety Center (PSC) was published, with the objective of creating, involving and implementing safety practices at all levels of the institution.⁽⁶⁾

According to the aforementioned resolution, the PSC must be constituted by a multidisciplinary team, trained in concepts of quality management, continuous improvement, patient safety and also in risk management tools.⁽⁶⁾

The accomplishment of the AE investigation in the health services is considered, among the attributions of the PSC, a requirement to be fulfilled, considering its importance in the identification and mapping of the failures that occurred in care, as well as the possibility of exploring the possible causes that led to the incident and to draw up action plans that allow the reduction of the degree of damage and the prevention of a possible recurrence.⁽²⁻⁵⁾

In this context, the existence of the tools and/or instruments that carry out the research, do a robust analysis and consistent results stand out. The most used tools for AE investigation are: root cause analysis with contributing factors adapted from Three levels of RCA investigation; HFACS (Human Factors Analysis and Classification System); Canadian Incident Analysis Framework; Yorkshire Contributory Factors Framework and the London Protocol. However, regarding this variety of instruments, many institutions make the mistake of selecting a complex tool, or perhaps not appropriate for the investigation process, and that the manager has difficulty in leading and operating it.⁽³⁻⁷⁾

Tools for the investigation of AE have a common feature: the search for the root cause of the incident and the construction of a corrective action plan.⁽¹⁻⁴⁾ However, it is important to highlight that according to the manual of the National Health Surveillance Agency (ANVISA) of 2017, the London Protocol is the recommended tool for a deeper and more detailed analysis that, in most cases, may reveal a series of latent conditions and opportunities for process improvements.⁽¹⁻³⁾

In addition, some authors point to the need for the selection of people to ideally investigate an investigation team consisting of three to four members.⁽¹¹⁻¹³⁾ This team should have people who have complementary skills and who know the process to be studied, in order to guarantee an exhaustive and reflective investigation. Thus, it is recommended that professionals are dedicated entirely to research, with a team that has extensive knowledge related to quality management in health, research tools, knowledge about clinical processes and hospital dynamics.⁽¹⁰⁻¹³⁾

Although there are recommendations from the Ministry of Health (MH) on the constitution of the PSC, there is no standardization on the profile necessary for professionals in different categories to compose this team. This aspect was corroborated when evidencing in the scientific productions a gap in the knowledge about the profile of the professionals that compose the PSC.

Thus, the development of this study is justified by the need to portray the professional profile cur-

rently constituted by health institutions about the knowledge and skill required of PSC members. Based on the above, the objective of this study was to characterize the profile of professionals working in the PSCs and to analyze whether there are variables correlated to the application of AE investigation tools.

Methods

This is a cross-sectional, prospective study, with a quantitative approach, developed in 24 public and private hospitals that have PSC, distributed in the following regions: southeast, central west, northeast and south of Brazil.

The sample consisted of a total of 95 participants, from a total population of 103 professionals who worked in 24 PSC of the hospitals selected for the study and who met the following eligibility criteria: exclusive dedication to the PSC; having a degree in health and acting in the analysis and investigation of incidents. Eight professionals were excluded, removed from their duties from September to November/2019, when data collection was performed.

The recruitment of participants, carried out in August 2019, was carried out in three stages. In the first stage, a videoconference was carried out using Google Hangouts software version 80.0.3987.163, with the professionals of each hospital, separately, with the objective of presenting the research, its objectives, and the Informed Consent Form (ICF), including the risks and benefits of research. In the second stage, the ICF was sent by email to collect signatures. In the third stage, the professionals who agreed to participate in the survey sent, by email, the signed informed consent form and, finally, the link was made available to access the instrument used for data collection, elaborated in the Survey Monkey software on line.

Data collection took place from September to November/2019, using a structured form composed of 14 closed questions, related to the demographic and professional profile of the study participants.

The data were organized in spreadsheets in the Excel® 2011 software and analyzed using descriptive

statistics. The statistical treatment was performed using the IBM SPSS (Statistical Package for the Social Science) Software, version 22.0 and the R Software.

The variables related to the demographic profile were: gender and age. As for the professional profile: position in the institution, training, titration, titration area, time of training, length of time and experience in care and length of time working in the patient safety center. Quantitative variables were presented in distributions of absolute (n) and relative (%), mean, standard deviation (SD) and variation coefficient (VC). The variability of the distribution of a quantitative variable is considered low if $VC < 0.20$; moderate if $0.20 \leq VC < 0.40$ and high if $VC \geq 0.40$.

To analyze the outcome, that is, the application of investigation tools for adverse events by the study participants, a correlation analysis was performed between demographic and professional variables, and the outcome variables that showed greater frequency related to the number of courses taken and number of protocols applied.

The association between two quantitative variables was investigated by correlation analysis, by calculating Spearman's correlation coefficient, and the significance of the correlation coefficient was assessed by the correlation coefficient test, whereby a coefficient is significantly non-zero if the p-value of the correlation test is lower than the 0.05 significance level. In this study, the correlation between two variables was considered strong enough only when the correlation coefficient had an absolute value greater than 0.7.

The research complied with all legal ethical aspects in accordance with Resolution No. 466/2012, of the National Health Council (NHC), which regulates research involving human beings, being submitted, and approved by the Research Ethics Committee of the proposing institution through protocol #3567788 and CAAE: 17558819900005243.

Results

The frequency distributions of the variables that characterize the professionals who work in the PSCs and in the investigation of incidents are shown in Tables 1 and

2, with the highest frequency indicated in bold. The results in table 1 shows that most professionals are women (83.2%), aged 39 to 42 years old (40.0%) and have the position of Analyst/Coordinator/Consultant/Quality Supervisor (67.3%). The professionals had, on average, 39.5 years old, 14.3 years of training, 9.2 years of experience in care and 4.7 years working in the PSC.

Table 1. Characteristics of professionals working in the investigation of patient safety center incidents

Variables	Global (f=95) f(%)
Gender	
Female	79(83.2)
Male	16(16.8)
Age	
30 – 33	11(11.6)
33 – 36	15(15.8)
36 – 39	4(4.2)
39 – 42	38(40.0)
42 – 45	13(13.7)
45 – 48	8(8.4)
48 – 51	0(0.0)
51 – 54	6(6.3)
Position in the institution	
Analyst/Coordinator/Consultant/Quality Supervisor	64(67.37)
PSC Manager	15(15.79)
Care Manager	8(8.42)
Patient Safety Analyst	5(5.26)
Consultant / Risk Manager	3(3.16)
Academic training	
Nurse	85(89.5)
Biomedical	3(3.2)
Doctor	3(3.2)
Pharmaceutical	2(2.1)
Physiotherapist	1(1.1)
Psychologist	1(1.1)
Highest Degree	
PhD	6(6.3)
Specialization	15(15.8)
MBA	58(61.1)
Master's degree	16(16.8)
Number of specializations	
1	32(33.7)
2	63(66.3)
Training trajectory - First specialization	
Infection control	10(10.5)
Oncology	17(17.9)
Intensive care	54(56.8)
Surgical Center	3(3.2)
Others	11(11.5)
Training trajectory - Second specialization	
Quality management in health services	79(79.0)
Health management	7(7.4)
Total quality management	2(2.1)
Patient safety	2(2.1)
Health Executive	3(3.2)
Others	6(6.3)

Continue...

Continuation.

Years after graduation	
8 – 11	11(11.6)
11 – 14	40(42.1)
14 – 17	27(28.4)
17 – 20	5(5.3)
20 – 23	6(6.3)
23 – 26	5(5.3)
26 – 29	1(1.1)
Length of care experience (years)	
5 – 7	13(13.7)
7 – 9	39(41.1)
9 – 11	25(26.3)
11 – 13	6(6.3)
13 – 15	2(2.1)
15 – 17	5(5.3)
17 – 19	1(1.1)
19 – 21	4(4.2)
Length of work in the patient safety unit (years)	
1	2(2.1)
2	4(4.2)
3	6(6.3)
4	22(23.2)
5	33(34.7)
6	28(29.5)

f – frequency; % – percentage; PSC – Patient Safety Center; MBA – Master of Business Administration

The information regarding the training of these professionals shows that the category that works in the investigation of adverse events of the PSC is mostly a nurse (89.5%), with an MBA (61.1%), with two specializations (66.3%), being the most frequent specialization in intensive care (56.8%), followed by the specialization in quality management in health services (79.0%). Table 2 shows that all participants took, in general, four to seven courses on quality tools (71.0%). Professionals have mastered the use of quality tools (97.9%). The London Protocol is the tool adopted by most participants (95.8%), applied 39 to 63 times by each member.

Table 3 shows the main distribution statistics for the quantitative variables in tables 1 to 4. Only age shows low variability ($CV=0.14$), the number of London protocols applied shows high variability ($CV=0.46$) and the other quantitative variables have moderate variability ($0.20 < CV < 0.40$).

Table 4 shows the results of the correlation analysis between the quantitative variables (Spearman's correlation coefficient and the p-value of the correlation coefficient significance test),

Table 2. Use of the incident investigation tool of the patient safety center

Variables	Global (f=95) f(%)
Have you taken quality tool courses?	
Yes	95(100.0)
No	0(0.0)
Number of quality tool courses taken	
1	3(3.2)
2	4(4.3)
3	14(15.1)
4	21(22.6)
5	16(17.2)
6	17(18.3)
7	12(12.9)
8	5(5.4)
9	1(1.1)
Have you applied the London protocol?	
Yes	95(100.0)
No	0(0.0)
What is the tool used to investigate adverse events?	
London protocol	91(95.8)
Canadian incident analysis framework	4(4.2)
Yorkshire contributory factors framework	0(0.0)
Number of London protocols applied	
15 to 39	16(16.84)
39 to 63	62(65.26)
63 to 87	9(9.47)
87 to 111	7(7.37)
111 to 135	0(0.0)
135 to 159	0(0.0)
159 to 183	1(1.05)

f – frequency; % – percentage

Table 3. Main statistics on the distribution of quantitative variables

Variable	Mean	Standard derivation	VC
Age	39.5	5.6	0.14
Years after graduation	14.3	3.8	0.27
Length of care experience (years)	9.2	3.4	0.37
Length of experience in quality management (years)	5.7	2.0	0.35
Time of work at the Patient Safety Center (years)	4.7	1.2	0.25
Time working in the position (years)	4.6	1.8	0.39
Number of London protocols applied	52.5	24.1	0.46
Number of quality tool courses	4.9	1.8	0.36

CV – coefficient of variation

carried out in order to investigate whether any quantitative variable of the professionals' characterization was correlated to the number of protocols applied and the number of courses taken. No strong and significant correlation was found between the variables.

Table 4. Correlation analysis between quantitative variables

Correlation coefficient and p-value(*)	Age	Time in the position	Years after graduation	Length working in care	Length of experience in quality management	Time of work at the Patient Safety Center	No. of protocols applied	No. of courses taken
Age	1.00	- 0.08	0.25	0.25	0.06	- 0.05	- 0.24	- 0.24
		0.419	0.014	0.014	0.570	0.653	0.018	0.018
Time in the position	-0.08	1.00	- 0.03	- 0.03	0.20	0.28	0.19	0.19
	0.419		0.762	0.743	0.058	0.007	0.064	0.069
Years after graduation	0.25	- 0.03	1.00	0.48	0.30	0.06	- 0.27	- 0.14
	0.014	0.762		0.000	0.002	0.567	0.008	0.195
Length working in care	0.25	- 0.03	0.48	1.00	0.18	- 0.03	- 0.30	- 0.20
	0.014	0.743	0.000		0.076	0.807	0.003	0.060
Length of experience in quality management	0.06	0.20	0.31	0.18	1.00	0.65	0.05	0.04
	0.570	0.058	0.002	0.076		0.000	0.667	0.676
Time of work at the Patient Safety Center	- 0.05	0.28	0.06	- 0.03	0.65	1.00	0.32	0.15
	0.653	0.007	0.567	0.807	0.000		0.002	0.147
No. of protocols applied	- 0.24	0.19	- 0.27	0.30	0.05	0.32	1.00	0.16
	0.018	0.064	0.008	0.003	0.667	0.002		0.120
No. of courses taken	- 0.24	0.19	- 0.14	- 0.20	0.04	0.15	0.16	1.00
	0.018	0.069	0.195	0.060	0.676	0.147	0.120	

* Spearman test

Discussion

The results of this study made it possible to characterize the profile of professionals working in the PSC and to investigate the existence of variables correlated to the application of investigation tools for adverse events, in addition to contributing to reflection on the importance of professional training, especially the performance in clinical practice to allow an understanding of the adverse events analysis and investigation process. In addition, it can subsidize the choice and/or hiring of professionals.

As a limitation of the study, the fact that there was a predominance of a professional category among the research participants was highlighted. As a result, it was not possible to carry out a comparative analysis of the responses of the different types of training, since the subgroups of the other training groups had a small sample size.

As for the predominance (89.5%) of nurses working in the PSC and responsible for the analysis and investigation of AE in the participating institutions, it should be noted that, over time, the training of nurses has undergone several changes with regard to knowledge and to the profile of the professional in health institutions.⁽¹⁵⁻¹⁷⁾

Despite the predominance of nurses in the PSCs, a recent study verified the implementation of RDC No. 36/13 and the relationship with the control of infections related to health care (HCRI) in several

hospitals in Natal/RN; and found, through the research results, that 53% of the professionals identified in the PSCs were nurses, regardless of whether the hospital was public, private or philanthropic.⁽¹⁸⁾

Although in Brazil there is an asymmetry with regard to the distribution of professional nurses across Brazilian states and there is still a disproportionality in the different regions relative to the existing population, it was possible to identify that in all hospitals participating in the research, nurses assumed the leadership of the PSC.⁽¹⁷⁾

It is important to highlight the progress in professional training, the nurse trained in the 70s had a profile that aimed to develop assignments aimed at the identification, diagnosis and planning of nursing care.^(12,17)

With the publication of the Professional Exercise Law in 1986, it is possible to ratify the private activities of nurses such as: administration of nursing services, care planning and direct provision of nursing care to critically ill and life-risking patients, requiring knowledge and decision-making to implement care of greater technical complexity.^(12,17-19)

In the 90s, after curricular reformulation in nursing courses, there was a change related to general and specific competences, with the objective of training nurses capable of identifying and intervening in different health situations with a focus on work processes, monitoring results and improving the quality of care.^(12,17-20)

Thus, it can be inferred that the choice of nurses by the institutions for the coordination of the PSC stems from the fact that the undergraduate nursing course is one of the few courses that offers in its curriculum disciplines (theoretical and practical) that develop an expanded view of the systems related to the patient, articulating the management and clinical practice allowing adding value to the organizational processes in the health institutions.^(17,18-21)

In addition, once again it is considered the protagonist and transforming role of nurses in health institutions to guarantee the safety culture and the expansion in the quality of care provided to patients in the hospital.

Research participants have more than one specialization (66.3%). However, the first training in intensive care allows us to understand the need to work in clinical practice prior to working at the PSC. In addition, training in intensive care allows a broad view and clinical reasoning to implement a care plan aimed at the critical patient. In view of these considerations, it is highlighted that nurses who works in the ICU needs, in addition to adequate qualification, the need for specific skills that allow them to develop their functions in a complex environment linked to technical-scientific knowledge.^(12,22-26)

Therefore, to carry out an investigation of an adverse event, a systemic view is necessary, especially of the care process, although some authors claim that, nowadays, analyzes are performed routinely, although often within an accountability framework and not for reflection or learning.⁽¹¹⁻¹³⁾

Thus, an essential skill to ensure an adequate investigation process stands out: leadership; allowing to assume a position of leader in the investigation team, articulating with the multidisciplinary team, supporting the work teams, developing decision-making and managing the stages of the investigation process.^(12,21)

Regarding the predominance of women in nursing, which in this study was 83.2%, it is possible to corroborate the data from COFEN that, in a survey conducted in 2015, the profession was composed of 84.6% of women.⁽²²⁾

The variables related to the time since graduation (average 14.3 years) and length of experience

in care (average 9.2 years) proved to be important for the activities of nurses, as the performance of their functions, related to the process of investigation of AE, requires a lot of technical knowledge, clinical reasoning and critical analysis to be able to understand the process related to the disease, clinical treatment and to outline the entire care itinerary of the patient in the health institution.⁽¹⁷⁾

Therefore, for a proper adverse event investigation process, the need for a professional with an insightful vision able to easily understand the care processes and the contributing factors that led to AE emerges.⁽¹⁸⁻²³⁾

In addition, it was possible to perceive that the age variable (average of 39.5 years) allows to understand the need for a senior professional, with a professional trajectory working in clinical practice, presenting knowledge and skills to manage the conflicts that are generated between the care teams and the dialogue with senior leadership and family members.

Corroborating the characteristics of the professional, it is evident that the position held at the institution is an important characteristic. The work of professionals who investigate adverse events is a strong strategy of the organization, being part of the institution's strategic planning and strengthening the organizational identity.

It is evident that nurses need knowledge about quality management in health, being an important training to support the practice of AE investigation, as it allows the deepening of knowledge about clinical management, risk management, quality tools, among others.⁽¹⁸⁻²⁵⁾

It was evidenced that the London Protocol is the main tool used for the investigation of AE when compared with the other tools. It is inferred that, in addition to being a tool recommended by the Ministry of Health, it has a lower technical complexity than other tools, being more easily operationalized. However, for its use it is necessary that the professional has clinical knowledge and experience in the application, in order to promote a systemic approach guaranteeing a robust investigation process and an effective and sustainable action plan.^(12,26-28)

Therefore, the need for training in the investigation process and observation techniques emerges, auditing the care itinerary is part of the investigation stages and the exclusion of individual attitudes of professionals.

In an Australian study, it was possible to understand a series of recommendations that could be used to improve the investigation process, such as: increasing knowledge about investigation techniques, prioritize the recommendations that can probably be more effective and simulation techniques to understand the main contributing factors.⁽²⁷⁻²⁹⁾

Regarding the number of London protocols already applied by the professionals participating in the research (average 52.5), it demonstrates that there is a solid role of nurses in the application of the instrument for investigating AEs.

According to the London Protocol, the incident related to health care must be investigated through important aspects: nature and severity of the consequences for patients and professionals; consequences for the organization and finally for the learning potential for professionals and for the organization.^(6,13)

However, the survey identified a high variability (CV=0.46) in the number of London Protocols applied. Therefore, it is possible to inquire whether the institutions are using different criteria in the policies of quality management and patient safety for the investigation of adverse events that occurred in the institutions. Furthermore, it can be said that it is a limitation of the instrument the lack of clarity in the definition of standardized criteria for the application of the instrument. Thus, each institution elaborates the criteria and requirements, or structural problems such as: shortage of professionals to compose the PSC, as an investigation with the London Protocol requires dedication and effort allocation for a robust analysis.

Corroborating with the findings of this research, a recent study, carried out in a total of 12 hospitals in Brazil, highlights that only 77.8% of the institutions had the incident management strategy with all stages: identification, analysis, evaluation, monitoring and communication of risks in the health service. According to the authors, in some hospital institutions in the study, several problems were

identified in the PSC, such as: lack of professionals to compose the teams and/or commissions and work overload of the professionals.⁽¹²⁾

Therefore, it is considered that nurses are extremely important professionals in the implementation of the PSC's strategic actions, especially about incident management, which contributes to the continuous improvement of patient quality and safety. For this, it is essential that these findings (knowledge and skills) are included in the selection of professionals to compose the PSC. In addition, there is a need to invest efforts in the formulation of a risk management policy and the establishment of criteria for the application of the tools for investigation and also the training of professionals to carry out all stages of risk management.

Conclusion

This study was carried out to characterize the profile of the professionals who work in the Patient Safety Centers, as well as to analyze if there are variables correlated to the application of tools to investigate adverse events. It was possible to verify, in the 24 hospitals, that nurses are the professionals who predominantly work in the patient safety centers. No strong and significant correlation was found between the quantitative variables that characterize the professionals and the number of protocols applied and courses taken. It is necessary to continue investigating the characterization of nurses who work in the centers. However, we show that the nurse assumes a strategic and extremely relevant position not only for the organization, but also for the public health system with the mission of ensuring patient safety through the identification of contributing factors, failures in care, and subsequently, the implementation of improvements in the health system.

Collaborations

Mello LRG, Christovam BP, Araujo MC, Moreira APA, Moraes EB, Paes GO and Pereira IB contrib-

uted to the study design, data analysis and interpretation, writing of the article, relevant critical review of the intellectual content and approval of the final version to be published.

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