

OCCUPATIONAL ACCIDENTS WITH THE NURSING TEAM INVOLVED IN HOSPITAL CARE*

Juliana Ladeira Garbaccio¹, Wiliam César Bento Regis², Rogério Magalhães Coimbra Silva³, Wilson Goulart Estevão⁴

¹RN. Dentist. Ph.D in Nursing. Professor of the Pontifical Catholic University of Minas Gerais. Belo Horizonte-MG-Brazil.

²Biologist. Ph.D in Biology. Nursing Research Coordinator at the Pontifical Catholic University of Minas Gerais. Belo Horizonte-MG-Brazil.

³RN. Specialist in Public Health. Divinópolis-MG-Brazil.

⁴Student of Nursing. Pontifical Catholic University of Minas Gerais. Arcos-MG-Brazil.

ABSTRACT: This study aimed to describe occupational accidents in the nursing team of two public hospitals, and the notification of these. Transversal research was used, undertaken between March and April 2012, in the city of Arcos, in the Center-West of Minas Gerais. A structured questionnaire was applied to nurses, nursing technicians, and auxiliary nurses. The data were tabulated and analyzed descriptively and statistically using the Statistical Package for the Social Sciences software, version 13.0. The reporting of the rate of work accidents in the institutions, between 2002 and 2011, was 59.6%, of which 90% were of a biological nature, and 34% did not report the work accident. The youngest age range (20 – 29 years old/81.8%) and those with less length of experience (≤ 5 years/84.2%) reported more accidents. It is concluded that there is little adherence by the professionals to the care measures stipulated, it also being verified that a low percentage of Communication of Work Accidents forms were filled out, making educational and preventive interventions necessary in order to minimize accidents.

DESCRIPTORS: Worker's health; Occupational risks; Work accidents.

ACIDENTES OCUPACIONAIS COM A EQUIPE DE ENFERMAGEM DA ATENÇÃO HOSPITALAR

RESUMO: Este estudo objetivou descrever os acidentes ocupacionais com a equipe de enfermagem de dois hospitais públicos e suas notificações. Foi utilizada pesquisa transversal, realizada entre março e abril de 2012, na cidade de Arcos, no Centro-Oeste de Minas Gerais. Aplicou-se um questionário estruturado entre enfermeiros, técnicos e auxiliares de enfermagem. Os dados foram tabulados, analisados descritivamente e estatisticamente no programa Statistical Package for the Social Sciences, versão 13.0. O relato do índice de acidente de trabalho nas instituições, entre 2002 e 2011, foi de 59,6%, dos quais 90% de natureza biológica, 34% não notificaram o acidente de trabalho. A faixa etária mais jovem (20-29 anos/81,8%) e aqueles com menos tempo de experiência (≤ 5 anos/84,2%) relataram mais acidentes. Conclui-se que há pouca adesão pelos profissionais aos cuidados preconizados, verificando-se também a baixa porcentagem da Comunicação do Acidente do Trabalho, tornando-se necessárias intervenções de educação e prevenção para minimizar os acidentes.

DESCRIPTORIOS: Saúde do trabalhador; Riscos ocupacionais; Acidentes de trabalho.

ACCIDENTES OCUPACIONALES CON EL EQUIPO DE ENFERMERÍA DE LA ATENCIÓN HOSPITALAR

RESUMEN: Este estudio tuvo la finalidad de describir los accidentes ocupacionales con el equipo de enfermería de dos hospitales públicos y sus notificaciones. Fue utilizada investigación transversal, realizada entre marzo y abril de 2012, en la ciudad de Arcos, Centro-Oeste de Minas Gerais. Fue utilizado un cuestionario estructurado entre enfermeros, técnicos y auxiliares de enfermería. Los datos fueron organizados, analizados descriptiva y estadísticamente en el programa *Statistical Package for the Social Sciences*, versión 13.0. El informe del índice de accidente de trabajo en las instituciones, entre 2002 y 2011, fue de 59,6%, de los cuales 90% de naturaleza biológica, 34% no notificaron el accidente de trabajo. La franja etaria más joven (20-29 años/81,8%) y aquellos con menos tiempo de experiencia (≤ 5 años/84,2%) relataron más accidentes. Se concluye que hay poca adhesión por los profesionales a los cuidados propuestos, verificándose también la baja porcentaje de la Comunicación del Accidente de Trabajo, siendo necesarias intervenciones de educación y prevención para minimizar los accidentes.

DESCRIPTORIOS: Salud del trabajador; Riesgos ocupacionales; Accidentes de trabajo.

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Corresponding author:

Wilson Goulart Estevão
Pontifícia Universidade Católica de Minas Gerais
Rua N. S. do Livramento, 801 - 37925-000 – Piumhi-MG-Brasil
E-mail: goulartwilson@hotmail.com

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INTRODUCTION

Nursing, as a profession, is divided into the categories of auxiliary nurses, nursing technicians, and nurses. In the working day, they provide constant attention to the patients, 24 hours per day, undertaking approximately 60% of the health actions, and being the health professionals who have the most physical contact with the patients⁽¹⁾.

The nursing workers, during the care for the patient, are exposed to numerous risks from chemical sources, represented by dust, vapors, gases; physical sources, which correspond to noise, heat, cold, ionizing and nonionizing radiation, vibrations, humidity, and environmental pressures; biological sources, which relate to biological agents, which enter into contact with the worker through direct or indirect contact (such as accidents with sharps); ergonomic sources, characterized by the manual transportation of loads and weight, repetition, and excessive pace of work, inappropriate posture, and risks of accidents which correspond to inappropriate physical arrangements, and equipment lacking safety devices⁽²⁾.

The close contact with patients who have various conditions, and the undertaking of various care procedures, contributes to the professionals' exposure to biological and chemical agents, as well as to psychological exhaustion. In this way, work conditions for the health team in the hospitals have been considered unhealthy, as they group numerous situations of occupational risks⁽³⁾.

Irregular infrastructure which fails to comply with Regulatory Standard 32 of the Brazilian Ministry of Labor and Employment is also a crucial factor in occupational risk. In addition to the hospital representing a place of risk for its workers, the professionals themselves may present behaviors of risk, through undertaking tasks inappropriately, without using Personal Protective Equipment (PPE) and/or through absent or poor training on the prevention of occupational accidents⁽⁴⁾.

The CAT (Comunicação de Acidente de Trabalho: form for notifying work-related accidents) is the document used for reporting the work accident, and is filled out by the worker. This communication is mandatory, under Law N. 8,213/91, independently of the accident's seriousness, and is forwarded by the company

to the Social Security Service by the first day following the occurrence of the accident, even if the person who had the accident has not been removed from the workplace. In the event of death, the CAT document is immediately sent to the competent authority, under the penalty of a fine. Subsequent to this procedure, the medical evaluation and concession of benefits are undertaken⁽⁵⁻⁶⁾.

Taking into consideration the fact that hospitals represent a place of risk for their workers, and that the nursing team is that which has the highest probability of being involved in work accidents, this study's guiding question arose: What was the occurrence of work accidents with the nursing professionals in hospital care in a city in the Center-West of Minas Gerais, in the period 2002 – 2011?

In this regard, this study aimed to describe the work accidents and their notifications in the nursing teams of two public hospitals.

METHOD

This was a transversal study, undertaken in the period March – April 2012, in two public hospitals, in the city of Arcos, in the Center-West of Minas Gerais, which has approximately 36,000 inhabitants, following approval from the Research Ethics Committee of the Pontifical Catholic University of Minas Gerais (CAAE 07352212.1.0000.5137).

Data collection was undertaken through interviews with nurses, nursing technicians and auxiliary nurses who worked allocated in the three shifts (morning, afternoon and night, in a period of 8 hours per day, and with shifts following a pattern of 12/36). Interviews took place following a verbal invitation to the professionals, explaining the study's objectives and relevance, and, after agreement, these were presented with the terms of free and informed consent. Those who were on holiday at the time of data collection were excluded from the study.

A form devised for the study was used, containing closed and open questions referent to sociodemographic data and to work accidents, as well as to the reporting of these, in the period 2002 – 2011.

The two hospitals where the study was held were small, providing general medical

and surgical services and attendances to minor emergency cases, with similar frequencies.

The data obtained were tabulated and analyzed descriptively and statistically using the Statistical Package for the Social Sciences software, version 13.0. The association between the sociodemographic variables and the variable of occurrence of the work accident was ascertained through bivariate analysis, using Pearson's Chi-squared test, adopting the level of significance of 0.05 and the confidence interval of 95%.

RESULTS

The interviews were held with 57 professionals and there were no refusals to participate in the study. The data, collected in both hospitals, were analyzed together, due to the similarities of the results and the characteristics of each institution.

The following were ascertained as predominant: female interviewees (91.2%/52), age range between 30 and 39 years old (42.1%/24), mean age of 35 years old, nursing technicians (72%/41), and up to five years' work in the professional

category (33.3%/19). Other sociodemographic data are presented in Table 1.

Among the 57 participants, 34 (59.6%) reported having had some type of work accident in the institution, there being a predominance of the younger professionals – 20-29 years old (81.8%/9) nursing technicians (68.3%/28), with up to five years of work in the category (84.2%/16), and on the day shift (73.5%/25) (Table 1).

Among the professionals who mentioned accidents, there was greater reporting among the men (80%), and, in spite of accidents being reported at a higher percentage among men, in numerical terms, accidents among women are seven times greater, an absolute difference being presented of four males as against 30 females. It is noteworthy that, in addition to the number of nursing technicians being numerically greater than nurses, in percentage terms, more accidents are reported in this category.

Among the 34 (59.6%) professionals from the Nursing team who reported some type of work accident in the period 2002 – 2011, 90% stated that they had suffered a biological accident, and 15% of them judged that there had been no strong

Table 1 - Sociodemographic data for the Nursing team and occupational accidents. Arcos-MG, 2012

Sociodemographic variables	Nursing Team		Professionals who mentioned accidents	
	N= 57	%	n= 34	%
Sex				
Female	52	91,2	30	57,7
Male	5	8,8	4	80,0
Age range (years)				
20 to 29	11	19,3	9	81,8
30 to 39	24	42,1	14	58,3
40 to 49	15	26,3	10	66,7
50 to 59	7	12,3	1	14,3
Professional category				
Nursing technician	41	72	28	68,3
Nurse	8	14	2	25,0
Auxiliary nurse	8	14	4	50,0
Time of work in the category (years)				
≤ 5	19	33,3	16	84,2
6 to 10	11	19,3	9	81,8
11 to 15	14	24,6	5	35,7
≥16	13	22,8	4	30,8
Shift				
Day	34	60,0	25	73,5
Night	23	40,0	9	39,1

risk of contamination as they had cut their finger with sterile material.

Among the sociodemographic variables evaluated, there was correlation between age range, length of work in the category, and reference to occupational accidents, determined by $p < 0.05$ (Table 2). The younger age range, and those with less length of experience in the category, presented greater association with the accidents. There was no statistically significant association for the other variables.

The immediate conduct of the professional following the occurrence of the accident with biological risk was evaluated: they washed the exposed area with water and soap (73.5%/25), washed the area with normal saline (8.8%/3), did not undertake any conduct (8.8%/3) and washed with antiseptic (8.8%/3).

Of the professionals who had accidents, 34% (11) did not notify Work-related Accidents, indicating more than one reason for not reporting the accident: lack of time (55%), not thinking it important (36%), and not knowing about the notification instrument – the CAT form (9%).

Table 2 - Statistically significant association ($p < 0.05$) between sociodemographic data and the occurrence – or not – of accidents. Arcos-MG, 2012

Variables	Professionals – reference to work accidents	
	Chi-Square	P value
Age range (years)	8,56	0,04
Time of work in the category (years)	14,85	0,02

DISCUSSION

In this study, there was a predominance of nursing technicians in the team, corroborated with data from the Minas Gerais Regional Nursing Council, who occupy the most numerous category (90,277), followed by nurses (41,517) and subsequently the auxiliary nurses (34,431)⁽⁷⁾. It is supposed that auxiliary nurses are seeking to extend their professionalization, reaching the title of nursing technician, which explains their lower numbers in this study.

The nursing team was mainly made up by females (91.2%), reaffirming the predominance of women in nursing, a fact which accompanies the profession, and can be confirmed by data from

the Federal Nursing Council (COFEn), presented in research undertaken in 2010, with women composing 87.24% of the nursing workforce in Brazil⁽⁸⁾.

In relation to occupational accidents, there was greater reporting among the younger professionals and among those with less experience in the profession. The numerous procedures which lead to the handling of sharps, the intense rhythm of work, inappropriate handling, and lack of professionals undertaking activities contribute to the higher incidence of work accidents with sharps in that group⁽⁹⁻¹⁰⁾.

In spite of the precautions specified by the Brazilian and international health agencies, such as the Ministry of Health and the North American Centers for Disease Control and Prevention (CDC) and standardized by the nursing teams, the risks of accidents are always present, influenced by factors of stress, work overload, the patient's psychomotor agitation, and transgression of preventive norms by the professionals⁽¹¹⁻¹³⁾.

In this study, 90% of the work accidents with the nursing team were biological in nature. In another study in an Intensive Care Center, with the same evaluative character, a percentage of 67.6% of the nursing workers experiencing accidents with biological material was obtained, supporting the statistics for the occurrence of this type of accident in various institutions, and indicating the high risk in the nursing team. It is important to focus on the fact that occupational exposure to biological material is mentioned as one of the most common issues in the health area and in occupational safety, as the nursing team undertakes numerous interventions involving sharps⁽¹⁴⁾.

Of those who experienced accidents, 15% judged the accident to have no imminent risk of contamination, as they had cut their fingers with sterile material. Nevertheless, it is important to take into account that, frequently, health workers undertake work in shifts and handle unsafe articles, and either fail to use PPE or use it inappropriately. As a result, they are exposed to risks of contact with microorganisms spread by potentially infected blood or other body fluids, through wounds caused by needles, pointed objects, contact with mucosa or through broken skin⁽¹⁵⁾. The fact that some professionals consider themselves to be exempt from risk when they have accidents with

sterile material is concerning, as it evidences a technical error in the work, which could occur in other activities with contaminated material⁽¹⁶⁾.

In spite of the absence of a statistical association between professional category and accidents, the nursing technicians were those who reported accidents most (85%). This may be explained by the fact that they represent the most numerous professional category, that they are most exposed to risk, as they spend most time in direct care for the patients, and that they undertake various invasive procedures⁽¹⁶⁾.

Due to the high handling of needles, occupational accidents caused by sharps among the nursing workers are frequent, representing harm both to the workers and to the institution. This has to do with the constant needs for attention to the problem, principally in adopting actions for reducing the number of accidents, directing measures for the reporting of the occurrences, improving the post-accident referral flow, and monitoring the worker's health⁽¹⁷⁾.

The majority of accidents occur during the day shift (76.5%), possibly because this brings together a greater volume of procedures and direct care to the patients, when compared with the night⁽¹⁸⁾. The reporting of accidents in hospitals during the day shift has been presented in another study, with 80.54%⁽¹⁹⁾.

The professionals' immediate conduct after the occurrence of the accident with a biological risk was that stipulated by the national and international health agencies: washing with running water and soap of the injured area and only with running water when the injured area is the mucosa. The use of antiseptics is not contraindicated, although there is no evidence that their use or application of pressure to the area reduces the risk of contamination, nevertheless, the use of irritant solutions (ether, glutaraldehyde, sodium hydrochlorite) is contraindicated. However, depending on the severity of the accident, evaluated in accordance with individual criteria, more specific conducts are necessary, which require certain time limits for their undertaking, for which reason it is essential to immediately report the accident⁽²⁰⁻²¹⁾. It is important that, subsequent to the washing of the area, blood samples should be taken for serology and other tests thought necessary in accordance with the evaluation of the accident, filling out the CAT

document, chemoprophylactic procedures when necessary, and monitoring of the health of the worker who had the accident⁽¹⁷⁾.

In this study, 34% of those who had accidents did not report the fact, and the reasons indicated were concerning, as they reflected a lack of awareness on the part of the professional to the risk. In another study undertaken on accidents with the nursing team, in a hospital in Palmas (in the Brazilian state of Tocantins), low reporting to the hospital's Safety at Work department predominated (35.9%), a percentage close to that found in the present study, demonstrating the clear existence of under-reporting, which reflects the poor knowledge of the staff on how to proceed correctly accident notification, when reporting an accident. The study verified failure in the process of providing information and awareness of the importance of reporting accidents⁽¹⁶⁾.

Among the health professionals, adherence to the biosafety recommendations, including the reporting, has been low and distinct, considering some variables, such as sex, professional category, work shifts, length of experience, and professional training, even when there is sufficient knowledge on the issue of "Biosafety"⁽²²⁾. This may be related to various aspects of human behavior, including the false perception of risk and underestimating individual responsibility in resolving or minimizing problems. It is emphasized that this insufficient adherence does not always refer to knowledge regarding the dangers, but to failure to incorporate this knowledge into practice⁽²³⁾.

A reported accident is considered to be one in which the professional who had the accident fills out the CAT document. The protocol for attending these professionals includes, besides the CAT, attendance in the specialized service. The report of the accident involving exposure to biological material is very important for the professional who has the accident and for the institution, as it provides both with legal support. In addition to this, one can obtain better knowledge of these accidents, of their causes and consequences, so as thus to develop preventive measures, to determine the risk of infection regarding the source-patient and the professional, and to adopt post-exposure measures for preventing the transmission of hepatitis B and HIV⁽²⁴⁻²⁵⁾.

The causes of underreporting work accidents evidence lack of information or sensitization in

relation to the risks and to the epidemiological and legal aspects involving this type of accident in the hospital environment, as well as the submission of the workers to the working conditions imposed by the employer, when they mention the lack of time for reporting the accident⁽²⁶⁾.

Although some workers showed knowledge regarding the importance of standard precautions when caring for the other, the adoption of these does not occur regularly, consequently increasing the number of work accidents, in addition to the poor knowledge regarding the procedures after accidents⁽¹⁷⁾.

CONCLUSION

The nursing team which participated in the study was mainly composed of nursing technicians, women, with an age range between 30 and 39 years old, with a time of work in the category of less than or equal to five years, and undertaking activities on the day shift.

There was predominance of occupational exposure to biological material among the nursing professionals through accidents involving sharps, it being the case that age and professional experience may be associated factors.

The fact that only 34% reported the accidents is concerning, considering the risks of acquiring blood-borne pathogens, the possible underestimating of consequences by the professionals, the flow of reporting not defined by the health institution, and the little immediate care for the professionals. The main reason indicated by the professionals from the nursing team for not reporting the accident was not thinking it relevant, followed by lack of time.

One can perceive the need for strategies for responding to underreporting, such as raising the professionals' awareness of the seriousness of the issue, reviewing safety in the work environment, training the team in relation to safe handling of sharps, and explaining the immediate flow of care after accidents.

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