KNOWLEDGE OF THE NURSING TEAM IN THE MAIN TYPES OF HOSPITAL INFECTIONS

CONHECIMENTO DA EQUIPE DE ENFERMAGEM PERANTE OS PRINCIPAIS TIPOS DE INFECÇÕES HOSPITALARES

CONOCIMIENTO DEL EQUIPO DE ENFERMERÍA FRENTE A LOS PRINCIPALES TIPOS DE INFECCIONES HOSPITALARES

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ABSTRACT

Objective: to identify the knowledge of the nursing team regarding hospital infections. **Method:** this is a quantitative, exploratory-descriptive study, with 30 nursing technicians and 10 nurses. The instrument used for data collection was a questionnaire analyzed statistically. The results were expressed in tables. **Results:** 100% of nurses and 96.7% of nursing technicians know about hospital infection; 80% of nurses and 70% of nursing technicians use PPE (Personal Protective Equipment) correctly. **Conclusion:** most of the nursing team understand the risks related to hospital infections; nursing is very important for reducing the levels of infections in hospitals. **Descriptors:** Hospital Infection; Nursing; Individual Protection Equipment; Hand Washing Technique; Hospital Infection Prevention; Surgery Center.

RESUMO

Objetivo: identificar o conhecimento da equipe de enfermagem perante as infecções hospitalares. **Método:** estudo quantitativo, exploratório-descritivo, com 30 técnicos de enfermagem e 10 enfermeiros. O instrumento utilizado para coleta de dados foi um questionário, analisado estatisticamente. Os resultados foram expressos em tabelas. **Resultados:** 100% dos enfermeiros e 96,7% dos técnicos de enfermagem têm conhecimento sobre a infecção hospitalar; 80% dos enfermeiros e 70% dos técnicos de enfermagem usam o EPI (Equipamento de Proteção Individual) corretamente. **Conclusão:** a maior porção da equipe de enfermagem compreende os riscos perante as infecções hospitalares; a enfermagem apresenta grande importância para redução dos níveis de infecções nos hospitais. **Descritores:** Infecção Hospitalar; Enfermagem; Equipamento de Proteção Individual; Técnica de Lavagem de Mãos; Prevenção de Infecção Hospitalar; Centro Cirúrgico.

RESUMEN

Objetivo: identificar el conocimiento del equipo de enfermería frente a las infecciones hospitalares. **Método:** estudio cuantitativo, exploratorio-descriptivo, con 30 técnicos de enfermería y 10 enfermeros. El instrumento utilizado para recolección de datos fue un cuestionario, analizado estadísticamente. Los resultados fueron expresos en tablas. **Resultados:** 100% de los enfermeros y 96,7% de los técnicos de enfermería tienen conocimiento sobre la infección hospitalaria; 80% de los enfermeros y 70% de los técnicos de enfermería usan el EPI (Equipamiento de Protección Individual) correctamente. **Conclusión:** la mayor parte del equipo de enfermería comprende los riesgos frente a las infecciones hospitalarias; la enfermería presenta grande importancia para reducción de los niveles de infecciones en los hospitales. **Descriptores:** Infección Hospitalaria; Enfermería; Equipo de Protección Individual; Técnica de Lavado de Manos; Prevención de Infección Hospitalaria; Centro Cirúrgico.

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INTRODUCTION

Hospital infection (HI) or Nosocomial Infection is one of the major problems faced by healthcare professionals and patients due to various invasive procedures. Technological advances and the emergence of multidrug-resistant microorganisms used daily in hospitals have made this a major barrier in the hospital setting.¹

Ordinance Number 2616/98 of the MH defines Hospital Infection as the one acquired after the admission of the patient and presents during hospitalization or after discharge. The main contributing factors for HI are related to the patient's age and chronic degenerative diseases (diabetes and neoplasias); incorrect procedures; errors in skin antisepsis and sterilization of materials; circulation of several people in the hospital environment; and especially the misuse of antimicrobials; as well as the basic washing of the hands by the professionals.²⁻³

HI is a public health problem because it is one of the main causes of death among hospitalized patients. The financial costs of this complication are somewhat significant since the patient will require differentiated and costly treatments, prolonging hospitalization time.¹ Thus, they constituted health policies for the hospital area, requiring the creation of the Hospital Infection Control Committee (HICC). Federal Law Number 9431 of 1997 establishes the obligation of the existence of the HICC, in which the MH defines it as an organ of maximum authority of the institution and of execution of the actions to the control of infection.⁴

The control and prevention of HI have been part of nursing care since the time of the pioneer Florence Nightingale who assisted patients, developing philosophical principles such as valuing the environment, hygiene, lighting, temperature, odor, and noise.⁵

Nursing professionals play an important role in the prevention and control of hospital infections since they carry out direct contact with the individual, invasive and potentially contaminated procedures, as well as the manipulation of patient equipment, instruments and medications.³

Given this, it is necessary that the nurse is frequently updating in the subject, providing assistance to patients and work with the health team, always maintaining the focus on scientific knowledge, preserving the ethical and critical posture in the care of the patients.⁴

The justification of this study was to know the true importance of the nursing team when facing hospital infections, showing the main types of infections and the ways of using PPE as a form of prevention.

Based on such assumptions, the question is: What is the knowledge of the nursing team regarding hospital infections? Does the nursing team use PPE properly? What types of infections are most common?

OBJECTIVES

- To identify the knowledge of the nursing team regarding hospital infections.
- To identify the most frequent types of hospital infections.
- To check the use of PPE by the nursing team.

METHOD

The research is an exploratory-descriptive study with a quantitative approach using the population universe with 40 nursing professionals, 30 nursing technicians, and 10 nurses, from the Emília Câmara Regional Hospital in the city of Afogados da Ingazeira/PE. The research sample was 40 Nursing professionals, nursing technicians, and nurses. The inclusion criteria was age from 18 years old and having more than one year of work in the institution. The exclusion criterion was those professionals who no longer work in this institution.

The instrument used for data collection was a semi-structured questionnaire, composed of two parts: sociodemographic data and data referring to the research theme.

Data collection was performed from January and February of 2017, with a time of 15 minutes for the response of each participant, in the work environment of the interviewees. Before beginning data collection, patients were informed of the study's goals and all of their rights to participate or to withdraw from the survey when they want.

After the interview, the data were analyzed statistically according to the quantitative and qualitative variables. The results are expressed in tables.

The development of this research is in accordance with the presuppositions of Resolution 466/2012 that regulates the research involving human beings, normalized by the National Health Council, ensuring the anonymity of the participants of this study.⁶

The project was approved by the Research Ethics Committee with CAEE number: 64091417.0.0000.5181.

RESULTS AND DISCUSSION

Table 1. Characterization of the sample regarding demographic data. Nurses (Nur.) N=10 and Nursing Technicians (N. Tec.) N=30. Afogados da Ingazeira(PE), Brazil, 2017.

Variables	Nur. (%)	N. Tec. (%)
Age group		
Between 41 and over	2 (20)	9 (30)
Between 21 and 30 years	3 (30)	9 (30)
Between 31 and 40 years	5 (50)	10 (33.3)
Less than 20		2 (6.7)
Degree of education		
High school		30 (100)
Higher education	10 (100)	
marital status	2 (20)	14 (46.7)
Married		1 (3.3)
Widowed	8 (80)	15 (50)
Single Children:		
Salary income	6 (60)	2 (6.7)
Less than 1 salary	1 (10)	16 (53.3)
1 minimum wage	2 (20)	11 (36.7)
2 to 3 salaries	1 (10)	1 (3.3)
Total	10 (100)	30 (100)

The sociodemographic data in Table 1 show different results in the sociodemographic data of the nursing team of the Regional Hospital of Afogados da Ingazeira. The most frequent age group for nurses was between 31 and 40 years old with 50% (5 nurses), with an average age of 30 years old. Regarding the nursing technicians, the age group with the highest frequency was also between 31 and 40 years old with 33.3% (10 N. technicians), with a mean age of 29.6. These data are consistent with national surveys, which show that the majority of nurses are over 30 years old.⁷

All the professionals (40) have completed secondary education, according to the Federal Nursing Council, COFEN⁸, most of the nursing professionals wish to qualify professionally in the area, and middle-level workers (technicians and assistants) present higher education than required to perform their assignments.

The data show that 80% (8) of the nurses are single and 20% (2) are married. Regarding nursing technicians, most are single 50% (15), 3.3% (1) are widowers and 46.7% (14) are married. Considering the monthly income of

nursing professionals, it is observed that most nurses, 60% (6 nurses) receive less than one minimum wage, 20% (2) receive 2 to 3 minimum wages, 10% have a minimum wage and only 10% (1) of the sample had between 3 and 4 minimum wages. Regarding nursing technicians, 53.3% (16) receive a minimum wage; 36.7% (11) between 2 and 3 wages; 6.7% (2) less than 1 minimum wage; and 3.3% (1) 3 to 4 minimum wages.

A research conducted with Brazilian nursing professionals by the Federal Nursing Council - COFEN⁸ shows that 1.8% of Brazilian nursing professionals receive less than one minimum wage per month, 16.8% receive a minimum wage, and the rest more than one minimum wage per month.

Table 2. Characterization of the sample regarding the knowledge about nurses responsibility for hospital infections and training for prevention. Nur. (n=10) N. Tec. (n=30). Afogados da Ingazeira(PE), Brazil, 2017.

Variables	Nur. (%)	N. Tec. (%)
Knowledge about infection		
Yes	10 (100)	29 (96.7)
No		1 (3.3)
Training and prevention		
Yes	7 (70)	24 (80)
No	3 (30)	6 (20)
Total	10 (100)	30 (100)

Regarding the perception of the nursing professionals about Hospital Infection, it is possible to see in Table 2 that 100% (10) of the nurses and 96.7% (29) of the nursing technicians are aware of the hospital infection. Regarding training and prevention of infections, 70% (7) of the nurses and 80% (24) of the technicians performed adequate training and prevention.

The care provided to hospitalized patients is somewhat complex, so nursing

professionals, as well as other health professionals need to have the technical-scientific knowledge, specific skills, and abilities, as well as to know the institution's norms and the Ministry of Health, as well as the equipment used and the procedures performed. No matter how prepared and trained a team is, mistakes can happen. Risks increase when procedures, protocols, routines, techniques, material, and equipment used in practice are inadequate.⁹

Table 3. Characterization of the sample regarding the use of PPE correctly and supply by the institution. Afogados da Ingazeira(PE), Brazil, 2017.

Variables	Nur. (%)	N. Tec. (%)
Using PPE correctly		
Yes	8 (80)	21 (70)
No	2 (20)	9 (30)
Provision of PPE by the institution		
Yes	7 (70)	24 (80)
No	24 (80)	6 (20)
Total	10 (100)	30 (100)

Given the data presented in Table 3, the correct use of PPE and supply by the institution, the data collected show that 80% (8) of nurses and 70% (21) of nursing technicians use PPE (Personal Protective Equipment) correctly, while 20% (2) of the nurses and 30% (9) of the technicians reported not making proper use of the protective equipment. A way to avoid major accidents is to use personal protective equipment (PPE). They are protective barriers for the worker and the patient.

In general, 72.5% of professionals use protective equipment properly and 27.5% do not. The result is different from the results of other studies found in the literature, which show that a significant part of the employees, almost 70%, do not use PPE or make incorrect use of the equipment.¹⁰

In the literature, there is the absence of inadequate size, difficult access, lack of

resources of the institution, rush to perform procedures, as well as self-confidence in their performance, resistance, the inconvenience of its use, ignorance of its preventive role.¹⁰

Regarding the institution, 70% (7) of the nurses and 80% (24) of the technicians reported that the protective equipment is distributed by the hospital, while 30% (3) of the nurses and 20% (6) of the technicians said that the institution does not distribute them.

According to NR-6, “it is the company's obligation to provide employees, free of charge, PPE appropriate to the risk, in a perfect state of conservation and functioning”, which occurs in the institution under investigation. It is up to the employee to use the equipment only for the purpose that is destined and to be responsible for the guard and conservation, to communicate to the responsible any alteration that appears and that makes it improper for its use.¹¹

Table 4. Characterization of the sample regarding the knowledge of the correct hand washing technique and types of infections most affecting the patients in the area. Afogados da Ingazeira(PE), Brazil, 2017.

Variables	Nur. (%)	N.Tec. (%)
Knowing the Handwashing Technique		
Yes	9 (90)	29 (96.7)
No	1 (10)	
Main types of infections in the area		1 (3.3)
Surgical infection	8 (80)	21 (70)
Respiratory Tract Infection	2 (20)	4 (13.3)
Urinary Tract Infection		5 (16.7)
Total	10 (100)	30 (100)

According to Table 4, 90% (9) of the nurses and 96.7% (29) of the nursing technicians know about hand washing techniques, while 10% (1) of the nurses and 3.3% (1) of the technicians do not know. Hand hygiene aims to protect the patient and, after the procedure, it protects the professional. At all times, hand washing is important to ensure the quality of the care provided. The professional who does not perform the correct washing of hands is not complying with the elementary principle of hygiene.¹²

Hand hygiene should be performed before and after contact with the patient, before wearing and removal of gloves, between patient and between procedures, or in situations where transfer of secretions from patient to the environment may occur, when there is contact with any type of body fluid, secretions, excretions and contaminated materials or equipment.¹³

In the case of the main types of hospital infections in the area, 80% (8) of the nurses and 70% (21) of the nursing technicians reported that Surgical Infections (SI) are the most frequent, another 20% (2) of the nurses and 16.7% (5) of the technicians stated that the most frequent infection is Respiratory Tract Infection (RTI), while 13.3% (4) of the nursing technicians reported that Urinary Tract Infection (UTI) is the most frequent.

Urinary tract infections (UTIs) represent the leading cause of infections in the area in national and international studies. Some surgeries require the installation of bladder catheters, depending on the type of surgery and protocol of the institution. Even with aseptic technique during catheter installation and closed urine collector, 50% of the patients present colonized urine after 48 hours of characterization.¹⁴

Surgical infection ranks third among all infections in the health service, accounting for about 14% to 16% of those found in hospitalized patients.¹⁵

Surgical site infection ranks third among all infections in the health service, accounting

for about 14% to 16% of those found in hospitalized patients.¹⁵

Thus, international studies, as well as this study, demonstrate that the practice of proper hand hygiene is flawed among health professionals, stressing the importance of educational activities to support health professionals to this important practice in prophylaxis and control of healthcare-related infections.¹⁶

Nursing professionals should ensure ongoing support and monitoring to ensure that hand hygiene is effective in all hospital health sectors to reduce the risk of infection.¹⁷

CONCLUSION

The control of hospital infections is directly related to the behavioral change of health professionals. Thus, it can be observed that the nursing professionals of the Regional Hospital of Afogados da Ingazeira know about the IRAS, however, investments are necessary for the training and prevention of these infections.

It is verified that the professionals know the correct technique of hand hygiene, which is a positive result since most of the infections are transmitted by the hands of professionals. Regarding the use of PPE, it is noted that most of them use the equipment.

Regarding the main types of hospital infection, a difference is observed in the data collected from the literature, where urinary tract infection occurs less frequently compared to other institutions.

All health professionals who are directly involved in health care need to be aware that infection control and care in the use of PPE are fundamental to the care process, reducing the length of hospital stay in the hospital and improving nursing care.

Thus, this study contributes significantly to the scientific community, where new studies in this area could be made to evaluate the effectiveness of the use of PPE, as well as to evaluate the professionals' knowledge about

hospital infections. Nursing is an important element in reducing infection levels in hospitals, and the easiest and most correct way to provide this care is to perform procedures and care with personal protective equipment and knowledge of aseptic techniques.

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