ADHERENCE TO HAND HYGIENE BY HEALTH PROFESSIONALS IN AN INTENSIVE CARE UNIT

ADESÃO À HIGIENIZAÇÃO DAS MÃOS POR PROFISSIONAIS DA SAÚDE EM UMA UNIDADE DE TERAPIA INTENSIVA

RESUMO

Objetivo: analisar a adesão à higienização das mãos por profissionais da saúde. Método: estudo quantitativo, descritivo e observacional, com 27 profissionais da saúde, em uma Unidade de Terapia Intensiva. A coleta de dados ocorreu mediante observação com a finalidade de anotar em um instrumento previamente elaborado e adaptado dados sobre higienização das mãos por profissionais da saúde; em seguida foi feito o cálculo de frequência e porcentagem para as questões e associação com o profissional. Resultados: em relação aos profissionais que tiveram intenção de lavar as mãos houve maior adesão dos fisioterapeutas, no entanto, dentre as observações de ocorrência de lavagem das mãos, nenhum profissional utilizou a técnica adequada sugerida pela ANVISA. Conclusão: faz-se necessária implantação de medidas educativas permanentes pelos serviços de saúde com a finalidade de incentivar e sensibilizar sobre a importância da adesão na higienização das mãos com técnica correta. Descritores: Infeção Hospitalar; Lavagem das Mãos; Unidade de Terapia Intensiva.

ABSTRACT

Objective: to analyze the adherence to hand hygiene by health professionals. Method: quantitative, descriptive and observational study with 27 health professionals in an Intensive Care Unit. The data collection was performed through observation aimed at recording data on hand hygiene by health professionals in a previously elaborated and adapted instrument. Then, the frequency and percentage for the questions and association with the professional were calculated. Results: regarding the professionals who had intention to wash their hands, there was greater adherence of the physiotherapists; however, according to the observations on hand hygiene, no professional used the appropriate technique suggested by ANVISA. Conclusion: health services must implement permanent educational measures in order to encourage and raise awareness about the importance of adherence to hand hygiene with the correct technique. Descriptors: Hospital Infection; Hand Hygiene; Intensive Care Unit.
INTRODUCTION

Hand hygiene (HH) is one of the most important primary measures with regard to the prevention of infectious-contagious diseases, since the hands tend to become a reservoir of microorganisms during the practice of care. HH is paramount to protect both the health professional and the patient, thus contributing to a better quality of care and health. Regarding the transmission of infectious diseases, the importance of HH was recognized since the nineteenth century by the physician Semmelweis, who established the obligation of this practice in assisting the patient, thus decreasing the mortality rate.¹

HH is a necessary and inexpensive procedure. For this reason, promotion practices should encourage the habit of sanitizing hands in health services to avoid transmission of health care-related infections. Because it is a simple and economical procedure, it can be used by every professional and it is necessary to implement measures that continuously seek the adherence of health professionals to avoid dissemination of microorganisms.²

Patients are susceptible to a wide variety of pathogenic microorganisms in the hospital environment, which is highly contaminated, especially in the Intensive Care Unit (ICU). The patient depends on intensive care support associated with routine invasive procedures that tend to contribute to the increase of hospital infection (HI) rates, which demonstrates necessary and adequate care before, during and after any procedure so that both the patient and the health professionals are protected from any harm to their well-being.³

Colonization of bacteria can lead to infections through person-to-person transmission, direct or indirect contact, such as by hands with or without gloves. These bacteria can also be transmitted from healthy carriers to non-colonized individuals, between members of the same family or provision for long-term care, from a patient to another patient through healthcare professionals, hospital settings, ICUs, beds, nursing homes, among others. Immunodeficiency and invasive procedures, such as surgeries and high-risk activities, are associated with transmission from harmless to harmful colonization. Therefore, decolonization strategies are aimed at reducing bacterial load and preventing vertical transmission and infection, in which patients are screened for pathogens and decolonized if they are found, thus preventing endogenous and exogenous infections.⁴⁻⁵

Brazilian Ordinance No. 2616, of May 12, 1998, instituted the National Infection Control Program (PNCI in Portuguese) and established the Hospital Infection Control Committee (CCIH in Portuguese), aiming at the development of lectures and training to professionals in health institutions by means of continuous prophylactic actions and activities, including hand washing to reduce the risk of HI and harm to the patient.⁶

The Brazilian Ministry of Health (MoH), by decree No. 529, of April 1, 2013, established the National Patient Safety Program (PNSP in Portuguese) to monitor and prevent damages during patient care, thus contributing to a better qualification of care in all health facilities. Among its goals, HH was set as a measure that should be encouraged in institutions aiming to avoid HI.⁷

Based on the above facts, the following question arises: in what way do the health professionals working in the ICU adhere to hand hygiene? Therefore, this research is relevant because it enables health professionals to reduce HI risks and promotes safety for patients, professionals and users of health services. Therefore, it is imperative that these professionals put HH into practice in order to reduce risks to the patient during the provision of care.

OBJECTIVE

- To analyze the adherence to hand hygiene by health professionals.

METHOD

This is a quantitative, descriptive and observational study, in which each individual was evaluated in two moments regarding their own control on adherence to HH before and after procedures with patients without any type of intervention. The study scenario was the Edvaldo Mota Adult Intensive Care Unit/ICU of the Regional Hospital Deputado Jandhy Carneiro, in the city of Patos (PB), Brazil.

The sample consisted of 27 employees of that institution, including five nurses, 17 nursing technicians and five physiotherapists. Professionals on leave during the study period, interns, those who did not have direct contact with the patient in their work process (laboratory technicians, professionals from another sector of the hospital) and those who disagreed in signing the Informed Consent Term (ICT) were excluded.
Collection was made through observation by the researcher himself and was aimed at recording in a previously elaborated and adapted instrument the following data on the performance of HH by the health professionals:

1. Hand washing before and after procedures with the patient;
2. Type of procedure, classifying it as invasive and noninvasive;
3. Steps of the HH technique by professionals, as recommended by the National Sanitary Surveillance Agency (ANVISA).6

The observation period lasted 15 days on April 2017, during around four hours in the morning, afternoon and evening shifts. The information was collected, stored in a database and later submitted to statistical procedures, analyzed with the aid of descriptive statistics with frequencies and percentages.

After authorization from the institution, the research was approved by the Research Ethics Committee of the Integrated Colleges of Patos (CEP/FIP/PB) under the approval No.: 64931417.3.0000.5181, respecting the ethical aspects in research involving human beings as described in Resolution No. 466/12 of the National Health Council regulating research involving human subjects.8

RESULTS

At the moment of the study, the ICU had six active beds, a sink, a dispenser of liquid soap, paper towel, alcoholic solution spray in the sink, two trash cans with pedal, one for infectious garbage, another for common trash and refill bottles with alcoholic solution in each patient's bed. The professionals who worked in the ICU were five nurses, five physiotherapists and 17 nursing technicians.

A total of 341 observations were made with the professionals in the morning, afternoon and evening shifts, weekends and holidays. The observation occurred before and after procedures with the patient, analyzing the moment when there was adherence to HH.

Regarding the handwashing technique of the 341 observations, the professionals intended to wash their hands, but at no time the technique correctly was performed. The reference model at the time of observation of the handwashing technique is that recommended by the MoH.9 In this way, the professionals presented only the intention to wash their hands and did not wash their hands properly.

In the research period, it was observed that the physiotherapists presented a higher frequency of handwashing, both before (90%) and after the procedures (99%) with the patients, when compared to the other categories, namely nurses and nursing technicians.

Adherence to HH was observed according to each professional category, namely nurses, physiotherapists and nursing technicians, and procedures were divided in two moments, invasive and noninvasive procedures.

Invasive procedures assigned to nurses and nursing technicians were constituted by:

- a) intravenous medication administration;
- b) enteral diet administration;
- c) aspiration of upper and lower airways;
- d) dressings;
- e) bladder and enteral catheter.

The noninvasive procedure consisted of:

- a) medication preparation;
- b) bath in bed;
- c) change of position;
- d) comfort measures and physical examination;
- e) vital signs check;
- f) oral diet administration.

The invasive procedure assigned to physiotherapists was:

- a) aspiration of upper and lower airways.

The noninvasive procedure was:

- a) breathing exercises.

Noninvasive procedures were prevalent when compared to invasive procedures, as performed by nurses, in a total of 30. The results showed that 80% of nurses did not wash their hands before noninvasive procedures. Invasive procedures, although less frequent (17), do not differ from noninvasive ones, as nurses did not wash their hands in 53% of times before these procedures. The intention of the nurses in handwashing was more frequent (76%) after the invasive procedures. In view of this, there was a greater adherence of nurses to hand washing after invasive and noninvasive procedures. This fact suggests that there is greater concern with their own protection than with the transmission of microorganisms to the patient. Another data observed in the nurses was the use of gloves before the procedures with the patient, which negatively influenced the low adherence to HH during the care.

Regarding the noninvasive procedures performed by physiotherapists, 89% intended to wash their hands before the procedures and 97%, after. In the invasive ones, 91% intended to wash their hands before the procedures and...
100%, after. There was no significant difference in the adherence to HH in relation to invasive and noninvasive procedures among the physiotherapists, with a greater intention in washing hands before and after these procedures.

In this study, the nursing technicians had a greater number of opportunities observed, 201. Regarding the noninvasive procedures, 60% had the intention to wash their hands before the procedures and 80%, after. Regarding the invasive ones, 56% pretended to wash their hands before the procedures and 96%, after. The results show that nursing technicians tend to wash their hands more frequently after the procedures, whether they are invasive or not, which is not different from other professional categories that obtained a higher frequency in hand washing after procedures. The data suggest that professionals give more importance to HH when it comes to their own protection, since after invasive procedures, 96% have hygienised their hands. Nevertheless, out of the 201 opportunities of HH by the nursing technicians, at no time they performed properly the antiseptic friction of hands with ideal alcoholic solution for non-dirty hands. This technique is less time-consuming, reduces the microbial load, is ease-to-use and does not cause skin dryness.

In the first moment, the researcher observed whether the professionals used the HH technique according to ANVISA recommendations for greater removal of the microorganisms. The technique is described in 11 steps (P1 to P11) as recommended by ANVISA. The professionals were analyzed according to their practice in HH and during the observation the researcher checked the steps performed and those that were not. P0 was assigned when the professional did not perform HH steps. It was observed in all categories (nurses, physiotherapists and nursing technicians) that none of these professionals performed the correct hand hygiene technique during the procedures.

**DISCUSSION**

A quasi-experimental quantitative research developed at a University Hospital of São Paulo in 2012 showed that adherence to HH practice occurs more frequently in physiotherapists, followed by nursing professionals and physicians, corroborating this research. Other studies have shown the importance of this practice in the reduction of HI rates, and most specialists in infection control have affirmed that this procedure is the simplest and most efficient way to prevent the transmission of microorganisms in care settings. A similar study revealed that nurses and nursing technicians had low adherence in HH before procedures with patients. This data is worrying, since this group represents a greater number of professionals in the direct and constant assistance to the hospitalized patients. Thus, non-adherence to HH by this team further compromises the quality and safety of care provided to patients.

The professionals hold theoretical and scientific knowledge about HH; however, such knowledge has not been applied with the proper frequency in daily practice. It is expected that health professional incorporates this knowledge into their routine as a preventive measure for IH control.

A descriptive and exploratory cross-sectional study with a quantitative approach developed in Basic Health Units (BHU) of three Comprehensive Healthcare Centers (CHC) and eight Primary Care Family Health Units (FHU) in the district of Goiânia, in 2010, whose sample included all nursing professionals, detected that the non-adherence to HH by these professionals prevents the use of an essential measure in the control of cross infection; however, the HH before the procedure aims to protect the patient and after the procedure, it protects the professional.

A cross-sectional, analytical study with a quantitative approach based on secondary information from an electronic database of the Hospital Infection Control Service (SCIH) in a hospital in Porto Alegre (RS), developed in 2012, revealed that the use of gloves has interfered with HH before aseptic procedures. The use of gloves as an individual protective barrier leads the health professional not to adhere to HH, causing harm to the patient and to themselves. The glove does not replace handwashing before patient care. In addition, they can lose their integrity without the professional perceiving it, thus allowing contamination of the hands.

A descriptive analytical study developed in 2007 in a neonatal ICU of a teaching hospital in the city of Curitiba (PR), with a sample of 50 nursing professionals, showed that the contact with patients involving potentially contaminated regions and body fluids increases adherence by health professionals, which shows their greater concern in protect themselves.

HH is a low-cost procedure and it is necessary to implement measures that continuously seek the adherence of these professionals in the hospital environment so...
that it is possible to avoid HI. A study has demonstrated that nursing technicians provide direct assistance to the patients and stay longer with them. Therefore, they are more susceptible to infections by multiresistant microorganisms.

The recommended technique encompasses the following steps:

1. Turn on the tap and wet hands avoiding touching the sink;
2. Apply an amount of liquid soap enough to cover the entire surface of the hands;
3. Lather the hands by rubbing them together;
4. Rub the palm of the right hand against the back of the left hand by interlacing the fingers and vice versa;
5. Interlace the fingers and rub the interdigital spaces;
6. Rub the back of the fingers of one hand with the palm of the opposite hand holding the fingers with come-and-go movements and vice versa;
7. Rub the right thumb with the aid of the left palm with circular movements and vice versa;
8. Rub the digital tips and fingernails of the left hand against the palm of the right hand, closing in a cup, making circular movements and vice versa;
9. Rub the left wrist with the aid of the right palm with circular movements and vice versa;
10. Rinse hands by removing soap residue; avoid direct contact of the soapy hands with the faucet;
11. Dry the hands with disposable paper starting with the hands and following by the fists.

A controlled clinical trial developed in a dialysis unit of a nephrology service of the HSL/PUCRS submitted 30 individuals to three collections of the microbiological flora of the hands, in three distinct moments: before and after hand hygiene with glycerinated soap and water. It identified that the HH technique is inadequate for the daily practice because the professionals do not remember step by step of this technique. Another exploratory descriptive study, of literature review type, developed from 2008 to 2010 observed that different steps of HH recommended by ANVISA have been neglected, including hand and nail scrubs. The modification of daily behavior is the most efficient way for the technique to be applied by the professionals.

Human behavior and beliefs exert greater influence than scientific knowledge, thus interfering with adherence to HH. This requires planning, educational incentive strategies, and raising health professionals’ awareness that hand washing is an efficient method for prevent and control HI. An experience report study developed in a Family Health Strategy Unit (FHSU) of the municipality of Montes Claros, Minas Gerais, in the year 2013, identified that HH is a difficult-to-change habit, since professionals do not practice it at the right times and fail to perform it efficiently.

In this context, it is important to understand that the quality of care provided by nurses in ICUs and other sectors of hospital institutions is based on the need for patient safety and safety for themselves, given that in the negative occurrences of accidents, the expected result is always contrary, compromising the life of the user and of the professional, the time of that patient hospitalized due to negligence, the credibility of the team and also increasing hospital expenditures.

**CONCLUSION**

The present study showed that health professionals tend to wash hands after procedures that are invasive or non-invasive, thus demonstrating that the greatest concern is in their self-protection rather than in the dissemination of microorganisms to the patient. Among the observations on hand hygiene, no professional had practiced the appropriate technique as suggested by ANVISA. This evidences, as mentioned in previous studies, that the professional intends to wash hands, but they end up not doing it as recommended, since they have great difficulty in performing all the steps of the technique and also due to the lack of standardization, which makes them perform hygiene according to their daily routine and habits.

Thus, we can conclude that the correct HH technique has not been incorporated into the daily practice of these professionals and, therefore, it is necessary that health services implement permanent educational measures in order to encourage and raise awareness about the importance of HH. Therefore, interfering with the adherence of this method provides safety for the patient and for the health professional, which reduces risks for HI.

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