

The multidisciplinary team's knowledge of the importance of hand hygiene in the first service



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ABSTRACT

The theme is presented in the form of an integrative literature review, systematic reviews through data collection with a search in quantitative and qualitative research, through data collection in the Virtual Health Library (VHL), Latin American Literature in Health Sciences Health (LILACS) and the Nursing Database (BDENF). Hand hygiene is a topic known worldwide and can be referred to as one of the pillars of infection prevention and control within health services. Even with great importance in healthcare, there is still little adherence among professionals to the practice of hand hygiene. It is necessary to raise awareness and continue education with health professionals to encourage improvements in health services, avoiding harm to the patient's health.

Keywords: Hand Hygiene, Health Professionals, Hospital Infection.

1 INTRODUCTION

Since ancient times, hand hygiene has been considered as a cleansing and purification action, but only when microorganisms were discovered on the body surface, was hand hygiene really seen as a way to combat the spread of diseases, and as hands are the main work tools of health professionals, Hand washing has become a strong ally in the prevention of diseases and of paramount importance for patient safety. (SILVA; HARBOR; ROCHA et al, 2013).

Even though care is aimed at the patient's health and recovery, the patient is subject to the quality of the care provided (SILVA; HARBOR; ROCHA et.al, 2013). For more than 150 years, there



have been indications that the hands of health professionals are a main vector for the transmission of pathogenic microorganisms, and that hand hygiene has great significance in reducing infections. These infections are correlated with health care, they exist in all institutions in several developed or developing countries, and can result in higher mortality rates, increased length of hospital stay, and long-term disability for the patient, thus characterizing a failure during the provision of care to the patient. (ANACLETUS; PETERLINI; QUARRY, 2017).

Infections generate a high cost for the patient, families and health system, and can lead to deaths considered preventable, given the importance of this issue, surveillance, prevention and patient care should be a priority in services committed to patient care, care and safety. (ANACLETUS; SHAH; YOSHIKAWA, et al, 2013).

The approach to the subject of hand hygiene, even with a theme from the last century, since the times of Florence, still continues to be highlighted with regard to the most important act for the prevention and control of hospital infections. It is through the hands that every health professional offers care to the patient at all stages. In view of this much-needed approach, it is still possible to perceive that even some health professionals have low adherence to this primary act. It is necessary to raise awareness among all professionals in this adherence to the practice of hand hygiene, in order to provide a service of greater safety and excellence in the quality of patient care. Acting in this way, the expected result is reflected in the prevention and reduction of infections, as well as in the promotion of the safety of patients, professionals and other users of health services.

Hand hygiene is considered the most important care in the prevention of infections, and it is characterized by being a routine, standardized and low-cost practice. In view of the above, this study aimed to identify the adherence of nursing professionals to hand hygiene in urgent and emergency units.

2 METHOD

This is an integrative review of the literature, which focuses on the search, critical analysis and synthesis of the evidence that is available on the topic to be researched. (COOPER, 1982).

2.1 FOR THIS INTEGRATIVE LITERATURE REVIEW, THE FOLLOWING STEPS WERE FOLLOWED

1st Stage: Identification of the research theme and question, where the process begins with the construction of the problem and the formation of the question; **2nd Stage:** establish criteria for inclusion and exclusion of research samples and search in databases, this step is directly linked to the previous one, because the dimension of the subject defines the sample procedure, i.e., the greater the objective of the review, the greater the care the reviewer should take in the selection of the literature;



3rd Stage: definition of the information that will be included in the study; analysis of the included studies and presentation of the results, in this stage the information that will be used from the materials selected for the study is verified. **4th Stage:** The studies that were included in the integrative review are evaluated, this stage represents the analysis of data from a research, making use of appropriate tools. **Step 5:** Interpretation of the results , this step discusses the main results of the research. **6th Stage:** Presentation of the Review, which must include sufficient data for the reader to evaluate the importance of the subjects used in the review. (MENDES; SCOTT; GALVÃO; 2008).

Data collection was carried out in the Virtual Health Library (VHL) in the following databases: Latin American Health Sciences Literature (LILACS) and Nursing Database (BDENF). The descriptors used according to the Health Sciences Descriptors (DeCS) were: hand hygiene, health professionals, hospital infection, safety measures, through quantitative and qualitative research, complete articles of open access and online, in the Portuguese language, published in the period from 2013 to 2018. Data collection took place in September and October 2018. The first selection of articles was made from the reading of the titles and abstracts, after this selection the full reading was carried out, that is, the articles that were available online were the final sample of this study.

3 RESULTS

The searches carried out in the electronic databases resulted in 163 citations, 51 of which did not meet the inclusion criteria or were repeated, 45 were excluded because they did not meet the eligibility criteria, while 53 were excluded because they did not address hand hygiene in the first consultation. Of the total of 14 (100%) articles selected to compose this integrative review are part of the journal publications of 12 scientific journals, all of which are of Brazilian origin. The HU Journal is designed by the Federal University of Juiz de Fora/MG (UFJF) and is a quarterly journal that publishes research results in the area of health, original articles, literature reviews, clinical cases or case reports, brief communications, letters to the editor, editorials, on a wide variety of topics of importance to health science. Indexed in the Lilacs, Latindex, Index Medicus Latino Americano, Index of Latin American Journals in Sciences and SAR-ABEM (Medical Education Support Network) databases, Bdenf was the one that included the most selected studies (57.66%) for this integrative review, meeting the theme under study and discussions relevant to the subject.



Chart 1 – Synoptic table of the distribution of the articles that made up this study in chronological order

AUTHOR/YEAR	OBJECTIVE	METHOD	KEY FINDINGS
BELELA- ANACLETO, A. S. C., et al., 2013.	To identify the perspective of professors and university students in the health area on aspects related to hand hygiene and infections associated with health care in the daily practice of their practice.	Exploratory research, with a quantitative approach	There was significant disagreement between the groups regarding the statement that the internship sites have supplies at points that favor hand hygiene (p=0.02), and significant agreement (p<0.01) regarding the unavailability of alcohol gel for hand hygiene. The practical activities developed by professors and university students take place in places where there is no adequate infrastructure for recommended hygiene practices.
BATHKE, J. et al., 2013.	OBJECTIVE: To investigate the material infrastructure and adherence to hand hygiene in an intensive care unit in southern Brazil in 2010.	In an observational study, data were collected by direct non-participant observation and the use of a self-administered instrument to 39 analyzed with the aid of the X2 test, descriptive statistics and quantitative discourse analysis.	Although the professionals overestimate adherence, recognize the practice as relevant for the prevention of infections and report that there are no impeding factors, among 1277 opportunities observed, adherence was 28.6%, and significantly lower before contact and aseptic procedures than after contact with the patient. The infrastructure was deficient in functionality. The results imply a risk to patient safety, and it is important to plan corrective actions that promote this practice.
PRADO; HARTMANN; TEIXEIRA FILHO, 2013.	To evaluate the physical structure for the practice of hand hygiene in a hospital health care service.	This is a descriptive, observational and cross-sectional study conducted in fifteen care units of a hospital health care service in the northwest region of Paraná.	Supplies and equipment, such as sinks and dispensers for hand hygiene, were limited. There are flaws in the infrastructure for the practice of hand hygiene, which can compromise the quality of care and patient safety.
SILVA, F. M. et al., 2013.	To evaluate whether hand hygiene performed before the preparation and administration of medications and fluid therapy by nursing professionals follows the guidelines established by the World Health Organization (WHO)	This is a quantitative exploratory descriptive study carried out from August to November 2010, whose data collection was implemented through direct observation of hand hygiene in an inpatient unit pediatric patient at a University Hospital in Southern	There was low adherence to the practice of hand hygiene and inadequate structure, according to the guidelines established by the WHO and ANVISA. Final considerations: There is a need to restructure the physical space and provide favorable conditions for the performance of hand



	Health (WHO) and National Agency of Health Surveillance (ANVISA).	Brazil, in the morning and afternoon shifts.	hygiene techniques by professionals. As well as promoting training and education thus ensuring the safety of the pediatric patient through hand hygiene.
FARIAS FILHO; COSTA; BARBOSA FILHO, 2014.	To assess the adherence of health professionals to good hand hygiene practices.	Literature review.	It can also be inferred that the continuing education of professionals should be stimulated by the institutions through the provision of the equipment and materials necessary for this practice, as well as systematic campaigns, posters, folders, statistical data on the control of infection rates, demonstrations of the stages, lectures, which will guide these health professionals to adopt hand hygiene as a prophylactic practice in the control of hospital infections. as well as adopting the protocol provided by ANVISA.
ZANDOMENIGHI. R. C. et al, 2014.	To identify the challenges, especially the difficulties, of the care provided to critically ill patients in the emergency department of a public teaching hospital from the point of view of nurses and also to list strategies to solve the problem suggested by them.	This is an exploratory cross-sectional study with descriptive data analysis. A questionnaire based on the reference of the structural self-report with open questions was applied to all nurses in the hospital emergency service.	The main difficulties reported were related to the deficit of material, human and physical resources in the face of the great demand of critically ill patients, with difficulty in maintaining patient privacy and in handling equipment such as mechanical ventilators. The main interference in the routine of the sector with the presence of critical patients was in relation to the sizing of personnel. The main strategies suggested were: increase ICU beds, hire more staff, conduct more training with the team and group the critically ill patients.
TRANNIN, K. P. P. et al, 2016.	OBJECTIVE: To observe adherence to hand hygiene by health professionals from an Emergency Department of a University Hospital in the state of São Paulo, and to verify whether there was a change in adherence after the educational intervention, between July 2012 and December 2013.	Quasi-experimental research, with a quantitative approach	The largest number of opportunities was for nursing professionals (70.05%), as they are the largest workforce and predominantly provide care; followed by the medical team (17.82%) and physiotherapists (12.13%). Adherence was observed from 28.6% to 38.9% after the educational actions. In



			the post-intervention phase, all professionals showed greater adherence to hand hygiene when compared to the pre-intervention period, and adherence was significantly higher after aseptic procedures. It is concluded that hand hygiene was below expectations and that educational strategies favored adherence.
SILVA, S. M. da et al., 2016.	Analyze images provided by the Google Images search engine.	This is a descriptive study with a quantitative approach.	The results revealed a predominance of images referring to hand hygiene with soap and water, to the detriment of alcoholic preparations. However, not all of them have the recommended steps for proper hygiene. There is easy access to information through the web, but there is not always criteria and evidence of scientific proof.
OLIVEIRA, A.C et al., 2016.	To evaluate the rate of adherence to hand hygiene of a multidisciplinary team.	This is a cross-sectional study conducted in an emergency care unit of a university hospital in Belo Horizonte, Brazil. Horizonte-MG, between May and August 2013, through direct observation of the medical and nursing teams.	There were 931 opportunities for hand hygiene, 88.9% among nursing technicians, 6.9% physicians, 3.7% nurses and 0.5% nursing assistants, obtaining an overall adherence rate of 19.4%. Simple cleaning with soap and water was more used by professionals (47%). The rate of adherence to hand hygiene was considered low, and there was a need for training to improve it.
VALENCIA N. F. D. et al., 2017.	To analyze the perception of nursing professionals about the practice of hand hygiene when performing care procedures.	This is a descriptive study with a quantitative and exploratory approach, carried out in the Emergency Room and Intensive Care Unit of two hospitals in southern Brazil, from August to October 2014.	Many nursing professionals think that when gloves are used, there is no need to sanitize their hands, unless they are removed, both as a hygiene measure and because of the dust they contain, causing lesions, dryness or irritation to the skin. It was concluded that nursing professionals are aware of the importance of hand hygiene, but do not sanitize them because they disregard the relevance of this preventive measure, demonstrating doubts about its necessity before and after each procedure.



			As for the use of alcohol gel for hand hygiene, there was a greater adherence due to its practicality.
LUCIANO, N. N. F. et al., 2017.	To analyze adherence to hand hygiene by health professionals.	This is a quantitative, descriptive, observational study with 27 health professionals in an Intensive Care Unit.	In relation to the professionals who intended to wash their hands, there was greater adherence of the physical therapists, however, among the observations of the occurrence of hand washing, none of the professionals used the appropriate technique suggested by ANVISA. It is necessary to implement permanent educational measures by health services in order to encourage and raise awareness about the importance of adherence to hand hygiene with correct technique.
ZOTTELE, C. et al., 2017.	OBJECTIVE: To analyze the adherence to hand hygiene of health professionals in an Emergency Room.	This is a quantitative longitudinal study conducted with health professionals from a University Hospital in Rio Grande do Sul, Brazil, in 2015.	Nurses and physiotherapists had an adherence rate of 66.6% and resident physicians of 41.3%. When comparing adherence between professional categories, nurses had greater adherence than resident physicians (OR=2.83; CI=95%:1.09–7,34). Adherence to hand hygiene was low. Multidisciplinary approaches can be important strategies to form partnerships that develop the learning and implementation of HH practices.
GRAVETO, J. M. G. N. et al., 2018.	It is intended to know the nurses' adherence to the procedure and to identify action strategies in order to increase it.	Integrative literature review.	Studies have shown an increase in nurses' adherence to hand hygiene from 42.9% to 61.4% after specific intervention ($p < 0.001$) and 63% versus 76% ($p < 0.005$). <i>The formative processes increase the adherence of nurses, and this increase is more significant compared to the other professional classes involved. The training process and its monitoring, despite its simplicity, continue to have a positive</i>



			effect on nurses' attitudes and adherence to hand hygiene.
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Source: Authors (2018).

For a better discussion of the studies, two categories were elaborated referring to the objectives of this research, as follows.

3.1 HEALTHCARE COMPLICATIONS RELATED TO HAND HYGIENE

In a study conducted by Zottele et al. (2017), which aimed to analyze adherence to hand hygiene among health professionals in emergency departments, the authors found that the rate of adherence to hand hygiene (HH) was low (54.2%). In order to promote an environment with a culture of safety, it is necessary that both health professionals and managers incorporate safe practices related to HH. Adequate infrastructure and multidisciplinary educational approaches are appropriate. In this sense, bringing the Hospital Infection Control Service and the Patient Safety Center closer to health professionals can be an important strategy to form partnerships that develop the learning and implementation of HH practices.

On the other hand, the study developed by Prado, Hartmann and Teixeira Filho (2013), which aimed to evaluate the physical structure for the practice of hand hygiene in a hospital health care service, demonstrated the importance of hand hygiene for the prevention and control of healthcare-associated infections. However, the authors point out that the appropriate physical structure is equally important for the good practice of hand hygiene. However, in this study, many institutional barriers were identified that may compromise adherence to this practice. They found that the supply of inputs (liquid soap and alcoholic preparations) was not systematic, and evidenced the lack of sinks and dispensers per bed in most of the units observed. In the units where this equipment was present, the amount per bed was excessively limited. Another relevant aspect is that in the points of care and treatment, there was a scarcity of posters on the subject, and in most units, manuals on the subject were not available.

According to Farias Filho; Costa and Barbosa Filho (2014) point out that hand hygiene should be a priority for the institution, and should be continuously reinforced by the administration of the health service, since infections affect both patients and professionals, and may result in lawsuits and lawsuits in proven cases of negligence during the care provided. They also mention that in the emergency sector, infections are made possible by the need to quickly perform invasive procedures, by the severity of the patients treated there, by the high demand, added to the behavior of the professionals. In this way, simple measures such as hand hygiene can minimize the spread of microorganisms, thus cooperating with patient safety. The colonization of the hands of professionals, which can reach 39%, can thus increase the risk of infection in these patients.



Silva et al. (2016), analyzed the images made available by the search site Google Images, taking as a reference standard the images on simple hygiene and hand hygiene with alcohol preparations made available by ANVISA entitled "Hand hygiene: save lives". After the analysis of the 400 images (200 images in each chosen descriptor) on the Google Images website, it was found that 82 of them met the inclusion and exclusion criteria and were included in the research, 47 of which were found using the first descriptor "hand washing" and the remaining 35 in the second descriptor "hand hygiene". Of the 82 images captured, 63 (77%) of them refer only to simple hand washing (with soap and water), 06 (7%) demonstrated hygiene with alcoholic preparations, 09 (11%) referred to both forms of hand hygiene, and 04 (5%) did not specify the product used in the procedure. The most common inadequacy found in the images was related to the negligence of one or more hand hygiene steps. The step concerning the "washing of the fists" was neglected in 41 images, a very expressive number.

The authors Bathke et al. (2013) investigated the material infrastructure and adherence to hand hygiene in an intensive care unit in southern Brazil, The importance attributed by the participants to HH for infection control reflects a rhetoric without, however, effectiveness in the observed practice. When evaluating the frequency with which they sanitize their hands, the majority considered it at least sufficient, which differs from the low adherence observed. MH represents scientific evidence for the prevention of HAIs; however, the daily care contributes to the simplification of stages, with a view to speeding up the work, and promotes the routinization of lost opportunities for HH, a practice that is often neglected in the priority of care activities.

Different strategies can be employed in the unit to promote adherence to HH, such as feedback to professionals, encouragement of the use of alcohol solutions, and the establishment of a goal plan, with the involvement of leaders and staff. The authors highlight that when performing simple logistic regression for the adherence rate, having the professional category as a factor, it was observed that physician and nursing assistant did not differ significantly from each other, but differed significantly ($p < 0.001$) from the others. The rate of adherence to HH among physicians and assistants was significantly higher than the rate of adherence of nursing technicians, nurses and physical therapists, and they did not differ from each other.

In the study developed by Trannin et al. (2016), which aimed to observe adherence to HH by health professionals in an Emergency Department of a University Hospital in São Paulo and to assess whether there was a change after carrying out an educational intervention. Throughout the entire study, in total, physical therapists showed greater adherence to HH when compared to other professionals, nurses and physicians ($p = 0.0029$), the highest number of opportunities observed for HH was that of nursing team professionals, followed by medical staff and physical therapists. Low adherence to HH is not directly associated with theoretical knowledge, but with the incorporation of this knowledge into daily practice. It is observed that during HH campaigns, there is often an increase in adherence, which



returns to baseline levels usually six months after the campaign, reflecting a problem not only structural, but also of awareness and ethics of professionals.

Luciano et al. (2017) conducted a study seeking to analyze adherence to hand hygiene by health professionals, the data showed that in Regarding the professionals who intended to wash their hands, there was greater adherence by physical therapists, however, among the observations of the occurrence of hand washing, none of the professionals used the appropriate technique suggested by ANVISA. The authors understand that it is necessary for health services to implement permanent educational measures in order to encourage and raise awareness about the importance of adherence to hand hygiene with correct technique.

Belela-Anacleto et al. (2013) aimed to identify the perspective of professors and university students in the health area on aspects related to HH and HAI in their daily practice. The study demonstrated that, from the perspective of professors and university students in the health area, internship activities take place in places where there is no adequate infrastructure for recommended HH practices, a fact that contributes to the occurrence of failures in the care process and compromises patient safety. Although most of the university students stated that they had obtained formal learning about content related to patient safety during their training, more than half of the professors stated that they did not teach this theme in the undergraduate nursing course.

3.2 HAND HYGIENE AND ADHERENCE OF HEALTH PROFESSIONALS

Graveto et al. (2017) researched nurses' adherence to the MH procedure and identified action strategies to increase it, as it is considered a preponderant measure in the prevention of healthcare-associated infections. The authors present a set of variables that can influence these indicators, including: lack of training and experience; inappropriate feedback when an individual performance; working in units with greater complexity; inadequate staffing; scarcity of reference figures in the team; mismatched use of gloves; lack of knowledge about the importance of the procedure; deficient time management; care planning without accounting for the time required for the procedure; lack of motivation at individual and institutional level; lack of priority in this area at institutional level; lack of rewards or punishments in the fulfillment of indicators; lack of institutional guidelines; among others.

On the other hand, the study by Oliveira et al. (2016), which aimed to evaluate the rate of adherence to hand hygiene of a multidisciplinary team, In relation to the professional category, nurses obtained the highest rate of adherence in this study. On the other hand, it is noteworthy that physicians obtained higher rates than nursing technicians, but lower than nurses.

Nursing technicians and auxiliaries were the professionals with the lowest adherence rates. It is worth noting that they spend most of their time with patients, when compared to other professionals in



the health team, in addition to providing various care services. Thus, they are often related to an increased risk of dissemination of microorganisms due to high contact with the patient, considering the importance of the hands in the cross-dissemination of microorganisms.

In the research conducted by Vasconcelos et al. (2018), which sought to identify adherence to hand hygiene among nursing professionals in an adult Intensive Care Unit of a public university hospital, the data showed that only 33.3% of nurses and 51.8% of nursing technicians working in the ICU received training on HH in the last two years. The lack of training and the lack of training for the critical sector evidenced in this study emerges as a negative factor, considering the requirement and creation of Quality Management Programs, which aim at strategies to improve the care actions developed, as well as the safety of patients and health professionals.

The authors described above observed that the non-performance of the practice before aseptic procedures by the nursing team, divergent from the results of research carried out in primary care, in which there was no HH after its performance in most of the procedures observed (vaccines, dressings, heel prick test, among others) as well as in 40.9% of these activities there was no adherence before and after. During the observations carried out in the present study, it was repeatedly observed that the use of gloves in this situation seemed to replace HH from the perspective of the professionals, which may be related to a lack of knowledge about the theme or to the lack of recognition of its importance.

In the study by Silva et al. (2013), which evaluated whether hand hygiene performed before the preparation and administration of medications and fluid therapy by nursing professionals follows the guidelines established by the World Health Organization (WHO) and the National Health Surveillance Agency (ANVISA), it was demonstrated that the simple hand hygiene procedure was more observed before the preparation of the medication than before its administration. Which we can attribute to the easy access to the constant sink in the medication preparation room.

In this sense, the lack of adherence to hand hygiene and the inappropriate conditions of the studied environment directly interfere with the safety of pediatric patients, which can cause infections and adverse events to the health of these children. As for environmental aspects, ANVISA points out that washbasins or sinks must have faucets that do not require the use of hands to close the water. In this study, the authors found that all the taps used in the unit are manual.

For Vasconcelos et al. (2018), who developed a research with the objective of analyzing the perception of nursing professionals about the practice of hand hygiene when performing care procedures, where they verified HH, it was noted that there are doubts about the importance of this action. Many nursing professionals think that when gloves are used there is no need to sanitize the hands, now after removing them, yes, both for hygiene measures and for the dust they have, causing lesions, dryness or irritation to the skin. Thus, it can be seen that the adherence of professionals to the



practice of HH in a constant way and in the daily routine is still low, and should be stimulated and made aware among nursing professionals or they do not have the proper knowledge of this adherence.

4 CONCLUSION

The research identified that even though hand hygiene is of fundamental importance to avoid infections and increase patient safety, health professionals still have difficulty in adhering to this practice.

From the performance of this study, it was found that some nursing professionals believe that due to the use of gloves, the hands do not need to be cleaned frequently, only when they are removed to perform hygiene and remove dust from the glove. This fact justifies the need for training of these professionals, and especially the nurse, who is the professional responsible for carrying out training, aiming at qualification and care based on patient safety, and consequently, infection prevention.

Therefore, it is concluded that it is necessary to promote awareness campaigns and change in the way of working between infection control and the nursing service to seek to identify the knowledge gaps and the difficulties regarding the adherence of professionals to hand hygiene, being aware of the actions that should be implemented. both for your safety and for those who need your care.



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