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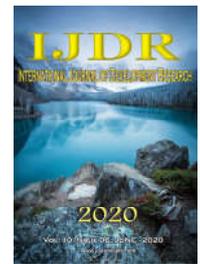
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PATIENT SAFETY IN THE CONTEXT OF HAND HYGIENE: INTEGRATIVE REVIEW

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ABSTRACT

The quality of health is linked to different factors of which it is cited Patient Safety, including proper hand hygiene. This study aims to evaluate the available literature on the importance of hand hygiene in patient safety. This is an integrative review study from data published in journals from 2013 to 2017 and indexed consulted in BDNF system, LILACS, SciELO and MEDLINE in the period from March to July 2018, which the articles were selected, by crossing between the following descriptors: Nursing, Patient Safety and Clean hands. After conducting the survey following the inclusion and exclusion criteria, 12 studies were selected, which have hand hygiene as an essential factor for patient safety, representing a total of 100% of the articles selected for the research. While practice in the pursuit of excellence of the care provided, we highlight the importance of planning and enforcement measures and health education strategies as a way to encourage the practice of hand hygiene in the daily lives of all health professionals.

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INTRODUCTION

The quality of health is an important condition in the process of human well-being and the evaluation of the care provided by professionals. This situation is related to different factors such as the Patient Safety, which has been outstanding since the release of the report Institute of Medicine (IOM) To Err is Human, conducted in the United States, based on adverse event search, with the negative outcome to finding that these were often not caused by the underlying disease, but rather related to the care provided to clients (ANVISA, 2014). The actions for patient safety in health care and other measures in Brazil, are described in RDC No. 36 of 25 July 2013. Among the necessary conduits are creating Patient Safety Centers in health facilities, whether public or private, for the implementation of Patient Safety Plan, through strategies and risk management, and even the reporting of adverse events monthly in the tools of the National Health Surveillance Agency (ANVISA).

The Patient Safety Center and ANVISA established criteria such as the creation of protocols that must be established and observed by professionals; among them patient identification; communication between health professionals; safety in prescription, use and administration of medication; safe surgery; hand hygiene; minimizing the risk of falls and injury by pressure and the reporting of adverse events (Gomes *et al*, 2017.; ANVISA 2013). Hand hygiene reflects a fundamental implementation of health care and is particularly regarded as the most effective and important measure in preventing and control of infections associated with health care (Belela-Anacleto, Peterlini and Pedreira, 2017). Thus, care in the health services depend on the hands of the professionals, this factor is directly connected to patient safety, which requires the achievement of hand hygiene properly and consistently. This procedure is designed to remove dirt, sweat, sebum, hair, scaly cells and skin microbiota (ANVISA, 2009). It is comprised of five times, they are: before touching the patient before performing the clean / aseptic procedure, when the risk

of exposure to body fluids or excretions, after touching a patient after touching near the patient surface (ANVISA, 2013). According to the protocol for the practice of Hand hygiene in health care, "a simple cleaning with liquid soap and water and antiseptic cleaning with antiseptic degermante must have a minimum duration of 40 to 60 seconds. While performed with an alcohol preparation must have a minimum duration of 20 to 30 seconds (ANVISA, 2013b). The work has important applicability of patient safety involving hand washing, as nursing professionals, among others, play a large number of practices and techniques with patients. Thus, it is necessary that all professionals have the theoretical knowledge of the practice carried out and perform, because not always the professionals combine theory with practice. This study aims to identify the available literature the importance of hand hygiene for patient safety.

MATERIALS AND METHODS

This was an integrative review from data published in national and international journals. This type of study has the ability to build knowledge, producing a knowledge based, justified through the scientific research, providing professional conduct a clinical practice of quality, to reduce the appearance of infections, iatrogenic and thus improves the quality of care given to the patient. The selection of studies was performed by three authors independently and concurrently in the period from March to June 2018, through online access to the virtual library in health - VHL: (Latin American and Caribbean Health) MEDLINE (international Literature in science and health), BDNF (Database of Nursing), and through SCIELO (Scientific Electronic Library Online). The crossing took place the following controlled, gifts descriptors in DeCS / Mesh (Descriptors in Health Sciences / Medical Subject Headings): Nursing [Nursing]; Patient Safety [Patient Safety] and Hand Hygiene [Hand Hygiene]. The location of the studies occurred through online access.

was established as criteria for inclusion scientific articles that met the guiding question, written in Portuguese and English, be classified as original article, from 2013 to 2017 and published in the languages mentioned above. In turn were excluded from the reports of informal cases, book chapters, dissertations, theses, the reports, news, editorial, non-scientific texts and scientific articles without availability in the online full and which appeared in more a database. Initially the selection of articles was made through the analytical reading the abstracts, which were selected 12 articles. Then further measurements were performed, seeking content about performing hand hygiene, related to patient safety, as well as the association with infections in the hospital setting. For the data of the 12 selected articles held analysis phase material, through a careful reading of the content and subsequently used one instrument capable of ensuring that all the relevant data was extracted, minimizing the risk of transcription errors and ensuring accuracy in checking the information. Therefore, the following aspects were considered: Regular, year, country, title, authorship, study type, purpose, results, conclusion.

RESULTS

After completion of the search, according to inclusion and exclusion criteria were selected 12 articles in which SCIELO and LILACS each presented 4 (33%) of the available studies on the basis of data BDNF 3 (25%) and PubMed / Medline with only 1 (8%). And 11 (92%) in Portuguese and 1 (8%) in English. The method used in articles with a predominance was quantitative study of 6 (50%), followed by cross-sectional observational study, each with two (17%), the qualitative study and integrative review predominantly 1 (8%) each. As year of publication, 4 (33%) was published in 2017, 3 (25%) in 2013, 2 (17%) in 2016 and 2014 each, 1 (8%) in 2015. Of the 12 articles selected for the study, 5 (42%) developed research only with nurses and 7 (58%) involved addition of nursing professionals, medical professionals.

	ESTUDOS DISPONÍVEIS NA BASE DE DADOS	IDIOMAS	MÉTODO	ANO DE PUBLICAÇÃO	ARTIGOS SELECIONADOS
SCIELO	4 (33%)	PORTUGUÊS	QUANTITATIVO	2017	5 (42%)
LILACS	4 (33%)	INGLÊS	TRANSVERSAL	2016	7 (58%)
BDNF	3 (25%)		OBSERVACIONAL	2015	
MEDLINE	1 (8%)		QUALITATIVO	2014	
			REVISÃO INTEGRATIVA	2013	

PubMed / MEDLINE, two descriptors were crossed: patient safety and nursing, and found 2,209 results. Later, after inclusion of the descriptor hand hygiene, the new crossover totaled 1 study. In LILACS used the cross between patient safety, nursing and hand hygiene, totaling four studies, all of which were made available online in their entirety. In BDNF held the cross between patient safety and nursing, and found 323 results. After inclusion of the descriptor hand hygiene, amounted to 3 studies. In SCIELO three descriptors were crossed, and 4 results found. For the selection of the sample

In this context, it is emphasized that research has an attitude of research that addresses theoretical, methodological and practical aspects, using appropriate tools and allowing know the reality of what is to investigate, through the pursuit of direct information (Piana, 2009). The 12 studies which correspond to 100%, have hand hygiene as an essential factor for patient safety in the context of accession, involving five times and the appropriate time and an appropriate infrastructure. Table 1 details all the information proposed.

Table 1. Description of the studies included in the integrative review, according to the journal, year, country, title, authorship, study type, purpose, results, conclusion

Periodic Year Country	Title	Author / studytype	goal	results	Conclusion
Magazine Cuidarte 2017 Brazil	of nurses knowledge of a private hospital about hand hygiene	Jezewski GM, et al sectional study	Identify the knowledge of nursing staff in active clinical inpatient units, medical and surgical, about hand hygiene.	Professionals report receiving training and meet five times to HM, despite not knowing the proper time.	It is essential to promote lifelong learning related to this practice, which contributes to the safety of the patient and the professional.
Magazine Cuidarte 2017 Brazil	Hand hygiene: membership of the nursing staff of pediatric intensive care units	Raimondi DC, Bernal SCZ, VS Souza, Oliveira JLC, Matsuda LM. cross-sectionalstudy.	Investigate the membership of the Intensive Care Unit of Pediatric nursing staff hand hygiene	42 observations were conducted, which resulted in 642 opportunities, the practice of these handwashing was performed in 360 (56%) of opportunities.	The membership of the investigated teams appeared poor hand hygiene.
Revista GauchaNursing 2013 Brazil	Infrastructure and adherence to hand hygiene: Challenges patient safety	Bathke J Cunico PA Maziero ECS Cauduro FLF, Sarquis LMM cross EDA. observationalresearch	To investigate the infrastructure equipment and adherence to hand hygiene in the intensive care unit.	The hospital infection control and personal protection were the main factors related to important elements and incentives for HM.	The results imply risk to the safety of patients and the relevant corrective action planning and promoting this practice.
Revista GauchaNursing 2015 Brazil	Accession of intensive care professionals to the five moments of hand hygiene	Souza LM, MF Ramos, Becker ESS Meirelles LCS Monteiro SAO analytical cross-sectional study with a quantitative approach	Identify the acceptance of health professionals in an intensive care unit to the five moments for hand hygiene.	Indications with lower adherence to hand hygiene were "before contact with the patient" and "before aseptic procedure."	The practice of hand hygiene is far from the national and international guidelines.
CogitareNursing 2016 Brazil	Knowledge of nursing professionals on hand hygiene	Derhun FM, Souza VS, Costa MAR, Inoue K, Matsuda LM. analyticalstudywith a quantitative approach.	Analyze the knowledge of nursing professionals on hand hygiene.	There is lack of knowledge of professionals regarding the route of infection and minimum friction hands Time	It was concluded that the majority of professionals surveyed did not know the full instructions for hand hygiene.
Science Y Infirmario XIX 2013 Brazil	Hand hygiene and safety of pediatric patients	Silva FM Port TP PK Rock, Lessmann JC, PFA Cabral, Schneider KKK descriptive quantitative study exploratory	Assess whether hand hygiene performed by nursing professionals follow the guidelines set by WHO and ANVISA.	It was found poor adherence to the practice of hand hygiene and inadequate structure in accordance with the guidelines established by the WHO and ANVISA.	There is need to restructure the physical space and provide favorable conditions for realization of HM techniques and also promote training and continuing education.
Revista Gaúcha BrazilNursing 2014	Health professionals and hand hygiene: a question of safety of pediatric patients	Botene DZA, Peter qualitativedescriptivestudy ENR	Analyze how academic training on hand hygiene (HM) contributes to the safety of pediatric patients	It was found that some academic contributes effectively to the creation of a culture of patient safety.	The training process has flaws so do not mobilize future professionals to adhere to the correct practice of HM.
Journal of School of Nursing in 2017 Brazil	Acceptance of health professionals to hand hygiene in emergency	Zottele C, Magnago TSBs, Dullius AIS, ACB Kolankiewicz, Ongaro JD Research quantitative approach	Analyze adherence to hand hygiene of health professionals in emergency unit	The adhesion rate was low HM decreasing patient safety	It is necessary for health professionals and managers incorporate safe practices of HM, providing security environment.
JournalofNursing 2016 Brazil	Hand hygiene and care practice: reflection on the professional responsibility	Belela-Anacleto ASC, Peterlini MAS, Pedreira MLG IntegrativeReview	Identify hand hygiene as care practice	The HM is a fundamental practice of nursing care and is the most important measure to promote patient safety	We believe it is imperative that greater emphasis be given to HM practices in order to realize that a safer and better quality care
TextContextNursing 2013 Brazil	Hand hygiene and patient safety: the perspective of teachers and students	Belela-Anacleto ASC, Sousa BEC, Yoshikawa JM, Avelar AFM, Pedreira MLG exploratoryresearchwith a quantitative approach	Identify the prospect of university teachers and the health aspects of hand hygiene.	The practical activities developed by teachers and students take place in locations that hamper the accession of HM, which compromises patient safety.	There is therefore need to improve the infrastructure and resources available for HM practices.
JournalofNursing 2017 Brazil	patient participation in hand hygiene among health care providers	Oliveira AC, AS Pinto Cross-sectionalstudy	To investigate the perception and attitude of health professionals (PS) on the participation of the patient in hand hygiene (HM)	Most professionals found that patients could help improve the HM, the memory of this practice in order to promote patient safety.	health professionals showed limited knowledge of the HM.
The Clinical Teacher 2014 United States	specific time of compliance with hand hygiene	Tiffany L, T Grace Ka-lun M, Li Ka S, Gilbert L. cross observational	Investigating self-reporting and compliance rates among medical and nursing students	Research shows poor adherence to the five times the HM, undermining patient safety.	There is need to promote improvements in teaching and learning regarding the practice of HM

Sources: BDEFN, LILACS, SciELO and PUBENF / MEDLINE

DISCUSSION

Selected articles made reference to the hand hygiene process, attributing this practice infections related assistance to health, involving the following criteria: technical and scientific knowledge on adherence to hand hygiene correlated with the opportunities, the five times and adequate time proposed by the World Health Organization (WHO), available infrastructure in the units also involving knowledge in academic life and also the patient's participation in hand hygiene. These studies involved research with nursing professionals, including technicians / assistants and nurses / residents, physicians / residents, college physiotherapists and nursing teachers and medicine. The articles focus on the importance of knowledge about hand hygiene, articulating the theoretical and practical knowledge for the achievement of hand hygiene occurs appropriately for patient care. It was found that the selected items are shown directly related to professional practice, whether in care or in academic life. It is observed, in general, that the professionals possess knowledge, no matter how small on the selected theme, and know that this practice is combined with the process of prevention of infections related to health assistance in the construction of patient safety. But often, there is no adequate knowledge of washing technique of hands and the times when it should be performed.

In the articles selected for the study, which is based on the collection of data through questions, it is evident that most professional reports meet the five moments for hand hygiene, as indicated by a cross survey conducted in a university hospital (Oliveira and Pinto, 2018). However in an observational study of a pediatric care unit results differ as to this practice, it is considered not to perform the technique at the proper moments, with emphasis on hand hygiene, soon after contact with the patient and / or fluids and bodily secretions, indicating that the practice embodiment is mainly performed when there are risks to workers (Raimondi *et al.*, 2017). The alcoholic solution in the context of hand hygiene is indicated by its proven efficacy, need less demanding infrastructure, less compared hygiene with soap and water or antiseptic and also to cause less side effects to skin (Jezewski *et al.*, 2017) In contrast, a study conducted with 49 professionals, which were observed in 1277 opportunities for hand hygiene, only 20 (6%) underwent friction with antiseptic (Bathke *et al.*, 2013). In a study performed in the State of Paraná Northwest region, a questionnaire was applied to 27 professionals and was obtained that the team has a poor knowledge of the practice of hand hygiene with alcohol solution, showing that only a professional knew in full the recommendations for the correct realization of the antiseptic rubbing hands with an alcohol prep and 12 of these participants also indicated periods of 3 to 10 seconds such as time effective in the destruction of microorganisms (Derhun *et al.*, 2018). It is emphasized that the WHO recommends a minimum duration of 20 to 30 seconds and should not be used in situations in which the hands are visibly soiled (ANVISA, 2013).

Study data refer different factors for non-adherence proper hand hygiene in its general context, among them are: forgetfulness, ignorance, lack of time, skin irritation, limited resources, physical structure that includes the misplaced sinks and the use of gloves (Souza *et al.*, 2015; Zottele *et al.*, 2017).. One of the articles warning that the work overload and

assistance routine to several patients, resulted in major factors that made it impossible the holding of that practice (Raimondi *et al.*, 2017). A quantitative survey conducted in the emergency room in São PauloIt demonstrates that when educational activities on hand hygiene are carried out in health services, it appears that there is an improvement in the adhesion of professionals about the practice, and after about six months the levels tend to fall. Reflecting in this way, there is need for continued education, awareness and ethics by professionals (Trannin *et al.*, 2016). One study points out that professionals with recent egress training courses, tend to have an updated knowledge about the practice of hand hygiene (Derhun *et al.*, 2016). On the other hand, an exploratory survey of teachers and academics shows that the units in which students receive, have a higher rate of infection when compared to not receiving (Crock-Anacleto *et al.*, 2013). Also in the context of accession, it is worth mentioning the importance of nurses in guiding and monitoring the practices of hand hygiene of healthcare staff, patients and their families (Derhun *et al.*, 2016). Among the suggestions made for improving practice in the healthcare environment, the results are related to the importance of promoting capacity building in the form of educations in health, with a focus on improvement for performing such a practice (Silva *et al.*, 2013). Some authors also suggest improvement in infrastructure and availability of resources. Despite the shortcomings in relation to knowledge, it is also up to the professionals to seek deeper content, since they are responsible for ensuring patient safety. However, it is important that between health facilities is carried out direct supervision of this practice (Souza *et al.*, 2015).

Conclusion

From this study, we found a significant production in national journals, with no difficulty in obtaining the articles. Hand hygiene in the context of patient safety has been the focus of researchers, as a result of the risks of infections related assistance to health. This aspect shows that health professionals are involved in conducting research aimed at improving the quality of care. Thus there is a focus on patient safety, starting to be addressed more broadly. It is in a dynamic follow-up, which requires the existence of permanent education services to professional teams. While practice in the pursuit of excellence of the care provided, we highlight the importance of planning and enforcement measures and health education strategies as a way to encourage the practice of hand hygiene in the daily lives of all health professionals. It is necessary that the health team develop the practice of hand washing going beyond the acquisition of technical and scientific knowledge. It points out a need to awaken to the ethical issues about this practice, not only as regards the rights and duties of patients and professionals involved, but mainly as care the person has a disease. It is also the professional training to the search for solutions that resonate in health conditions, promoting quality care and humanization.

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