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SURVEY ON KNOWLEDGE, ATTITUDE AND HYGIENE PRACTICE OF HANDS BY NURSING PROFESSIONALS

INQUÉRITO SOBRE CONHECIMENTO, ATITUDE E PRÁTICA DE HIGIENE DAS MÃOS PELOS PROFISSIONAIS DA ENFERMAGEM

ENCUESTA SOBRE CONOCIMIENTO, ACTITUD Y PRÁCTICA DE HIGIENE DE LAS MANOS POR LOS PROFESIONALES DE LA ENFERMERÍA

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ABSTRACT

Objective: to identify the Knowledge, Attitude, and Practice of nursing professionals who work in Intensive Care Units about the hand hygiene. **Method:** this is a cross-sectional, analytical study with 131 nursing professionals from six intensive care units of two university hospitals in Pernambuco, developed from the KAP survey instrument - Knowledge, Attitudes, and Practices in Health. Frequency distributions, the central tendency and dispersion measures as well as the normality tests were used for data analysis, taking as reference a 5% confidence interval. **Results:** In the analysis of the results, it was observed that the prevalence of Attitude, Knowledge, and Practice presented a decreasing gradient of about 88%, 77.4% and 65.6%, respectively. **Conclusion:** Although hand hygiene is recognized as a simple and important practice in the prevention and control of nosocomial infections, it has a decrease in satisfactory indices when associated with development in practice. **Descriptors:** Intensive Care Units; Cross Infection; Hand Hygiene; Nursing, Team.

RESUMO

Objetivo: identificar o Conhecimento, Atitude e Prática dos profissionais de enfermagem que atuam em Unidades de Terapia Intensiva em relação à higiene das mãos. **Método:** estudo transversal analítico, com 131 profissionais de enfermagem de seis Unidades de Terapia Intensiva de dois hospitais universitários de Pernambuco, desenvolvido a partir do instrumento inquérito CAP - Conhecimentos, Atitudes e Práticas em saúde. Para análise dos dados, realizou-se as distribuições das frequências, as medidas de tendência central e dispersão, como também os testes de normalidade, tomando como referência um intervalo de confiança de 5%. **Resultados:** na análise dos resultados, percebeu-se que a prevalência de Atitude, Conhecimento e Prática apresentou um gradiente decrescente na ordem de 88%, 77,4% e 65,6%, respectivamente. **Conclusão:** apesar da higienização das mãos ser reconhecida como prática simples e importante na prevenção e controle das infecções hospitalares quando associada ao desenvolvimento na prática, apresenta queda nos índices satisfatórios. **Descritores:** Unidades de Terapia Intensiva; Infecção Hospitalar; Higiene das Mãos; Equipe de Enfermagem.

RESUMEN

Objetivo: identificar el Conocimiento, Actitud y Práctica de los profesionales de enfermería que actúan en Unidades de Terapia Intensiva en relación a la higiene de las manos. **Método:** estudio transversal analítico, con 131 profesionales de enfermería de seis Unidades de Terapia Intensiva de dos hospitales universitarios de Pernambuco, desarrollado a partir del instrumento encuesta CAP - Conocimientos, Actitudes y Prácticas en salud y para análisis de los datos fueron realizadas las distribuciones de las frecuencias, las medidas de tendencia central y dispersión como también los tests de normalidad tomando como referencia un intervalo de confianza de 5%. **Resultados:** en el análisis de los resultados se notó que la prevalencia de Actitud, Conocimiento y Práctica presentaron un decreciente de 88%, 77,4% y 65,6%, respectivamente. **Conclusión:** a pesar de la higienización de las manos ser reconocida como práctica simple e importante en la prevención y control de las infecciones hospitalarias cuando está asociada al desarrollo en la práctica, presenta una caída en los índices satisfactorios. **Descriptores:** Unidades de Cuidados Intensivos; Infección Hospitalaria; Higiene de las Manos; Grupo de Enfermería.

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INTRODUCTION

Infection Related to Healthcare (IRAS) results from the acquisition of any pathogenic microorganism through invasive, therapeutic or diagnostic procedures performed without technical rigor at any level of care by health professionals.^{1,2} It was an important public health problem since the establishment of the first hospitals when there was still no scientific and microbiological knowledge, as well as the principle of disease transmission.³

The Hungarian physician-surgeon Ignaz Philipp Semmelweis observed in 1847 that high rates of puerperal infection in women occurred after being treated by physicians who had previously performed necropsies. From this, the routine hand hygiene with chlorinated solution was established, and the reduction infection rates decreased from 11.4% to 1.3% over a period of seven months.^{3,4}

A recognized source of infection is the endogenous microbiota of the patient, which can be transmitted by health professionals, especially when they do not wash their hands after providing care to the patient. Also, the inanimate environment surrounding him and the objects of use in the care also concentrate microorganisms that can be transmitted to the patient, as well as to professionals and other objects. Contaminated objects and surfaces are secondary reservoirs that can lead to cross-infection, emphasizing the importance of hand hygiene after touching and manipulating them.⁵

The reality of infections related to healthcare has a major impact on the morbidity and mortality rates of hospitalized patients, especially those who are seriously ill at the Intensive Care Unit (ICU), making this sector a priority in prevention and control actions.^{1, 6}

Approximately 10% of patients in hospitals worldwide are affected by IRAS. The death rate, within this percentage, is around 15 to 50% of the cases, and the vast majority of these cases are largely amenable to prevention.⁷

In Brazil, problems related to IRAS increase daily, considering that there is a rise of up to three times the costs of those who do not acquire it. Within this reality, about 15.5% of hospitalized patients acquire infection, stressing as an aggravating fact that public health institutions are mainly responsible for these rates.¹

The IRAS acquired in ICUs represent almost 20% of all hospital infections diagnosed among

hospitalized patients, and it is estimated that approximately 30% of patients admitted to the ICU have at least one infectious episode. This fact is precipitated by the unstable and critical profile of these patients, associated with the need for multiple invasive procedures that are easier entrance doors to the pathogenic microorganisms.⁸

Precautionary measures should be taken for the prevention of this disease regardless of whether a communicable disease is suspected or not. These measures include adequate hand sanitization with soap and water or alcoholic gel, use of gloves when there is any risk of contact with body fluids or contaminated areas, use of apron, decontamination of the environment after discharge from the patient, cleaning, disinfecting or sterilizing all articles and equipment before being reused in other patients.⁹

Evidence point out the spread of infections in the hospital environment to health professionals who work directly in the care as the main vectors of the sharp. This chain of transmission is closely related to deficiency in a correct practice, and adherence to routine handwashing since although this technique is recognized as the most important and efficient preventive measure in reducing the transmission of microorganisms, adherence of health professionals is still very poor.¹⁰

In this context, nursing is fundamental in the prevention of health-related infection, since it is the professional category that most performs activities of direct contact with the patient, besides manipulating equipment, instruments, and medications.¹¹

Considering the importance of the hand hygiene issue, as it is an effective measure to prevent infection-related to health care by professionals who provide direct assistance to the patient, the present study aims to identify the Knowledge, Attitude and Practice of the nursing professionals who work in the ICU regarding hand hygiene to characterize a professional profile of professionals as well as characterize the profile of attitudes and practices adopted by them in the reported knowledge.

METHOD

This is a cross-sectional, analytical characteristic study, developed from an investigation called KAP - Knowledge, Attitudes and Practices in health, with quantitative data analysis.

The study project was submitted and approved by the Ethics and Research Committee of the University of Pernambuco

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(UPE) by CAEE 37529414.6.0000.5192. Data were collected from September to October 2014, where all the participants signed the Informed Consent Term (TCLE).

The nursing professionals from 6 intensive care units of two university hospitals in the state of Recife (PE), Brazil, Oswaldo Cruz-HUOC Hospital (Hospital A) and the Pernambuco-PROCAPE Cardiology Emergency Room (Hospital B) designated by three ICUs of hospital A and three ICUs of hospital B, respectively.

The non-probabilistic and intentional sample consisted of 131 professionals, considering as eligible for the sample, nursing professionals (nurses, technicians and assistants) who were working in the surveyed ICUs and spontaneously accepted to participate in the study, as well as nursing students who were in the ICUs during the stage of curricular or extracurricular internship, paid or not, during the period of data collection.

The questionnaire used for data collection was elaborated and validated in Senna's dissertation work in 2010, which carried out this same segment of study in two highly complex cardiological hospitals located in the city of Rio de Janeiro. One hospital was public and large, a national reference, and the other was medium-sized private health network.¹²

The questionnaire is a self-administered instrument, standardized to measure three dimensions known as Knowledge, Attitude and Practice, which contain specific and pre-coded questions for each axis, where 40 questions are related to Knowledge, 22 to Attitude and 27 to Practice. Also, there are 17 questions regarding the sociodemographic and professional aspects of the study participants.

A bank was built in the EPI INFO program, version 3.5.2 to analyze the data, which was exported to the SPSS software, version 18, where the statistical analysis and treatment of the data was performed. The percentage frequencies were calculated, and the respective frequency distributions were constructed to evaluate the distribution of personal factors, professional training, and work experience.

The statistics were calculated in the evaluation of the knowledge score, attitude and practice of the professionals: minimum, maximum, average and standard deviation. Furthermore, the confidence interval (CI) was calculated for the estimated means. The Kolmogorov-Smirnov test was applied to evaluate the normality of the scores of knowledge, attitude, and practice.

In cases where the normality of the score was indicated, the t-student and ANOVA tests were applied according to the need of analysis, to compare knowledge of attitude and practice among interest groups, and, in cases where normality was not indicated, the Mann-Whitney and Kruskal-Wallis test were used. All conclusions were based on the significance level of 5%.

RESULTS

There were 131 health professionals evaluated about the Knowledge, Attitude, and Practice of Hand Washing for the Prevention of Hospital Infections. The sample consisted of 55 professionals from hospital A (42%) and 76 professionals (58%) from hospital B. There were 102 nursing technicians, 26 (20%) nurses, 3 (2%) undergraduate nursing students.

Regarding the forms of work, 97 (74%) of respondents answered that they work in another health institution and 34 (26%) answered that they work only in the institution researched.

According to the distribution of the profile by age and gender of the professionals evaluated, according to the type of hospital, both hospitals had a greater number of female professionals: 45 (81.8%) in hospital A and 65 (85, 5%) in hospital B. Regarding the age group, both hospital A and hospital B showed a higher prevalence in the age group of 31 to 40 years old (21 (38.2%) professionals in hospital A and 36 (47.4 %) In hospital B).

Most professionals in hospital A and hospital B had more than 10 years of professional experience (54.6%) and 51 (67.1%), respectively, who belonged to the permanent staff of hospital 35 (63.6%) and 68 (89.5%), respectively.

Table 1 shows the mean and standard deviation of the knowledge score of the professionals evaluated, according to the type of hospital. Through this, the highest average of the knowledge score of the professionals of hospital A was found in the group that works in the DIP ICU (mean=65.67), while in hospital B the highest average of knowledge was found in the group of professionals of the Coronary Unit (mean=62.14).

When comparing the professionals' knowledge among the hospitals, it was observed that the professionals of hospital A presented a higher average of the knowledge score than the professionals of hospital B, even though this difference between the averages found, the comparison test of means was not significant (p-value=0.136) indicating

that the level of knowledge among the professionals of both hospitals is similar.

Table 1. Average and standard deviation of the knowledge score of the professionals evaluated, according to the type of hospital. Recife (PE), Brazil, 2014.

Work sector	Hospital A	Hospital B	p-value ¹
Clinic ICU	62.80±6.60	-	-
Coronary unit	-	62.14±7.22	-
Pediatric ICU	61.74±5.92	60.44±8.30	0.563
DIP ICU	65.67±6.81	-	-
URCT	-	58.86±6.21	-
TOTAL	62.98±6.43	61.13±7.34	0.136

¹p-value of the t-Student test (if p-value < 0.05 the average score of knowledge is different between hospital A and B).

Table 2 shows the mean and standard deviation of the attitude score of the professionals evaluated, according to the type of hospital. The highest mean score of the attitude of the professionals of hospital A was found in the group that works in a pediatric ICU (mean=39.22), while in hospital B the highest mean of the attitude score was found in the group of professionals working at URCT (average=39.43).

When comparing the professionals' attitudes among the hospitals, it was observed

that the professionals of hospital B presented a higher average of the attitude score than the professionals of hospital A (38.79 and 38.62, respectively), even though there was a difference between the means, the comparison test was not significant (p-value=0.847), indicating that the level of attitude among the professionals of the two hospitals is similar.

Table 2. Average and standard deviation of the attitude score of the professionals evaluated, according to the type of hospital. Recife (PE), Brazil, 2014.

Work Sector	Hospital A	Hospital B	p-value ¹
Clinic ICU	38.60±2.26	-	-
Coronary unit	-	38.64±2.23	-
Pediatric ICU	39.22±3.34	38.67±2.57	0.336
DIP ICU	37.5±3.09	-	-
URCT	-	39.43±3.37	-
Total	38.62±2.95	38.79±2.53	0.847

¹p-value of the Mann-Whitney test (if p-value < 0.05 the distribution of the attitude score is different between hospital A and B).

Table 3 shows the mean and standard deviation of the professionals' score, according to the type of hospital. The highest score was found in the group of professionals who worked in a pediatric ICU (mean=26.87), while in hospital B the highest average of the practice score was in the group of professionals who work in the coronary unit (mean=28.32).

When comparing the practices of the professionals among the hospitals, it is

observed that the professionals of hospital B presented a higher average of the score of practice than the professionals of hospital A (28.17 and 26.67, respectively). It is also observed that the means comparison test was significant (p-value=0.031), indicating that the level of practice between the professionals of the two hospitals is different.

Table 3. Average and standard deviation of the practice score of the professionals evaluated, according to the type of hospital. Recife (PE), Brazil, 2014.

Work sector	Hospital A	Hospital B	p-value ¹
Clinic ICU	26.55±4.61	-	-
Coronary unit	-	28.32±3.99	-
Pediatric ICU	26.87±3.66	27.78±3.61	0.432
DIP ICU	26.5±2.71	-	-
URCT	-	28.21±4.34	-
Total	26.67±3.80	28.17±3.92	0.031

¹ P-value of the t-Student test (if p-value <0.05 the mean of the knowledge score is different between hospital A and B). ²p-value of the ANOVA test (if p-value <0.05 the mean of the knowledge score is different between the units of therapy evaluated).

Table 4 shows the descriptive analysis of the scores of Knowledge, Attitude, and Practice, according to the type of hospital. It is verified that the evaluated professionals presented a higher level of Attitude 88% of the total of the scale, followed by Knowledge 77.4% and Practice 65.6% on average. Also, when applying the percentage comparison distribution test, the test was significant (p-

value <0.001) indicating that the average percentage score of Knowledge, Attitude and Practice differ. The comparison was applied two by two, and in all comparisons, the test was significant (p-value <0.001 for all comparisons), indicating that in fact, the professionals present higher Attitude, followed by Knowledge and last Practice and that the levels in these groups differ.

Table 4. Descriptive analysis of knowledge, attitude and practice scores, according to the type of hospital. Recife (PE), Brazil, 2014.

Evaluated Domain	Interval of Variation	Minimum	Maximum	Average	%	Standard Deviation	CI(95%)
Knowledge	0 to 80	36.00	74.00	61.91	77.4%	7.01	60.70 - 63.12
Hospital A	0 to 80	50.00	74.00	62.98	78.7%	6.43	61.24 - 64.72
Hospital B	0 to 80	36.00	74.00	61.13	76.4%	7.34	59.45 - 62.81
Attitude	0 to 44	30.00	44.00	38.72	88.0%	2.71	38.25 - 39.19
Hospital A	0 to 44	30.00	44.00	38.62	87.8%	2.95	37.82 - 39.42
Hospital B	0 to 44	32.00	44.00	38.79	88.2%	2.53	38.21 - 39.37
Practice	0 to 42	16.00	39.00	27.54	65.6%	3.93	26.86 - 28.22
Hospital A	0 to 42	16.00	34.00	26.67	63.5%	3.80	25.65 - 27.70
Hospital B	0 to 42	20.00	39.00	28.17	67.1%	3.92	27.27 - 29.07

When comparing the knowledge of the professionals in the hospitals, it was observed that the professionals of hospital A had a higher average of the score of Knowledge than the professionals of hospital B. However, even though this difference between the average was found the test of comparison of averages was not significant (p-value=0.136) indicating that the levels of knowledge among the professionals of the two hospitals are equivalent.

The same happens about Attitude, where the professionals of hospital B presented a higher average of the Attitude score than the professionals of hospital A, 38.79 and 38.62 respectively. Despite this difference between the means, the comparison test between them was not significant (p-value=0.847) indicating that the Attitude levels among the professionals of both hospitals are also equivalent. About the Practice, the professionals of hospital B presented a higher average of the Practice score than the professionals of hospital A: 28,17 and 26,67, respectively, observing that the test of comparison of averages was significant (p-value=0.031) indicating that the level of practice between the professionals of the two hospitals is different.

In the comparison between the general level of knowledge, attitude and practice, the test were not significant (p-value <0.001), indicating that there is a relevant difference between what the professionals know, the attitude they consider correct and what they practice.

DISCUSSION

The two hospitals chosen for this study belong to the Brazilian Unified Health System (SUS) and are institutions linked to the State University of Pernambuco (UPE), two important centers of reference in the city of Recife, one in infectiology (Hospital A) and the other in cardiology (Hospital B).

The first issue addressed in the questionnaire applied to the professionals was the knowledge they had about the adequate hand hygiene. It started with a focus on the use of alcohol at 70%, where some situations were listed for the interviewees to indicate the correct ones.

In the description of the knowledge about the use of alcohol at 70% as a hand wash in the two hospitals studied, it was possible to identify that most of the professionals marked the correct option in the alternatives: “after contact with surface in the patient’s bed”, “before the clinical examination of the patient”, “after contact with the patient’s entire skin”, being in accordance with the norms of ANVISA- National Agency of Sanitary Surveillance (2007).^{12,13}

It was noticed that there are doubts about the indication of 70% alcohol use in the alternative “between two body sites in the same patient,” with most of the professionals of hospital B indicating the wrong answer “no” (59.9%). Although most professionals at hospital A responded adequately to “yes” (52.7%), this majority is not relevant when the p-value of 0.176 for the alternative was observed. The use of alcohol at 70% is adequate between manipulation of two body

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sites of the same patient, according to an ANVISA manual (2007).¹³

It is worth mentioning the importance of product quality when using of alcohol formulations at 70%. These should be effective in reducing the transient microbial load of the hands when using an approximate amount of 2 ml=2 puffs of the dispenser.^{11,14}

With regard to the knowledge about the use of products suitable for hand hygiene, it is possible to infer that in the products that can be used for the handwashing, there remains doubt on the part of the professionals of the ICUs of the two hospitals with povidone degermante at 10%, since most answered “no” as an inadequate form (63.6% hospital A and 63.2% hospital B).

According to ANVISA (2009), iodine is an antiseptic recognized for its effectiveness since 1821. However, due to the properties of causing irritation and skin discoloration, it was replaced by PVPI or iodophors in the 1960s. Iodophors are complex molecules composed of Iodine and a carrier polymer called polyvinylpyrrolidone, the combination of which increases the solubility of iodine and provides an iodine reservoir, releasing it upon use and reducing dryness of the skin.¹⁵

Also about this theme, the other alternatives “liquid soap”, “chlorhexidine degermante to 2%” and “70% alcohol” were correctly answered, being in agreement with ANVISA (2007; 2009) where alcohols can prevent transfer of hospital pathogens presenting fast action and excellent bactericidal and fungicidal activity in all the agents used in hand hygiene. Chlorhexidine depleting at 2% has an immediate antimicrobial activity that occurs more slowly than alcohols, being considered intermediate level. Its residual effect makes it the best among the available antiseptics, being the use of chlorhexidine for the hygiene of the hands in the health services considered safe and its absorption by the skin is minimal, if not zero.^{13,15}

Regarding the product that can be used for hand drying after washing, the items “disposable paper towels” and “disposable compresses” have been correctly indicated by the nursing professionals. The paper towel used for hand drying should be smooth, composed of 100% cellulosic fibers, without fragrance, impurity or holes, not releasing particles and possessing good drying properties. It is preferable to use both block and roll papers, which allow individual use, sheet by sheet.¹⁵

Although the use of “heated air” for hand drying is not recommended, a large number of

professionals (47.3% hospital A and 51.3% hospital B) indicated this alternative as a correct answer. The electric dryer with heated air is not indicated for the procedure of hands hygiene in the health services, because professionals rarely apply the necessary time for drying, besides the possibility of accumulation of microorganisms inside the machine.¹⁵

Regarding the beliefs and attitudes about hand hygiene recommendations, the indication of “70% alcohol only as a complement to hand hygiene” was erroneously cited by most of the professionals (76.4% hospital A and 75% hospital B). Also, when asked about the importance of hand hygiene in some listed situations, only the alternative, “70% alcohol is less effective than simple hand washing” was answered incorrectly by 61.8% of hospital A professionals and 63.2% of hospital B responding to “yes.”

Antiseptic hand hygiene, similar to the simple hand hygiene, replaces ordinary soap with an antiseptic agent, with the purpose of reducing the microbial load by hand rubbing. The use of alcohol gel, preferably at 70%, or 70% alcoholic solution with 1-3% glycerol, may substitute hygiene with soap and water when the hands are not visibly soiled.¹⁶

A study suggests that after 3 to 4 applications of alcoholic gel or 70% alcoholic solution, it is necessary to wash the hands because there is an emollient residue.⁸ The professionals of this study were not clear on this point (“70% alcohol for a maximum of five times between hand hygiene with soap and water”) with 25 (45.5%) of professionals from Hospital A and 29 (38.2%) from Hospital B responding they do not know.

It was notable that adherence to alcohol use at 70% is still small with 49.1% of hospital A professionals and 47.4% of hospital B professionals, “seldom” using 70% alcohol before entering the patient’s bed, as well as 44.4% of hospital A professionals and 38.7% of hospital B patients also “seldom” use 70% alcohol when leaving the patient’s bed.

Many studies have documented the in vivo antimicrobial activity of alcohols, which effectively reduce the bacteria of the hands. Thus, 70% alcohol is not just a complement to hand hygiene, nor is it less effective than simple washing.

This study also addressed the practice situations in which the professional recognizes the frequency in washing hands. It was possible to perceive that the professionals who rarely wash their hands with soap and water using the technique and minimum

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adequate time are considerable (45.5% hospital A and 40.8% hospital B).

Hand hygiene is important not only for adherence, but also for its correct execution, taking into account all the established steps, aiming to interrupt the chain of transmission of microorganisms, and may contribute to the reduction of the incidence of hospital infections.¹⁷ The performance of the correct sequence of the technique following all steps recommended by ANVISA (2009) depends in part on the availability of resources. However, it essentially depends on the “actor” of the action.¹¹

When asked if 70% alcohol was applied to the hands using the same washing technique with soap and water, an expressive number of professionals (48.1% hospital A and 47.4% hospital B) responded that they “rarely” perform the correct technique. According to ANVISA (2009), the friction of the hands with 70% alcohol solution should last from 20 to 30 seconds and follow the same steps and order of the technique of simple hand washing with soap and water.¹⁵

When questioned if adornments were used during working hours, it was noticed that the use of the engagement ring was expressive among professionals, with 33.3% of professionals in hospital A and 46.7% in hospital B responding that “always” use the engagement ring during working hours. This is worrisome since, for better removal of the microbial flora during handwashing, they should be free of rings and short nails. Otherwise a microbial load will be retained in these places being capable of proliferation and transmission.⁷

The practice of using the engagement ring during work hours is in conflict with the professionals' belief and proper attitude that the engagement ring is not ruled out as a source of infection, indicated in table 3 by 94.5% of professionals of hospital A and 96.1% of hospital A.

This means that even aware that this attitude is inadequate, most professionals ignore it. This data corroborates with the information gathered in a study carried out in the south of the country on the practice of hand hygiene that according to the authors, it is not uncommon to find individuals who had access to scientifically correct knowledge but they continue to adopt it.¹⁸

As the objectives of this study seek to identify an association between the Knowledge, Attitudes, and Practices about hand hygiene, Table 4 shows that the means in relation to Knowledge, Attitudes, and Practices has a decreasing of Knowledge

(77.4% of the total of the scale) for Practice (65.6% of the total scale), with the highest gradient obtained at Attitude (88%). These data reveal the assumption of the theory of cognitive consistency, which establishes that individuals can modify their behavior according to structural support or even social coercion showing an inconsistency between what is known (knowledge) and what is done (practice).¹⁸⁻⁹

In this way, it can be seen that the Practice was the category with the lowest index (65.6% of the total scale), which is worrying when comparing professionals with Knowledge (77.4% of the total scale) and Attitude (88.0% of the total scale). However, they do not put it into practice in their professional routine. This finding reveals that hand hygiene, even though it is recognized by professionals as a simple and important practice in the prevention and control of infections related to health care when associated with practical development, presents a decrease in satisfactory indices.

Finally, a comparison between the two hospitals studied shows that there was no significant difference between the results in the Knowledge and Attitude categories between the two institutions. However, it should be noted that in the Practice category, a significant difference was found between the indices obtained by professionals from both hospitals with $p\text{-value}=0.031$, where hospital B had a better practice index than hospital A.

An important factor that may have influenced this difference in practice between hospitals is that hospital B has a better physical structure because it is a relatively young hospital with better resources. A sector that offers better working conditions could obtain a better performance in the practice of their actions from its employees. However, it is a variable that does not guarantee why the difference of the data related to the Practice between the two hospitals.

It would be important to carry out multiple intervention programs in both hospitals (A and B) for adherence to hand hygiene to increase the rates of such an important practice in the prevention and control of infections.

An international study carried out in an ICU in the city of Murcia (Spain) evaluated the conformity of hand hygiene to professionals before and after the implementation of a program to promote hand hygiene and distribution of alcoholic solution for hand hygiene, and analyzed the factors independently associated to hand hygiene before and after patient care. This study

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could conclude that there was a significant increase in compliance with the hand hygiene standard among ICU professionals after the educational intervention phase of the study.²⁰

Thus, international studies demonstrate that the practice of proper hand hygiene is flawed among health professionals as well as this study, stressing the importance of educational activities to support health professionals in this important practice in prophylaxis and control of infections related to healthcare.²⁰⁻¹

CONCLUSION

With this work, it was possible to identify that the Practice, one of the main ones, if not the main category because it is the decision making to execute the action, related to the psychomotor, affective and cognitive domains in the social dimension, obtained the lowest index of the KAP Categories, demonstrating that many professionals, even possessing adequate knowledge about the subject of hand hygiene do not give due importance, failing to put into practice the knowledge already possessed, as well as contributing to infection control, which provides better care for the patient.

Professional behavior changes are configured as essential for rationalizing procedures and improving standards and routines, which is an indispensable condition for infection control.

From this, it can be seen the need for training aimed at infection control in hospitals and emphasize the importance of proper hand hygiene, since the control of infections in the health services, including practices of hand hygiene, contributes to the improvement of the quality of care and patient care. The advantages of these practices are unquestionable, from the reduction of morbidity and mortality of patients to the reduction of costs associated with the treatment of infectious conditions.¹⁹

It is necessary that nursing professionals rethink their professional practice as facilitators of infection control, since adherence to the proper hand hygiene practice is a voluntary and individual act that depends first and foremost on the conscience and decision of each professional.

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