

A HIGIENE DAS MÃOS NUM SERVIÇO DE PEDIATRIA - A PERCEÇÃO DOS ENFERMEIROS
HAND HYGIENE IN A PEDIATRIC UNIT - NURSES' PERCEPTION
HIGIENE DE LAS MANOS EN UN SERVICIO DE PEDIATRÍA - LA PERCEPCIÓN DEL PERSONAL DE ENFERMERÍA

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RESUMO

Introdução: A higiene das mãos é uma intervenção simples e de eficácia comprovada na quebra da cadeia de transmissão da infecção.

Objetivo: Conhecer a percepção dos enfermeiros em relação à prática da higiene das mãos, dos enfermeiros, das crianças e dos seus acompanhantes, em contexto pediátrico.

Métodos: Estudo descritivo, enquadrado no paradigma qualitativo. Os dados foram obtidos por entrevista semiestruturada e a sua análise pelo método de análise de conteúdo de Bardin. Amostra constituída por 15 enfermeiros de um serviço de internamento pediátrico, a maioria do sexo feminino e com uma idade média de 37.5 anos.

Resultados: Da análise do discurso emergiram duas categorias: fatores condicionantes da adesão à higiene das mãos com subcategorias relativas aos enfermeiros (quatro), às crianças (quatro); e aos acompanhantes (cinco); e estratégias para melhorar a adesão à higiene das mãos e respetivas subcategorias relativas aos enfermeiros (quatro); às crianças e seus acompanhantes (três).

Conclusão: Consciencializar e capacitar as equipas e os utilizadores das unidades de saúde para o problema e de como o minimizar é determinante. O planeamento de intervenções multimodais promotoras da higiene das mãos surge como elemento determinante para otimizar esta prática.

Palavras-chave: higiene das mãos; pediatria; enfermagem; infeção associada a cuidados de saúde

ABSTRACT

Introduction: Hand hygiene is a simple and effective intervention in breaking the chain of infection transmission.

Objective: To understand nurses' perception on hand hygiene of nurses, children and their caregivers, in a pediatric unit.

Methods: A descriptive study, framed in the qualitative paradigm was conducted. The data were obtained by semi-structured interview and their analysis using the Bardin content analysis method. A sample of 15 nurses was recruited from a pediatric inpatient service. Participants were mostly female, with an average age of 37.5 years.

Results: Two categories emerged from the discourse analysis: conditioning factors of hand hygiene adherence, with subcategories related to nurses (four), children (four); and the caregivers (five); and strategies to improve hand hygiene adherence and its subcategories related to nurses (four); children and their caregivers (three).

Conclusion: It is crucial to raise awareness and training the teams and users of health units for this problem and how to minimize it. The planning of multimodal interventions to promote hand hygiene in a paediatric context emerges as a determining factor to optimize this practice.

Keywords: hand hygiene; paediatrics; nursing; health care associated infection

RESUMEN

Introducción: La higiene de manos es una intervención sencilla y de probada eficacia para romper la cadena de transmisión de infecciones.

Objetivo: Conocer la percepción de las enfermeras sobre la práctica de la higiene de manos, de las enfermeras, niños y sus acompañantes, en un contexto pediátrico.

Métodos: Estudio descriptivo, enmarcado en el paradigma cualitativo. Los datos se obtuvieron mediante entrevista semiestructurada y su análisis mediante el método de análisis de contenido de Bardin. Muestra compuesta por 15 enfermeras de un servicio de internación pediátrica, en su mayoría mujeres y con una edad promedio de 37,5 años.

Resultados: Del análisis del discurso surgieron dos categorías: factores condicionantes para la adherencia a la higiene de manos con subcategorías relacionadas con enfermeras (cuatro), niños (cuatro); y los compañeros (cinco); y estrategias para mejorar la adherencia a la higiene de manos y sus subcategorías relacionadas con enfermeras (cuatro); niños y sus acompañantes (tres).

Conclusión: Sensibilizar y capacitar a los equipos y usuarios de las unidades de salud sobre este problema y cómo minimizarlo es fundamental. La planificación de intervenciones multimodales que promuevan la higiene de manos en el contexto de la pediatría surge como un elemento determinante para optimizar esta práctica.

Palabras clave: higiene de las manos; pediatría; enfermeira; infecciones asociadas a la atención de salud

INTRODUCTION

Healthcare-associated infection (HAI) is a problem that challenges healthcare facilities across several countries (Direção-Geral da Saúde [DGS], 2018). HAI is acquired during healthcare delivery activities and when the infection is not at the incubation stage at the time of care. This infection can be acquired by the person being cared for or by health professionals during their professional activities (World Health Organization [WHO], 2016). The frequency of this type of infection and its consequences translate into a serious health problem with a significant personal, institutional and social financial burden (DGS, 2018; WHO, 2016). The prevention and control of HAI require specific measures such as hand hygiene, which is considered one of the most effective and easy to implement measures. Hand hygiene allows breaking the chain of transmission of potentially infectious microorganisms and protecting everyone involved in healthcare delivery (DGS, 2018).

In paediatric hospitalisation, the target population is particularly vulnerable and more susceptible to HAIs. Therefore, professionals should ensure a rigorous hand hygiene practice by everyone involved to guarantee care safety. However, the low adherence to hand hygiene is a reality identified in different paediatric care settings (Abed & Eldesouky, 2020; Corrêa & Nunes, 2011).

This study is part of a master's dissertation and is integrated into the research project "Control of Healthcare-Associated Infections" of the Innovation and Development in Nursing (NursID) group of the Center for Health Technology and Services Research (CINTESIS). It aimed to understand nurses' perceptions concerning hand hygiene care of nurses, children and families, within a paediatric context.

1. BACKGROUND

HAIs are the most frequent adverse event in health care, with negative repercussions in morbidity, mortality and quality of life worldwide (WHO, 2016). Portugal is no exception reporting high rates of HAIs (DGS, 2018).

Hand contamination can occur during patient care and when in contact with the surrounding environment or other surfaces, a significant reservoir of microorganisms involved in HAIs (Cohen, Cohen, Loyland, & Larson, 2017).

As previously mentioned, children being a more vulnerable group, are more susceptible to infections, particularly in health care settings where they receive care from multiple professionals and are constantly surrounded by several people and other sick children. In this context, hand hygiene is a practice that should not only be performed by professionals but also extended to children and their carers (Grayson et al., 2018; Lary et al., 2020).

Despite the relevance and ease to put into practice, the low adherence to hand hygiene or inconsistencies in its practice are still a reality in paediatric inpatient units (Abed & Eldesouky, 2020).

The search for interventions promoting hand hygiene has boosted since 2009. However, it has proved to be a demanding task (Grayson et al., 2018). The literature refers to different types of interventions: educational; audits with feedback; provision of alcohol-based antiseptic solution; structural changes and distribution of alerts (Belela-Anacleto, Kusahara, Peterlini & Pedreira, 2019). Adopting a multi-modal strategy improves adherence to this practice (Müller et al., 2020) and is strongly recommended by the DGS in line with the WHO recommends it (DGS, 2019).

The evidence stresses the importance of interventions promoting hand hygiene in paediatric care settings targeting health professionals, children and families (Müller et al., 2020; Wong, Xu, Bone, & Srigley, 2020).

2. METHODS

A qualitative, descriptive, transversal study was conducted

2.1 Sample

A total of 15 nurses participated in the study, 13 women and 2 men, aged between 31 and 52 years and with an average age of 37.5 years. The participants' length of professional experience ranged between 5 and 28 years, with a mean of 14.7 years. Nine participants had an undergraduate specialization course in Child Health and Paediatric Nursing, and the remaining participants had no specialised training. The number of participants was determined by the achievement of data saturation.

2.2 Data collection

Data were collected using a semi-structured interview script. The script was previously tested with two nurses who shared the sample's sociodemographic characteristics. These data were not considered for the study, but the suggestions for improvement were used for the final version of the script. The final version of the script included questions on the nurses, children and carers' perceptions of the difficulties and opportunities of hand hygiene compliance. The interviews lasted on average 28 minutes, were audio-recorded, transcribed in full and returned to the participants who validated the information.

2.3 Inclusion criteria

The inclusion criteria were exercising activity in the provision and/or management of care in a paediatric inpatient hospital unit at the date of data collection, and being willing to participate.

2.4 Data analysis

Data analysis was sequential, as the interviews were being transcribed and analysed, and followed Bardin's content analysis method (2009). The interviews were analysed, and the categorisation was performed a posteriori. As a result, categories and subcategories emerged associated with the units of record. Data analysis was conducted separately by two authors, and consensus analysis was performed with a third author.

2.5 Procedures

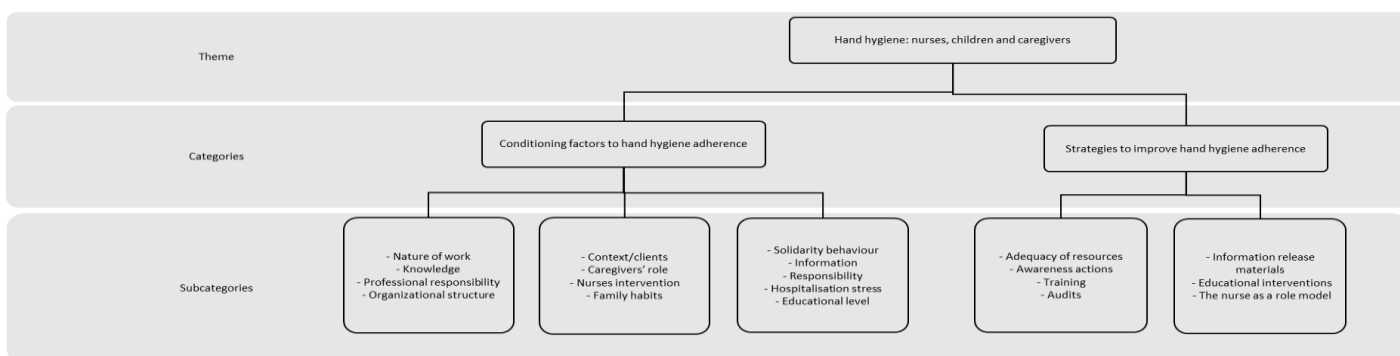
Confidentiality was ensured through coding the interviews with the letter "E" and a sequential number (E1 to E15).

A favourable opinion was obtained from the Ethics Committee of the hospital institution in the north of Portugal (Document no. 68/19). Participants were asked to sign the informed consent, and confidentiality protection procedures were adopted in data analysis and processing. No data was disclosed on the identification of the participants, and access was restricted to the researchers involved in its analysis.

3. RESULTS AND DISCUSSION

From the analysis of the research corpus on hand hygiene (of nurses, children and family), two categories emerged: factors influencing hand hygiene compliance and strategies to improve hand hygiene compliance. The categories resulted from a semantic aggregation based on their relationship with the subcategories and registration units.

Figure 1 depicts the results of the content analysis revealing the participants, the categories and the subcategories.



Despite its simplicity and accessibility, hand hygiene still fails to reach the desired standards for optimal safe care (Abed & Eldesouky, 2020; Corrêa & Nunes, 2011; Gras-Valentí et al., 2020).

Category: factors influencing the adherence to hand hygiene

In this category, the results show the diversity of factors that affect the hand hygiene practice of nurses, children and their carers.

The factors influencing the nurses' adherence to hand hygiene were divided into four subcategories: nature of work, knowledge, professional responsibility, and organisational structure.

By analysing the subcategories, the nature of the work is found to be related to the paediatric care environment and its specificities, being that the caregivers may remain close to the children 24 hours a day. The concerns and stress experienced by these caregivers may be disturbing factors and lead to an increase in the number of requests addressed to nurses. The simultaneous call for assistance and the need to act promptly limit the professionals' availability to comply with hand hygiene and techniques (Abed & Eldesouky, 2020; Corrêa & Nunes, 2011). Emergency situations are also an impediment to proper hand hygiene (White et al., 2015). The factors identified in previous studies are in line with the factors mentioned by this study participants.

(...) because [nurses] are pressured by parents, by the schedules they have to comply with (...) E5; (...) the complexity of the interventions, the fact that they are interrupted several times (...) E14; (...) the urgency in providing care. E1

The recording units that gave rise to the subcategory knowledge refer to the nurses' knowledge and its integration into clinical practice. According to Raimondi, Bernal, Souza, Oliveira, and Matsuda (2017), the practice of hand hygiene is not only related to the lack of knowledge but also to the difficulty in applying this knowledge in clinical practice.

(...) lack of information. E15; These are common habits (...) we have the information (...), but we often get into a routine that is then difficult to change. E13

Another subcategory that emerged from the participants' discourse was professional responsibility, which is portrayed in situations of forgetfulness or negligence. The study of Graveto, Rebola, Fernandes, and Costa (2018) also highlights forgetfulness as a frequent barrier to hand hygiene.

(...) some neglect E2; (...) it's not only about overwork, sometimes we just 'let ourselves go'. E4

Another important factor to hand hygiene practice is the organisational structure concerning how alcohol-based antiseptic solutions equipments are distributed. Participants reported the difficulty experienced with the limited accessibility to these devices, which is aligned with time and space factors. According to the DGS, these factors condition hand hygiene adherence since they can lead to physical exhaustion and be highly time-consuming (DGS, 2019).

(...) often having to leave the patient's unit to go and disinfect hands (...) E1; (...) (alcohol-based antiseptic solution) is at the sink and we often don't go there to disinfect our hands, only on our way out (...) E10

The factors influencing the children's adherence to hand hygiene were grouped into the subcategories: context/clients; caregivers role; nurses' interventions; and family habits.

The subcategory context/clients considered children's specific characteristics and needs, and the interaction with others and the environment as essential for their development, which should be preserved during hospitalisation (Silva & Menezes, 2019). So, according to the above stated, being a child favours the cross-transmission of microorganisms.

(...) children touch each other, touch each other's bed. (...) they share toys, food (...) E1; They move from one unit to another and I've noticed that some children develop gastroenteritis (...) E9; I think most of them don't even know what it's for. Some of them see alcohol-based antiseptic solution as a joke, they have no idea of what it's used for or when to use it. Even adolescents think this way. E10

In paediatric hospitalisation, conditions are created so that children maintain habits and routines, namely the opportunity to play. However, the role of the caregiver is crucial to ensure their safety. In fact, since an early age, children tend to imitate the adult or ask for his/her help in washing their hands (Rabelo & Souza, 2009). Some participants' statements evidence the role of the caregiver.

(...) parents rarely ask their children to wash or disinfect their hands, most of these parents don't think it's that important (...) It's adequate when parents have that concern and this actually happens sometimes (...) E2; Quite often I think parents are not a good example for children (...) E3

The involvement of children and carers in their safety should be encouraged and monitored (Oliveira, Galvão & Gomes-Santos, 2020). In this sense, according to the respondents, the nurses' intervention is essential to raise awareness about hand hygiene, despite acknowledging some individual lack of compliance.

(...) they may think that they have to wash their hands and when they need to do it, but then they end up not doing it unless we make them aware of it (...) I don't often see this awareness on our part, I take the pill to the child and I must confess that quite often I forget to ask them to perform the correct hand hygiene. E3

Family habits are acquired and replicated by the younger family members. For example, children imitate adults in hand washing and, depending on their age, children are receptive to receiving information (Santos, Silva, Depianti, Cursino, & Ribeiro, 2016). Thus, children's behaviour and knowledge are very dependent on adults who act as role models in raising children's awareness about hand hygiene. The participants identified hand hygiene as a family habit reflected in children's behaviours and level of knowledge.

(...) most children don't take any care with hand hygiene, it's not something they learned from family (...) some habits are acquired at home, and it's difficult to implement them in the hospital (...) E10

The factors influencing the caregivers' adherence to hand hygiene were divided into the subcategories: solidarity behaviour; information; hospitalisation stress; and educational level.

Adults feel the need to protect children, particularly when they perceive situations of greater frailty, such as during hospitalisation. It is relatively common for children to receive attention from other people besides their family members. Solidarity behaviour may put children's safety at risk since adults often interact with children and the surrounding environment without previously sanitising their hands. It is known that contact transmission is the most common way of hospital infection transmission (Gonzaga & Belentani, 2013). The caregivers recognize that they should sanitize their hands and avoid sitting on other patients' beds (Rabelo & Souza, 2009). However, these safety principles are often incompatible with the adult's need to help and protect children, as expressed in the discourse of some of this study participants.

(...) they don't see children as a threat (...) they end up touching several children, picking up others on their laps, touching each other's beds. When they want to approach, for example, the other children in the room, they don't remember that there was contact and that they should then wash their hands. E1; (...) there's always that feeling of solidarity with the other parents, with the other children. Sometimes they get something and give it to the child next to them (...) E2

Access to information on hand hygiene and understanding the importance of this procedure for their own safety and the safety of their relatives and other patients is essential. In addition, nurses consider that the children's caregivers need more information and awareness-raising activities.

(...) many still need more training and improvement, because they often don't comply. (...) nurses should start raising awareness about hand hygiene with the parents and make them understand that when they fail to comply with hand hygiene they're putting their child at risk. E2

(...) we explain to them why and they are quite surprised at how often we require them to do it because they were not aware of it. E5

The stress that the caregivers experience also conditions their answers, as evidenced by Hockenberry & Wilson (2014), who refer that hospitalisation generates emotional and clinical stimuli that trigger parental stress. The participants recognised that the difficulties experienced by the caregivers, particularly in terms of hand hygiene compliance, were associated with the stress that they experienced during the child's hospitalisation.

(...) I think that it's because of the context in which they are hospitalised, the concern with their own children, and the fact that they think that it's more important for the child to get well than what infection he/she might contract during hospitalisation and they simply forget to wash their hands (...) parents have some difficulty in washing their hands, perhaps because of stress and the concern with their children's pathology (...) E3

Schooling was also considered a conditioning factor in the caregivers' adherence to hand hygiene, which highlights the need to identify needs and adapt the information when including the family in the care process. Hence, the educational process should be dynamic and interactive and acknowledge the interests and needs of each family (Hockenberry & Wilson, 2014). According to the participants, there is greater difficulty in transmitting knowledge to caregivers with low schooling.

(...) it's difficult to make less educated people understand what they can't see (...) and it's complicated for people to understand (...) I believe that some people aren't able to understand how important it is to wash their hands. E4

Adopting practices that promote the safety and quality of child care should be central to clinical practice, and hand hygiene is an essential practice for nurses, children and their caregivers (Lary et al., 2020). Up to now, only the factors influencing this practice have been described. However, it is important to highlight possible strategies to improve adherence, which are the focus of the second category that emerged from the analysis of the participants' statements.

Category: strategies to improve hand hygiene adherence

The category including the strategies that participants considered as potential promoters of hand hygiene adherence has resulted in seven subcategories. Concerning nurses, the following subcategories emerged: adequacy of resources; awareness-raising actions; training and audit. As for children and caregivers, the following subcategories emerged: publicizing materials; educational interventions; and nurse's role model.

Concerning nurses, the subcategory adequacy of resources considers organisational and safety measures specificities of the paediatric service (Lary et al., 2020). Nurses point out the availability of alcohol-based antiseptic solutions in the patients' units. However, these devices cannot be accessible to children for safety reasons, which is why the DGS (2019) recommends the use of pocket alcohol-based antiseptic solutions, particularly in the paediatric context, to overcome this limitation.

(...) I believe that the supply of this antiseptic solution to each unit would facilitate and increase hand hygiene compliance rates. E12

Awareness actions on hand hygiene are considered essential. Therefore, the participants' statements focus on awareness-raising measures to promote hand hygiene so that this practice becomes an automatic procedure. The suggestions presented by the participants are in line with the study of Graveto et al. (2018), which points out educational materials in strategic locations of the unit as a promoting measure of hand hygiene. Also, the study by White et al. (2015) in which visual "reminders" such as posters and verbal "reminders" by supervisors and peers were valued as decisive factors in the promotion of hand hygiene.

Raising awareness must be a continuous process. (...) to increase awareness of this procedure. To associate this practice to a service protocol, or other, so that it's automatic, it's not necessary to think to do it, that it becomes mechanic (...) E13; (...) publicize more information in each unit, or even at the unit's door, something that constantly reminds us of the importance of hand hygiene. E2

Participants refer to the training of professionals as a strategy, considering its content and the regularity with which it is conducted. In fact, the literature refers to the positive effect that training/education has on the adherence to hand hygiene recommendations (Müller et al., 2020; White et al., 2015; Wong et al., 2020).

The training doesn't have to be formal (...) take advantage of turnovers and disseminate new guidelines and results (...). Raising constructive awareness, educating, but it's mainly about what we watch every day. E11; (training) should be more regular (...) there could be training sessions, film screenings (...) E5

Participants considered audits as a motivator to hand hygiene adherence. They also refer to the importance of peer alerting or the assessment of the microbiological load on hands. These proposals are consistent with a study in which the implementation of electronic hand hygiene monitoring and interventions to promote behavioural change resulted in a reduction in the rates of *Clostridium difficile* infection in a hospital (Knepper, Miller, & Young, 2020).

The monitoring of hand washing and the counselling among each other (...) the monitoring among peers, there should be more attention to our work, to the work of others and it's important to accept it as something positive, an improvement. E1; (...) confirm the quality of hand washing, with the ultraviolet machine or another type of control, for example a hand culture of nurses or health professionals, we would certainly have a more realistic perspective of what we carry in our hands. E7

Concerning children and caregivers, dissemination materials were identified as a subcategory in the strategies to improve hand hygiene adherence. These materials were considered essential for the empowerment of children and caregivers, either using posters, pamphlets or audio-visual material. The supply of different dissemination materials is also highlighted in the literature. For example, reference is made to the effectiveness of multifaceted interventions in promoting of hand hygiene, and both the World Health Organization and the Directorate-General of Health provide various resources (e.g., videos, posters, pamphlets, among others) with contents on the topic.

(...) to publicize clear information related to hand hygiene (...) E3; At as for caregivers, I think that distributing a pamphlet should be part of the integration into the service. E13; (...) the use of an informative video, exhibited from time to time in the FNAC room or when welcoming parents/children. E8

Educational interventions emerged as a subcategory that refers to training, didactic and recreational activities to promote hand hygiene compliance among children and caregivers. Educational interventions improve hand hygiene adherence and raise awareness of its importance (Lary et al., 2020; Wong et al., 2020). The first moment of contact with the inpatient unit has a significant impact on the life of the child and family and is a determining factor in their integration and adaptation process. Therefore, it is crucial to guide and assist the children's caregivers. However, the assimilation of information at the time of admission may be hindered by the fear and stress that the situation of illness and hospitalisation may trigger. According to Oliveira et al. (2020), most caregivers revealed that they did not know what a hospital infection was and how it was acquired despite receiving information on the topic upon admission. The participants in this study emphasize the importance of in-training activities on admission.

Training on hand hygiene and being alerted on its relevance (...) E2; (...) exemplify how to wash hands and practice this technique with the parents and children (...) it's important to teach parents upon the child's admission (...) E3

The practices involved in the daily routine of hospitalisation may serve as a mirror for the child and caregivers since professionals, particularly nurses, are constantly being observed. In this sense, the subcategory nurse as a role model has emerged. This strategy is in line with Bandura (2001), who suggests that learning through observation or role modelling is an important way of learning.

Health professionals should choose the best moments to practice hand sanitising with alcohol-based antiseptic solution in front of parents so that they can pay attention and learn. When we are providing care to a child: - "when they call for the nurse...", we have to tell them that they will have to wait because we need to sanitise our hands, and make parents understand that this is important. E8

CONCLUSION

The analysis of nurses' perception of hand hygiene practice in the paediatric setting, involving nurses, children and carers, focused on the factors conditioning adherence and the strategies to optimise it.

Throughout the study, it was possible to observe the diversity of factors hindering hand hygiene adherence by nurses, children and their carers. On the other hand, several complementary strategies were suggested to promote this practice, which, according to the nurses' perspective, could enhance its effectiveness.

This study provided substantial contributions because nurses were able to engage in moments of reflection and critical analysis that may contribute to changes in the clinical context. Furthermore, these study results may support the planning of multi-modal interventions, personalized and adapted to each context and moment.

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