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ORIGINAL ARTICLE

Investigation of Patient Opinions on Nurses' Hand Hygiene, the Use of Gloves and Antiseptic

Hemşirelerin El Hijyeni, Eldiven Giyme ve Antiseptik Kullanımına İlişkin Hasta Görüşlerinin İncelenmesi

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Abstract

Objective: The research was conducted to determine the opinions of patients hospitalized in a state hospital regarding hand hygiene, use of gloves and antiseptics.

Method: The population of this descriptive study consists of all patients hospitalized in the internal and surgical clinics of a state hospital. The study was conducted with 152 patients who volunteered to participate in the study between May and July 2018. An introductory questionnaire created by the researcher was used to collect the data. The data were evaluated with the SPSS program. Chi-square test was used to compare categorical variables among descriptive statistics.

Results: According to the findings of the study, 75% of the patients pay attention to hand hygiene, 66.4% of nurses use gloves during blood pressure measurement, 52% of nurses do not change gloves when transitioning from one patient to another, and 94.7% of nurses use gloves while administering medication. Regarding the use of antiseptics, 64.5% of the patients stated that the nurses did not use antiseptic when leaving the room. Additionally, a statistically significant difference was found between the education level of the patients and their hand hygiene education ($p<0.05$).

Conclusion: As a result of the research, it was determined that the patients were making erroneous practices related to the use of gloves and antiseptics, despite the nurses expressing that they paid attention to hand hygiene. It is recommended to conduct observational studies on hand hygiene, use of gloves and antiseptics among nurses, and to provide regular training and inspections on this subject.

Keywords: Antiseptic use, hand hygiene, gloves use, patient safety, nurse

Öz

Amaç: Araştırma, bir devlet hastanesinde yatan hastaların el hijyenine, eldiven ve antiseptik kullanımına yönelik görüşlerinin belirlenmesi amacıyla yapılmıştır.

Yöntem: Tanımlayıcı ve kesitsel türdeki bu araştırmanın evrenini bir devlet hastanesinin dahili ve cerrahi kliniklerinde yatan tüm hastalar oluşturmaktadır. Araştırma Mayıs-Temmuz 2018 tarihleri arasında araştırmaya katılmaya gönüllü 152 hasta ile yürütülmüştür. Verilerin toplanmasında araştırmacı tarafından oluşturulan tanıtıcı soru formu kullanılmıştır. Veriler SPSS programı ile değerlendirilmiştir. Tanımlayıcı istatistikler arasında kategorik değişkenlerin karşılaştırılmasında ki-kare testi kullanılmıştır.

Bulgular: Araştırmanın bulgularına göre hastaların %75'i hemşirelerin el hijyenine dikkat ettiğini, %66,4'ü hemşirelerin tansiyon ölçümü sırasında eldiven kullandığını, %52'si hemşirelerin bir hastadan başka bir hastaya geçerken eldiven değiştirmediğini, %94,7'si hemşirelerin ilaç uygulamalarında eldiven kullandığını belirtmiştir. Antiseptik kullanımına yönelik olarak da hastaların %64,5'i hemşirelerin odadan çıkarken antiseptik kullanmadığını ifade etmiştir. Ayrıca hastaların eğitim durumu ile el hijyeni eğitimi alma durumları arasında istatistiksel olarak anlamlı bir fark bulunmuştur ($p<0,05$).

Sonuç: Araştırma sonucunda hastalar, hemşirelerin el hijyenine dikkat ettiklerini ifade etmelerine karşı eldiven ve antiseptik kullanımı ile ilgili hatalı uygulamalar yaptıkları belirlenmiştir. El hijyenine, eldiven ve antiseptik kullanımına yönelik hemşireler üzerinde gözlemsel çalışmaların yapılması ve bu konuda düzenli eğitimlerin verilmesi ve denetimlerin yapılması önerilmektedir.

Anahtar Kelimeler: Antiseptik kullanımı, el hijyeni, eldiven kullanımı, hasta güvenliği, hemşire

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Introduction

Healthcare-associated infections are infections that occur during or after healthcare delivery to patients in hospitals and other healthcare settings. These infections are either not present at the time of admission or not in the incubation process. They have a negative impact on the patient's quality of life, leading to increased costs and higher morbidity and mortality rates (1).

Studies have shown that healthcare workers, particularly nurses, play a primary role in the spread of microorganisms. Nurses, being numerous in the healthcare team and constantly at the bedside, need to be cautious about healthcare-associated infections (2). Nurses, who can be a source of infectious agents, can contribute to the development of infection chains. Therefore, it is the responsibility of nurses to break the chain of infection, which can only be achieved through proper hand hygiene and the use of gloves and antiseptics.

Among the measures for infection control, hand hygiene is considered the most reliable and cost-effective measure (3). In 2009, the World Health Organization (WHO) outlined five indications for hand hygiene in the context of patient safety: 1. Before touching the patient. 2. Before performing aseptic procedures. 3. After being exposed to body fluids. 4. After touching the patient. 5. After touching surfaces related to the patient (4).

Recommendations for hand hygiene, glove use, and antiseptic use, based on the guidance of the center for disease control and prevention, are provided below along with the corresponding evidence levels (3,5). If hands are visibly contaminated with blood or body fluids, they should be washed with water and liquid or antimicrobial soap (Evidence Level IA). During hand hygiene, hands should be wetted with water, the recommended amount of soap should be applied, and hands should be vigorously rubbed for at least 15 seconds to cover all surfaces of the hands and fingers. Then, hands should be rinsed with water and dried with paper towels. Paper towels should also be used to turn off the tap (Evidence Level IB).

If hands are not visibly contaminated, alcohol-based antiseptic should be used (Evidence Level IA). Three milliliters of antiseptic should be applied to the hands (6). The hands should be rubbed until the antiseptic dries (Evidence Level IB). If alcohol-based antiseptic is not available, hands should be washed with water and antimicrobial soap (Evidence Level IB).

Gloves should be worn when there is a risk of contact with blood and body fluids (Evidence Level IC). Gloves should be worn on both hands and removed after use. The same gloves should not be used when moving from one patient to another. Gloves should not be washed (Evidence Level IB).

Hand hygiene should be performed after removing gloves (Evidence Level IB) as contamination can occur during glove removal.

It can be seen that evidence-based practices protect both themselves and the patients and their relatives for whom they are responsible (7). Therefore, it is crucial for patients and their relatives to understand that hand hygiene practices are essential for safe care. The WHO Guide on Hand Hygiene in Healthcare encourages healthcare professionals, patients, and their families to work together to promote hand hygiene practices in healthcare (8).

In 2020, WHO published an action plan titled "Global Patient Safety Action Plan 2021-2030" for patient safety at a global level. As part of this plan, "Strategic Goal 4: Patient and family participation" is one of the strategic goals and objectives to be achieved between 2021 and 2030 (9). WHO has designated the theme for World Patient Safety Day 2023 as "Ensuring the participation of patients for patient safety" (10).

When examining the literature, it is evident that there are limited studies on patient opinions regarding hand hygiene (11,12) and glove use (13). Furthermore, no studies have been found that evaluate patient opinions regarding hand hygiene, glove use, and the use of antiseptics.

The research was conducted to determine the opinions of patients hospitalized in a state hospital regarding hand hygiene, the use of gloves and antiseptics. The study aimed to answer the following research questions:

1) What are patients' opinions about nurses' hand hygiene?

2) What are patients' opinions regarding nurses' use of gloves?

3) What are patients' opinions on nurses' use of antiseptics?

Main Points

- In Turkey, there is limited research on patient opinions regarding hand hygiene and glove use. This study aimed to evaluate patient opinions on hand hygiene, glove use, and antiseptics together for the first time.
- The findings of this study showed that while patients acknowledged that nurses paid attention to hand hygiene, there were errors in the practice of using gloves and antiseptics.
- The study highlighted the necessity of regular theoretical and practical training for nurses on hand hygiene, glove use, and antiseptics, as well as the importance of frequent inspections in practice areas.

Material and Method

This descriptive and cross-sectional research was conducted in the internal and surgical clinics of a public hospital between May and July 2018. In the research (n=325), it aims to reach the entire universe. The sample of the study consisted of 115 volunteer patients, aged 18 and over, who were conscious and hospitalized for at least 3 days at the time the data were collected. The data collection involved the use of an Introductory questionnaire created

by the researcher, in line with the literature (11-13). This questionnaire consisted of 13 questions and was used to evaluate the socio-demographic characteristics of the patients and the opinions of the patients on nurses' hand hygiene, the use of gloves and antiseptic.

Statistical Analysis

In this study, statistical analyzes were performed using the SPSS (version 21.0) package program. The normality distribution was examined using the skweness and kurtosis values (-2 and +2) and the distribution was found to be normal. Descriptive statistics are presented as numbers and percentages for demographic and other categorical variables obtained through the survey. Age, as a continuous variable, is presented as mean ± standard deviation based on distribution assumptions. Relationships between numerical variables were evaluated using Pearson coefficients and relationships between categorical variables were evaluated using the chi-square test. P<0.05 was accepted as the level of statistical significance.

Ethical Aspect of Research

The necessary ethical committee permission to conduct the research was obtained from the Hitit University Non-Interventional Ethics Committee with a letter dated 28.03.2018 and numbered 2018-45. Additionally, permission was obtained from the institution where the study would be conducted. Before the research began, the purpose of the study was explained to the patients and informed consent was obtained from those who wanted to participate.

Results

The number and percentage values of the age, education level, marital status and gender variables of the patients participating in the study and the arithmetic mean and standard deviation of the age value are given in Table 1.

Table 1 shows that the average age of the patients participating in the study was 46.4±18.6 years old, 26.3% of the patients were 30 years old and under, while another 26.3% were 61 years old and over. The majority of patients were high school graduates (42.1%), male (52.0%) and married (70.4%).

Table 2 presents the patient opinions regarding hand hygiene and the use of gloves and antiseptics. 75% of the patients stated that nurses pay attention to hand hygiene. When it comes to the use of gloves by nurses, 66.4% of the patients stated that nurses used gloves when measuring blood pressure, and 94.7% stated that nurses used gloves when administering medications. However, 52% of the patients stated that nurses did not change gloves when transferring from one patient to another. Most of the patients (85.5%) stated that they felt valued when nurses used gloves during practices. Regarding the use of antiseptics, 64.5% of patients stated that nurses did not use hand antiseptic when leaving the room.

Table 3 shows the distribution of paying attention to hand hygiene and using gloves in order to make patients feel safe.

Table 1.
Descriptive Characteristics of the Patients (n=152)

	n	%	Mean ± SD (min-max)
Age (years)			46.4±18.6 (18-86)
<30	40	26.3	
31-45	34	22.4	
46-60	38	25.0	
>61	40	26.3	
Educational background			
Primary school	51	33.6	
High school	64	42.1	
Associate	14	9.2	
Undergraduate	23	15.1	
Marital status			
Married	107	70.4	
Single	45	29.6	
Gender			
Female	73	48.0	
Male	79	52.0	

SD=standard deviation

Table 2.
Patient Opinions on Nurses' Hand Hygiene, the Use of Gloves and Antiseptic (n=152)

Propositions	Yes		No	
	n	%	n	%
Do you think nurses pay attention to hand hygiene?	114	75.0	38	25.0
Do nurses use gloves when measuring blood pressure?	101	66.4	51	33.6
Do nurses use gloves when administering medication?	144	94.7	8	5.3
Do nurses change gloves when moving from you to another patient?	73	48.0	79	52.0
Do you feel valued when nurses use gloves when performing a procedure on you (administering medication, etc.)?	130	85.5	22	14.5
Do nurses use hand antiseptic when leaving the room?	54	35.5	98	64.5

It was found that paying attention to hand hygiene and the use of gloves made 38.2% of the patients feel safe, while 36.2% felt very safe.

There was no statistically significant difference between the descriptive characteristics of the patients, such as age, gender, education level and marital status, and frequent hand washing (p>0.05). However, while there was no significant relationship between the patients' age, gender, marital status and their status of receiving hand hygiene training, a statistically significant difference was found between the patients' educational status and their status of receiving hand hygiene training (p<0.05). Patients with a lower education level had a higher level of hand hygiene training, as shown in Table 4.

Table 3.
Patients' Levels of Feeling Safe (n=152)

	n	%
Doesn't feel safe at all	1	0.7
Doesn't feel safe	7	4.6
It feels less safe	8	5.3
I'm undecided	23	15.1
It feels safe	58	38.2
It feels so safe	55	36.2

Discussion

In this descriptive and cross-sectional study, conducted to determine patient opinions regarding hand hygiene, the use of gloves and antiseptics in a public hospital, 152 patients were reached. It was found that the average age of the patients was 46.4±18.6 years old, 26.3% were 30 years old and under, while 26.3% were 61 years old and over. The majority of patients were high school graduates, male, and married.

In our research, 75% of the patients stated that nurses pay attention to hand hygiene. This finding is supported by studies conducted on nurses. Dönmez (14) found that 98.5% of nurses provided hand hygiene in the right situations and received training on infection control measures. Karabulut Çetin and Aygin (15) observed that nurses developed positive behavior regarding hand hygiene with training. However, Sarı and Kılıç's (16) study found that the rate of hand hygiene and glove use was statistically lower in nurses compared to physicians. Unlike our study, data obtained from 16 studies were evaluated in a systematic review conducted by Bilgehan et al. (2). The review determined that nurses had sufficient knowledge about hand washing

Table 4.
Distribution of Patients' Descriptive Characteristics According to Whether They Wash Their Hands Frequently and Receive Hand Hygiene Training

	I often wash my hands					I received hand hygiene training				
	Yes		No		X^2; p	Yes		No		X^2; p
	n	%	n	%		n	%	n	%	
Age (years)										
<30	32	25.4	8	30.8	1.203; 0.752	11	25.0	29	26.9	0.899; 0.826
31-45	30	23.8	4	15.4		8	18.2	26	24.1	
46-60	32	25.4	6	23.1		12	27.3	26	24.1	
>61	32	25.4	8	30.8		13	29.5	27	25.0	
Gender										
Female	62	49.2	11	42.3	0.411; 0.521	19	43.2	54	50.0	0.582; 0.445
Male	64	50.8	15	57.7		25	56.8	54	50.0	
Educational background										
Primary school	40	31.7	11	42.3	2.966; 0.397	15	34	36	33.3	8.446; 0.038*
High school	52	41.3	12	46.2		15	34	49	45.4	
Associate	13	10.3	1	3.8		2	4.8	12	11.1	
Undergraduate	21	16.7	2	7.7		12	27.2	11	10.2	
Marital status										
Married	88	69.8	19	73.1	0.108; 0.742	32	72.7	75	69.4	0.162; 0.688
Single	38	30.2	7	26.9		12	27.3	33	30.6	

*X^2=chi-square, *=p<0.05*

habits, behavior and attitude, but they had deficiencies in practice (2). Another study by Bülbül Maraş et al. (11), found that 97% of patients and patient relatives believed that the handwashing behavior of nurses and doctors is important in preventing hospital infections. Additionally, 78.4% of patients and patient relatives stated that knowing the healthcare worker's hand hygiene status before contact would be very comforting for them. Furthermore, 64.1% of patients and patient relatives expressed their desire to remind those who did not practice hand hygiene (11). These findings align with our study and highlight the importance of maintaining hygiene for patients, influencing their choice of hospitals, doctors and nurses (11,12).

In our research, 66.4% of the patients reported that nurses use gloves when measuring blood pressure. A similar study conducted by Bulut et al. (13) found that 90.5% of the patients reported nurses using gloves during blood pressure measurement. According to the literature, gloves are worn during blood pressure measurement if there is a risk of contact with blood and body fluids, in order to prevent this contact. It is stated that there is no need to use gloves in blood pressure measurement if there is no contact with blood and body fluids (17). The reason for using gloves in blood pressure measurement may be to protect oneself against the risk of infection or to follow the example of a colleague who uses gloves for this purpose.

In our research, 94.7% of the patients stated that nurses use gloves when administering medications. Gloves should be worn in situations where there is a risk of contact with blood and body fluids, such as administering injections and intravenous drug administration (3,5,18,19). In a study conducted by Bulut et al. (13), 95.8% of the patients stated that gloves were used in drug administration, which aligns with our findings.

In our research, 52% of the patients stated that nurses did not change gloves when transferring from one patient to another. Similarly, in the study conducted by Bulut et al. (13), 56% of the patients stated that different patients were given care with the same gloves and they felt uncomfortable with this situation. Gloves serve as a barrier against the transmission of microorganisms (1). However, when not used correctly, as seen in our study, they can contribute to the spread of microorganisms. Therefore, it is important to avoid using the same glove on multiple patients (1,3,5). Using the same gloves on different patients can lead to cross-infection and further spread the chain of infection. The reasons why nurses may use the same gloves on multiple patients in our research could be attributed to time constraints, indifference, lack of knowledge, or the misconception of self-protection from infection.

In our research, the majority of the patients (85.5%) stated that they felt valued when nurses used gloves during procedures. Similarly, in the study conducted by Bulut et al. (13) 28.6% of the patients stated that they felt worthless if gloves were not used. This finding suggests that patients feel valuable towards nurses who care about patient safety.

In our research, 64.5% of the patients stated that nurses did not use hand antiseptics when leaving the room. According to the literature, hand antiseptics should be used before leaving the patient's room for infection control (19). In contrast to our study, a study conducted by Dönmez (14) found a high rate of hand antiseptic usage among nurses. The low rate of nurses using hand antiseptics when leaving the room in our research may be due to hand irritation caused by antiseptics, time constraints (20), or a lack of habit in using antiseptics.

In our research, it was found that nurses' attention to hand hygiene and the use of gloves made 38.2% of the patients feel safe, and 36.2% felt very safe. Prioritizing hand hygiene and using gloves in nursing practices play a crucial role in protecting patients from infectious diseases, contributing to their sense of safety. A study conducted by Tünay (21) found that nurses had a higher compliance rate with isolation measures compared to physicians. Hand hygiene and glove usage are important components of isolation measures.

No statistically significant difference was found between the descriptive characteristics of the patients, such as age, gender, education level, and marital status, and the frequency of hand washing in our study. However, other studies have shown that various factors influence the frequency of hand washing. For example, a study conducted by Bülbül Maraş et al. (11) revealed that the frequency of hand washing increased among patients and their relatives in the hospital environment. According to the study by Knighton et al. (22), 29.9% of patients did not wash their hands at all, and 35.5% stated that they washed their hands 1-2 times a day. When comparing hand washing at home to hand washing in the hospital, 46.7% expressed dissatisfaction with hand washing in the hospital. Patients also considered it more important for healthcare professionals to ensure hand hygiene (22). Another study by Sevgi Doğan et al. (23) found that individuals with chronic diseases had inadequate hand washing habits after contact with others.

While no significant relationship was found between the patients' age, gender, marital status, and their receipt of hand hygiene training, a statistically significant difference was found between the patients' educational status and their receipt of hand hygiene training. Patients with a lower education level were found to have a higher level of hand hygiene training. This finding suggests that patients with lower education levels are more motivated to improve their hand hygiene practices. In contrast to our study, a systematic review by Hammoud et al. (24) evaluated the education of hospitalized patients regarding infection control measures and found a low rate of patient education. It was emphasized that patients should be included in infection control efforts. Additionally, a study by Srigley et al. (25) revealed that 55.1% of patients were informed about the importance of hand hygiene by healthcare professionals during their hospital stay.

Conclusion

In our study, it was observed that although the patients stated that the nurses paid attention to hand hygiene, there were practice errors regarding the use of gloves and antiseptics. Nurses should not be allowed to pass from patient to patient using the same gloves, as this does not provide adequate hand hygiene. Additionally, they should use hand antiseptic when leaving the patient's room. It is recommended that nurses receive regular theoretical and practical training on hand hygiene, the use of gloves, and antiseptics, as well as frequent inspections in practice areas. This will help them develop the habit of providing correct hand hygiene and using gloves and antiseptics. Furthermore, conducting observational studies on nurses regarding hand hygiene and the use of gloves and antiseptics may help increase awareness on this issue. On the other hand, there is a limited amount of research on the opinions of patients and their relatives receiving healthcare services. Therefore, there is a need to conduct more studies in this field.

Ethics Committee Approval: The necessary ethical committee permission to co nduct the research was obtained from the Hitit University Non-Interventional Ethics Committee with a letter dated 28.03.2018 and numbered 2018-45.

Informed Consent: Before the research began, the purpose of the study was explained to the patients and informed consent was obtained from those who wanted to participate.

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