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# *A MODERN APPROACH TO HAND HYGIENE IN MEDICINE*

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**Abstract:**
*Hand hygiene is an important component in reducing the risk of transmission of pathogens of nosocomial infections in healthcare facilities. It is mentioned in the work that washing the hands of medical workers with antimicrobial soap becomes a thing of the past, and cleaning hands with alcohol antiseptics takes 1.5 minutes and softens the skin of the hands*

**Keywords:** *hand hygiene - hand washing, hand disinfection, hand washing of healthcare workers, disinfection, infection control, microbial microflora, temporary microflora*

*Providing high-quality medical care to the population in order to meet the needs of citizens to maintain and strengthen their health is one of the priorities of the state policy in the field of health. Despite the rapid development of modern medical science, one of the urgent problems of health care today is the problem of the increase of viral diseases and the spread of infections associated with the process of providing medical care.*
*The social importance of the problem is determined by the fact that most of the patients are people of working age. Every year, millions of patients suffer from infectious diseases due to unsafe or substandard medical care. There are a number of practical and dangerous factors that pose a significant threat to patient safety and significantly increase harm by creating an unsafe environment in healthcare organizations. Nosocomial infections (after medication errors) that threaten the health and life of patients in the course of medical care are in second place, and their prevention should be a priority for health care institutions. need The prevalence of Healthcare Associated Infections (HAI) is high and the threats are increasing every year.*
According to the data of multicenter studies of the Ministry of Health of our Republic Uzbekistan, the average frequency of hospital infections in medical institutions reaches 7-15%, and in intensive care units it reaches 25-49% [1-6].
According to the World Health Organization (hereinafter referred to as AWHO), *HAIs* are a major problem of patient safety, and their prevention requires medical institutions committed to providing safer care, any should be a priority for medical organizations and institutions in the profile
According to the AWHO, at least 7 out of 100 hospitalized patients have an SSI. Among critically ill patients treated in intensive care units, this rate rises to approximately 30 SSIs per 100 people. *HAIs* often occur in situations where the source of pathogenic microorganisms for the patient is the hands of medical personnel. Today, hand washing by medical personnel or their processing (cleaning) with hand antiseptics significantly reduces the spread of infections that occur during diagnosis and treatment in organizations engaged in medical activities, and this is the most important anti-infection measure.
Hand hygiene is the most effective first-line method against *HAI*s and the spread of antimicrobial resistance [2].
More than 2000 years ago, Hippocrates proved that cleanliness is the prevention of disease. The need for hand hygiene during contact with patients with infectious diseases dates back to the Middle Ages, in 1190, when the Arab physician and philosopher Moses Maimonides wrote a book on rational living in his seminal work, The Guide to the Amazed. outlined a number of recommendations, detailed the diet and personal hygiene, including the need to wash hands after contact with patients with infectious diseases.
In 1843, the American doctor, poet and writer Oliver Wendell Holmes, in his research entitled "Infectious Fever after Childbirth", determined the connection between sanitary and hygienic conditions in maternity hospitals and cases of sepsis in postpartum women. He was the first to come to the conclusion that the medical staff transmitted the disease to their patients through unwashed hands. The use of the measures devised by Holmes to disinfect the hands of midwives with a chlorine solution and to constantly sterilize instruments and materials led to a sharp decrease in maternal mortality in New England.
The infectious nature of puerperal fever was determined only at the end of the 19th century as a result of Louis Pasteur's completed work on the causative agent of infectious diseases.
In 1847 long before the discoveries of O.U. Holmes and Lui Paster, the Hungarian obstetrician Ignaz Semmelweis developed the "contagious theory of puerperal fever (puerperal sepsis)" and experimentally confirmed it, as well as puerperal sepsis developed a method of combating - thorough washing of hands, and stressed the need to use a

chlorine solution - disinfection before examining each new patient. Due to the introduction of antiseptics in the obstetrical hospital where Semmelweis worked, the death rate from nosocomial infections decreased 10 times.

Practical experience and numerous publications devoted to the issue of manual treatment of medical personnel show that, even after more than one hundred and fifty years have passed since Semmelweis's invention, this problem cannot be considered solved, and it remains relevant.

Timely hand hygiene by health care workers is the most important, simplest, and least expensive way to reduce healthcare-associated infections, the spread of antibiotic-resistant pathogens, and prevent the growth of infectious diseases in healthcare facilities [3].

According to the classification of A. B. Prays, the hands of medical workers can be full of cells of permanent and resident (temporary) microflora. Microorganisms of the resident flora are located under the surface cells of the stratum corneum of the epithelium - this is the normal human microflora;

According to modern concepts, the transmission of *HAI* pathogens occurs in different ways, but the most common transmission factor is the contaminated hands of medical workers. In this case, infection through the hands of employees is formed under the following conditions:

1) the presence of microorganisms on the patient's skin or around it;

2) contamination of the hands of medical workers with pathogens through direct contact with the patient's skin or surrounding objects;

3) the ability of microorganisms to survive in the hands of medical personnel for at least several minutes;

4) improperly performing the hand disinfection procedure or not performing this procedure after contact with the patient or objects around him;

5) as a result of direct contact of contaminated hands of a medical worker with another patient or surrounding object.

Microorganisms associated with medical care can often be found not only on the surface of infected wounds, but also on areas of completely healthy skin. Every day, about $10^6$ skin flakes are shed with viable microbes that contaminate patients' underwear and bed linens, bedding, and other items.

After direct contact with the patient or environmental objects, microorganisms can live on the hands of medical personnel for a very long time, often from 2 to 60 minutes.

The hands of healthcare workers can be contaminated with potential pathogens (transient microflora) during various manipulations - colonization by their own microflora, which is of great epidemiological importance. In most cases, purulent-septic causative infections released from patients are not found anywhere except on the hands of medical personnel [4].

The problem of compliance with the rules of hand hygiene of medical personnel Many epidemiological studies on compliance with the rules of hand hygiene of medical personnel show unsatisfactory results. Healthcare workers' compliance with hand hygiene requirements averages 40%, and in some cases is much lower.

Interestingly, doctors and junior healthcare workers are more likely to follow hand sanitizer recommendations than nurses. The highest level of compliance is observed on weekends, perhaps due to a significant decrease in work. The lowest levels of hand hygiene are observed in intensive care units and during busy periods of patient care, while the highest levels are observed in pediatric wards.

Obvious barriers to proper implementation of hand hygiene recommendations by health care workers include allergic skin reactions, lack of hand antisepsis and delivery problems, prioritization of patient care and medical care, and use of gloves, lack of working hours and availability of high professional work, forgetfulness of medical staff, lack of basic knowledge of existing requirements, incorrect explanation of the role of hand hygiene in the prevention of *HAI*.

Health care reform programs implemented in developed, developing or transition countries are entirely aimed at improving the access of citizens to quality health care, making the health care system more responsive to the needs of individual patients and societies as a whole.

It also ensures optimal distribution of resources and their costs and effective use in the health sector. World experience shows that the ultimate success in achieving these goals guarantees the improvement of both clinical and managerial skills of health managers and service leaders. It is almost inevitable that future healthcare leaders will be both social workers and savvy entrepreneurs [5-6].

According to the AWHO, more than 1.4 million people suffer from health care-acquired infections. AWHO estimates that at least one in four patients may contract an infection during their hospital stay. One of the reasons for the emergence of nosocomial infections is the transmission of pathogenic microorganisms through the hands of medical institution employees.

To solve this problem, employees of healthcare organizations should wash and disinfect their hands. These activities should require a minimum of time, while providing maximum effectiveness to achieve the intended goals, and the tools used should be as effective, safe and economical as possible.

In conclusion, it can be said that "cleanliness is the guarantee of safe medical care" - it is not a choice, but a basic rule. Clean hands protect patients from suffering and save lives. Hand disinfection is one of the most important measures to prevent hospital infections. If the treatment is done correctly, safe and fast-acting hand antiseptics are used correctly and at the right time, the correct approach will be carried out.

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