

HAND HYGIENE: AN OVERVIEW OF PRESENT SCENARIO

Ruhi Bungler¹, Deepak Pathania², Eera Bungler³, Anjali Arora⁴

1. Assistant Professor Department Of Microbiology, MMIMSR Mullana.
2. Assistant Professor Department Of Community Medicine MMIMSR, Mullana.
3. Consultant Pediatric Dentist at Axis Dental Clinic, Jalandhar.
4. Post Graduate Student, MD Community Medicine MMIMSR ,Mullana.

ABSTRACT:

Healthcare provider should practice hand hygiene in point in time to interrupt the transmission of microorganisms to patients. Poor hand hygiene is seen as a major causative factor in the hospital acquired infection (HAI). This article will give an overview of infections acquired in the hospital and the beneficial effects of hand hygiene promotion.

Key words: Hand hygiene, Hospital acquired infection, Nosocomial infections.

INTRODUCTION:

Good hand hygiene is a major tool for stopping the spread of patient-to-patient transmission of pathogenic microorganisms in health care settings. The infection rates among patients can be dropped out significantly by proper infection control and prevention practices such as proper hand hygiene. It is the most effective way to trim down the incidence of hospital-associated infection and the expansion of drug resistance. This review gives an overview of infections acquired in the hospital and the beneficial effects of hand hygiene promotion.

PROBLEM STATEMENT:

More than 1.4 million people worldwide are diagnosed with infections acquired in hospitals. ^[1, 2] Around 5% and 10% of

patients acquire these infections in developed countries and 15%–40% of patients admitted to critical care units are thought to be affected. ^[3] In the settings, where the supply is really pitiable the rates of infection can exceed 20%. ^[4] As the existing data are insufficient so more studies are immediately needed to calculate the figures. The contaminated hands of the healthcare workers are found to be the main route of patient-to-patient transmission of pathogenic microorganisms in health care settings. ^[5]

NORMAL FLORA OF HAND:

The resident and transient microorganisms are the two class of flora that is found on the skin surface. Resident microbes by and large inhabit the skin

of most of the individuals and they rarely cause infections unless they are introduced into normally sterile body sites or unless the individual becomes more prone. [6] In contrast, transient microbes are present on the skin for only a brief moment; they are incriminated to be more pathogenic than the resident and are responsible for most hospital acquired infections. [7] The pathogenic ability of the resident flora is minimum unless introduced into body tissues by trauma or medical devices such as intravenous catheters. [8] (Table 1)

OUTCOME OF IMPROVED HAND HYGIENE:

The quality of patient care provided in hospitals critically depends on the rate of infection control there. Studies have shown that at least one third of all hospital infections are avertable. [10] An ample proportion of infections results from transmission of microbes from health care workers are recognized as the main path of spread. [11]

The useful effects of promotion of hand hygiene on the danger of cross-transmission have also been reported in studies conducted in schools, day-care centers [12, 13] and a community. [14] An additional systematic and methodical fact is desired to see the impact of improved hand hygiene on infection rates.

DEFINITION:

Hand hygiene is defined as the act of washing one's hands with soap and water or disinfecting them with an antiseptic agent. It is the single most successful and cost-effective means of preventing healthcare-associated infections, as well

as an effective means of preventing illness in the community that may lead to hospitalization. Hand washing is the action of washing hands with an unmediated detergent and water, or water alone to remove dirt and loose transient flora to prevent cross-transmission. [15]

Hand disinfection refers to use of an antiseptic solution to clean hands, either medicated soap or alcohol. [16] Hygienic hand rub is rubbing hands with a small quantity of a highly effective, fast-acting antiseptic agent.

BARRIERS TO APPROPRIATE HAND HYGIENE:

There are many different reasons of bad compliance of healthcare workers towards disinfection of their hands have been reported. [17, 18]

These include-

- Shortage of products in hospitals.
- Shortage of time.
- Skin problems with usage e.g. dryness, irritation, or burning.
- Absent mindedness, unawareness of guidelines, scarcity of time, heavy workload and deficient health professionals and lack of scientific knowledge indicating effect of improved hand cleanliness on hospital illness rates.
- Lack of information and instructions on this matter.

- Using gloves might correspond to a barrier for compliance with hand hygiene. Failure to take out the gloves after patient contact constitutes disobedience with hand hygiene recommendations.^[19, 20]

No single intervention has consistently been shown to sustain improved compliance with respect to HCWs' infection control practices. (Table 2)

CONCLUSION:

In the future, concern about the rising drug resistance, emergence of nosocomial

infections, and the increase in morbidity, mortality will constrain the call for the interventional studies to improve hand hygiene compliance in patient care.

Many established organizations have noticed the budding problems and have published guidelines to combat this problem.

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TABLES:

Table 1: FREQUENCY OF COMMON NOSOCOMIAL PATHOGENS ON THE HANDS OF HEALTHCARE WORKERS ^[9]

| PATHOGEN | COMMON NOSOCOMIAL INFECTION | % ON HAND |
|-----------------------|--|-----------|
| Staphylococcus aureus | Surgical site infection, Pneumonia, sepsis. | 10—78% |
| Pseudomonas spp | Lower respiratory tract infection | 1—25% |
| Escherichia coli | Urinary tract infection | Unknown |
| Yeasts | Lower respiratory tract infection, urinary tract infection | 23—81% |
| Rotavirus | Gastroenteritis | 20—79% |
| Clostridium difficile | Antibiotic-associated diarrhea | 14—59% |

Table 2: POLICY FOR IMPROVEMENT-HAND HYGIENE

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| Scheduled surveillances and advice |
| Formulating hand hygiene promising and convenient |
| Reminders in the place of work |
| active participation at personnel and institutional level |
| Patient education |
| Avoid patient congestion, understaffing, and excessive work burden |