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REVIEW ARTICLE

HAND HYGIENE – EFFECTIVE WAY TO PREVENT INFECTIONS

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ABSTRACT

Unclean or soiled hands transmit infections in a community as well as in the hospital settings. Children are more prone to infection/infestation as they play and then often put their dirty hands, fingers in their mouth. Similarly when the adults have not properly washed their hands after defecation and before meal then they are liable to get infection/ infestation. Our hands are mostly infected when we touch the soiled items, after using the washroom, blowing nose or sneezing. In a hospital setting, simple tasks can contaminate hands, while taking patients vital signs, touching the patient's clothing or linens and touching equipment and furniture nearby. Hand washing for hand hygiene is the act of cleaning one's hands with or without the use of water or another liquid, or the use of soap. Hand washing leads to significant reduction in the number of potential infections causing organism. Practice of washing hands with soap and water or alcohol based hand sensitizer should be generally accepted. Alcohol gel should be used on visibly clean hands where hand washing facilities are not there in the patient's room. The gel contains hand moisturizers to keep your hands in good condition-therefore using alcohol gel is much kinder on the hands than soap and water. Alcohol based hand rub will work very quickly and effectively, especially when health professional entering or leaving a ward, also use after removing gloves. Alcohol based hand rub doesn't work against *Clostridium difficile* or any of the diarrheas, causing virus. Health personnel hand washing procedure compliance rate is approximately 40%. Every year on 15th of October, Global Hand Washing Day (GHD) is celebrated to motivate & mobilize peoples around the world to wash their hands with water and soap.

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INTRODUCTION

Developing countries are still facing the heavy load of infectious diseases. Hands are the important part of the human body. Most of the daily activities are conducted by the hands. Hands and fingers are the main source of the spread of infections. During various daily activities, our hands are in contact with the things which are soiled with various types of pathogens. Hand borne infections transmission is responsible for auto- infection by the faeco-oral route seen in threadworm infestation or through food handlers. Hands get polluted even though they do not sound that way. Microscopic germs and viruses can attach to our hands and make us sick if we aren't careful to clean our hands often. Our hand has roughly 5,000 germs at any given time. (Hand washing for Life, 2014) Hand borne transmission of helminthic infestation occurs when children, who play with infected dust or soil containing helminthic ova, infect their own food by contaminated hands. We touch so many things throughout the day. Washing our hands is one of the best ways to keep away from getting sick. Hand- borne transmission plays an important role in food borne diseases like typhoid, amoebiasis, and giardiasis. Such people

who take their food from the hostel mess, street hawkers or food stalls on the city roads are more prone to such infections. After touching contaminated things, touching face, eyes, or mouth, then infection spreads. Normally we are infected when our hands are soiled by touching something, after using the washroom or while we blow nose or after sneezing, before and after eating, after touching raw meat, poultry, or fish, handling the sick person / pets. This can take place in the home, school, and workplace and when we are travelling.

Microorganism that cause hospital acquired infections are most commonly transmitted via health personnel's hands. Health personnel should perform hand hygiene following contact with suspected infected patients and their environment. Studies have shown that washing hands in between attending indoor patients reduce the spread of bacteria in health care. Health personnel hand washing procedure compliance rate is about 40%. (Why Does Low Hand Hygiene Compliance Still Plague, 2013) Simple tasks can contaminate hands by taking patients vital signs, touching the patient's clothing or linens and touching equipment and furniture nearby. Pathogens are transferred from one person or things to others and vice versa. Since the dawn of civilization hand hygiene is considered the principal part of personal hygiene. Prevention is better than cure and this is true both for the general population and health care providers. Hand

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hygiene is a “corner stone” of prevention most of communicable diseases. Hygienic behavior has a paramount importance for serious communicable diseases.

Hand washing for hand hygiene is the act of cleaning one's hands with or without the use of water or another liquid, or the use of soap or e.g. ash, for the purpose of removing soil, dirt, and/or microorganisms. (Hand Washing Reasons To Save Many, 2014) Hands washing is the single most important infection prevention procedure. Wash hand thoroughly with soap and water. This will wash away the contaminants. Hand washing leads to significant reduction in the number of organisms to prevent potential infections. It should also be used when a patient with diarrhea come into the contact with the patients; here alcohol based hand rubs won't work. While washing hands with soap and water standard operative technique should be followed. If hand washing is not done properly then we can miss few areas. But no area should be missed during hand washing. Hands should be washed for a minimum of 15 seconds - longer if the hands are visibly soiled. To help people (especially children) wash long enough, one option may be to sing a short song such as "Happy Birthday" or "A, B, C" twice. It decreases morbidity and mortality due to acquired infection (Hand Washing: Reducing the Risk of Common Infections, 2002).

Always wet your hands before you apply soap on- it will serve to stop them getting dry. Be sure air dry or use personal towel to dry them properly so they don't get chapped. But don't use common towel to dry hands. Studies show that washing hands with soap is part of the most effective and inexpensive ways to prevent disease. Alcohol gel should be used on visibly clean hands, where hand washing facilities are not present in the patient's room. Alcohol based hand rub kills 99.8% of organism living on your hands. (www.chelwest.nhs.uk/.../Hand%20hygiene%20-%20the%20facts.PPT) The gel contains hand moisturizers to keep your hands in good condition-therefore using alcohol gel is much kinder on the hands than soap and water. Alcohol based hand rub will work very quickly and effectively, especially when health professional entering or leaving a ward, also use after removing gloves. Alcohol based hand rub doesn't work against *Clostridium difficile* or any of the diarrheas, causing virus. It's no use getting your hands really clean if you touch the same tap that your dirty hands touched. It's best to turn off the tap with a towel, paper towel or tissue. You need to cover your hands with just enough to wet them all over, and rub until your hands are dry. Sometimes these organisms are transmitted from one infected person to the number of persons, may be in the household, classroom or office where we spent our most of the time. Hand washing is not only necessary for chronic diseases like

Tuberculosis, but also for the new emerging diseases those are very serious. Hand washing also reduces the risk of respiratory infections such as swine flu and H.influenza “Namaste” is much better than “hand shake” and well accepted in Indian culture. Hand washing may be a single most important action to control the spread of infection and stay healthy. Previously hand washing was done with ash, water and soap and water after defecation. Hand washing practice should become universal in children and adults before eating and after defecation. Any soap will do, as long as you wash your hands properly. Every year on 15th of October Global Hand washing Day has been celebrated since 2008 to motivate and mobilize people around the world to wash their hands with soap and water especially the school going children because in this age group it is important to inculcate the habits for good hygiene. In a hospital setting availability of hand sanitizers, soaps, hand towels and water should be ensured at all appropriate places where Doctor, staff nurses and even other supportive staff come in contact with the patients. But more important is the supervision of health staff so that they should not ignore proper hand washing while they are dealing with patients. Compliance rate should be monitored by the hospital authority and this practice should be made universally accepted by both the health personnel as well as the general population.

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