



## **P15. GENERAL DISINFECTION IN MEDICAL AND DENTAL HOSPITALS, SELECTION OF DISINFECTANT TYPE AND PROBLEMS ENCOUNTERED**

Gülçin AKCA

Gazi University Faculty of Dentistry Department of Medical Microbiology, Ankara, Turkey

Hospitals are the places where, either the patients or other health workers can encounter with dangerous problem of several bacterial, fungal, viral, parasitic infectious agents, especially the emerging and life threatening ones such as, methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin resistant *Enterococcus faecalis* (VRE), *Stenotrophomonas* sp., and multi drug resistant *Acinetobacter* sp., *Pseudomonas* sp.. The reasons of these resistant microorganisms that can threaten the life of patients and hospital personnel are the floor, the surface areas, the clinical equipments, the medical and dental devices, and the dental unit water lines in hospitals, which might be a reservoir for them and may cause to cross-infections among patients and other people. Hospital infections bring about prolonged hospital stay length, increased mortality and morbidity rate, cost rise, labor loss, deterioration in quality of life, adverse effect on the doctor's success, and disruption in the treatment of patients. Therefore, disinfection processes in medical and dental hospitals against to the agents play a key role to form safe and clear environment and avoid the infections causing to failure in treatments.

Acting in accordance with the disinfection policies and the standards and choosing right products can provide effective implementation of disinfection and decontamination procedures, which create the basics of infection control policies. For this purpose, the guides and the standards that were prepared according to the international standards such as "Guideline for Disinfection and Sterilization in Healthcare Facilities, 2003-2008", which was enacted both for medicine and dentistry by the Center of Disease Control (CDC) must be taken into consideration. Although there are comprehensive guidelines for effective disinfectant practices, some problems may be encountered in hospitals during the disinfection applications. These problems may depend on inappropriate physical conditions of the hospital buildings, the individuals who apply the products, mode of action, the structure, the amount of disinfectant and the deficiency of the ingredients in chemicals. Therefore, it is necessary to give training for proper material selection to users, teach them advantages and disadvantages of products, think ahead of possible interruptions and prepare national reports for further applications.

Besides, chemical products in the disinfection of possible reservoirs like floors, surfaces and all equipments for microorganisms must be selected and use according to their functional properties at high/mid/low levels. For the disinfection of medical and dental equipments, it is mandatory to classify the equipments critical/semi-critical/noncritical based on their functions and to choose the disinfectant according to the classification of equipment and apply it as directed. The appearance of resistant microorganisms and product incompetency in further applications due to the products that are chosen incorrectly and administered inaccurately in the hospitals' disinfection applications are among the issues that should have to be paid attention. The correct choice of disinfectant to be applied should be made by taking into account various factors such as; the spectrum of microorganisms, the exposure time, the lack of equipments, the shortage of time-needed for decontamination between two patient, the status of contamination of environment, and specially, the existence of organic residue, the toxicity, the stability, the environmental compliance, the structure of the surface of materials, the equipment, the chemical structure of disinfectant and its cost. There are several commercial products and methods affecting the microorganisms by different mechanisms are extensively being used. However, the products in use have to be evaluated with efficiency tests, which have gained international acceptance and also have a certificate of compliance given by the Turkish Ministry of Health and Public Health Association.

In conclusion, in order to achieve the goal of a disinfectant, which was approved by all kind of audits and suitable for application, the most important factor for its usage in hospitals is its operator. Therefore, the issues confronted in the application of disinfectants can be prevented if the knowledge skills, competencies and the ability of personnel are improved.