

Challenges for Infection Prevention and Control Practices in Hospital

Naghmi Asif¹, Khalid Hassan²

¹Head and Professor of Pathology, Islamabad Medical & Dental College.

²Professor of Pathology and Editor-in-Chief, Journal of Islamabad Medical and Dental College.

Infection prevention and control (IPC) is the foremost component in the delivery of patient care and safety in health care setting. Major impact of implementation of infection control practices is not only on the safety of patients, but also safety of health care providers and patients' attendants. Due to ineffective implementation of IPC practices, patients may acquire nosocomial infections (also called Health Care Associated infections), resulting in increased morbidity and mortality, longer hospital stay, increased resistance to antimicrobial and high financial burden on health care system and patients' families.

With inadequate IPC practices in health care system, HAIs are the most frequent adverse event in hospital settings, affecting hundreds of millions of people globally. At least one in 10 patients acquire an infection whilst receiving care in health facilities in low-and-middle-income-countries. This is because in many health care settings, resources are limited and infrastructure and practices both are neglected. Among health care associated infections, (which include catheter associated infections, ventilator associated pneumonia, blood stream infections and surgical site infections) blood stream infections and

catheter related infections comprise the leading cause, particularly in intensive care units. Various factors such as adequate knowledge, development and stringent implementation of policies and guidelines, essential environmental health conditions, appropriate infrastructure, antibiotic stewardship, continuous surveillance and periodic audits etc. all play a vital role in implementation of IPC practices. Establishment of IPC committee with well-defined TORs, is an essential first step for successful IPC program.

Many studies have proven that inadequate hospital infrastructure and resources, shortage of staff, inadequate knowledge and training of health care providers. ineffective surveillance, large number of visitors and overcrowding are the main barriers to IPC in any health care setting.

Improperly built and poorly maintained buildings, such as damaged surfaces, walls and floors, improper doors and windows, lack of isolation rooms and cohorting areas, and non-availability of space and facilities in case of disease outbreaks, non-availability of proper waste segregation and incineration facilities have been identified as barrier to effective IPC practices. Moreover, non-availability of HANDWASH stations is a critical factor for IPC practice especially in critical areas like ICUs, where patients are under care for multiple problems and most of them are critically ill. Continuous education, training, behavior change and monitoring are crucial to IPC practices. This is especially important in

Correspondence: Naghmi Asif

Email: naheed.naghmi@imdcollge.edu.pk

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relevance to Hand washing practices, good hand hygiene practices and use of PPEs.

Waste management, disinfection and regular monitoring of culture reports are some additional areas that need continuous surveillance and monitoring. Role of microbiologist and IPC committee in this regard are of vital importance. Housekeeping staff should always be included in IPC training programs. Continuous education, training plus availability of relevant printed material in local language as well as in English should be available for house-keeping staff.

Lack of implementation and compliance to the visitor's policy and large number of visitors (especially in critical areas) is another challenge to IPC. Overcrowding is recognized as a risk factor for HAIs. With large number of visitors, it is difficult to clean the environment and provide proper care to the patients, since visitors do not understand the importance of hand hygiene practices, waste disposal and factors affecting transmission of diseases.

Lack of knowledge and training of hospital staff stands a major challenge to IPC. Moreover, there is a lack of understanding and motivation to implement recommended IPC practices. Shortage of PPEs and disinfectants in resource limited setting is another challenge to IPC. However, in resource limited areas rational use of PPEs should be monitored and policies should be devised accordingly.

Keeping under consideration all these factors, the following recommendations are made:

- a. Every hospital must have an active IPC committee.
- b. IPC policies, its TORs and SOPs must be properly displayed and strictly followed; these may be periodically revised according to need.
- c. Hospital must have stringent waste management program. Regular refreshment programs should be in place for training on hand hygiene, good hand hygiene practices, use of PPEs, prevention of needle stick injuries, etc.