

# Challenges for Infection Prevention and Control Practices in Hospital

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Infection prevention and control (IPC) is the primary component of patient care and safety in the health care setting. The impact of implementation of IPC practices is not only on the safety of patients, but also on the safety of health care providers and patients' attendants. Ineffective IPC practices, may lead to nosocomial infections (also called Health Care Associated infections), longer hospital stay and increased resistance to antimicrobials, with subsequent increased morbidity and mortality and high financial burden on both, health care system and patients' families.

Hospital acquired infections (HAIs), which include catheter associated infections, ventilator associated pneumonia, blood stream infections and surgical site infections, are amongst the most frequent adverse events in hospital settings, affecting hundreds of millions of people globally. Among these HAIs, blood stream infections and catheter related infections comprise the leading cause, particularly in intensive care units. 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 infrastructure facilities are compromised and execution IPC practices are neglected. Various factors such as adequate knowledge, development and stringent implementation of policies and guidelines, essential environmental health conditions,

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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 are the main barriers to the implementation of IPC practices. It is thus recommended that while constructing a hospital, requirements of IPC and input of IPC consultants should be given prime importance. 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 and dirty and clean utility areas etc. 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 are critically ill and majority are admitted with multiple problems).

Shortage and rapid turnover of staff, ineffective surveillance, inadequate knowledge and training of health care are the notable factors effecting successful implementation of IPC practices. Continuous education, training, behavior change and monitoring are thus crucial to IPC practices. This is especially important in relevance to Hand washing 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. 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 encouraged and policies should be devised accordingly.

Overcrowding is recognized as a risk factor for HAIs. Lack of implementation and compliance to the visitor's policy and large number of visitors (especially in critical areas) is another challenge to IPC. 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.

In order to assess, analyze and improve IPC practices at health care facility, WHO has provided an Infection Prevention and Control Assessment Framework (IPCAF), in form of a questionnaire. Hospitals can use this questionnaire and evaluate their strengths and weaknesses.

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 good hand hygiene practices, use of PPEs, prevention of needle stick injuries, etc.

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