

A REVIEW ON INFECTION PREVENTION AND CONTROL MEASURES IN HEALTHCARE FACILITIES

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ABSTRACT

Healthcare facilities are those facilities where people receive medical services and treatment like hospitals, healthcare centres, medical nursing homes, and medical laboratories etc. Healthcare Associated Infections (HAI) are the one of the common adverse events occurs during healthcare delivery and a major public health problem affecting quality of life. However, HAIs can be prevented by applying effective infection prevention and control (IPC) measures. The World Health Organization (WHO) implemented an infection prevention and control (IPC) programme to reduce the impact of HAIs, significant for ensuring patient safety in hospitals by allocating adequate members to look after various aspects. By preventing and controlling infections various practices have been used. A Global Infection Prevention and Control Network (GIPCN) was introduced to reduce the burden of outbreaks worldwide.

Keywords: Healthcare facilities, Healthcare Associated Infection, Healthcare workers, Infection Prevention and Control, Infection Prevention and Control Programme, World Health Organization

1. INTRODUCTION

Healthcare Associated Infections (HCAIs) are infections that happen in healthcare settings. Healthcare-associated infections (HCAIs) rank second in the world in terms of frequency of death and are a significant cause of morbidity and mortality. According to the World Health Organization (WHO) and other studies, 10% of patients in emerging and developing nations and 7% of patients in high-income nations get at least one type of healthcare-associated infection (HCAI), with 10% of these patients dying. Studies have indicated varying prevalence rates of Healthcare-Associated Infections (HCAIs) between 5.7% and 19.1% in Lower- and Middle-Income Countries. Since these illnesses put both patients and healthcare personnel at serious danger, it is imperative that they be controlled within healthcare facilities (HCFs). With appropriate infection prevention and control (IPC) strategy and planning, a sizable percentage of HCAIs can be avoided. Understanding the risks and limitations of newly developing infectious illnesses and evaluating how they will impact current infection management are crucial for improving health. The most recent information on infection control and prevention techniques for healthcare-associated infections is included in this study.

2. TYPES OF HEALTHCARE ASSOCIATED INFECTIONS

A few types of HAIs includes :

- Bloodstream infection
- Urinary tract infection
- Ventilator-Associated Pneumonia
- Surgical-site infection
- Gastrointestinal infection

Table :2.1 Types of infections and their detailed description

Types of infection	Description
Bloodstream infection	Bacteria can enter the bloodstream and cause infections called bloodstream infections (BSI) , which can have potentially fatal outcomes like sepsis.
Urinary tract infection	UTIs are considered to be prevalent within the spectrum of HAIs. These could happen if a catheter or other medical equipment introduces bacteria into the urinary tract.
Ventilator-Associated Pneumonia	VAP infections can affect those who use breathing apparatuses or ventilators and cause injury to their lungs.
Surgical-site infection	SSI can arise following surgery and impact the surrounding tissues including the area around the wound.
Gastrointestinal infection	Bacteria or viruses can cause gastrointestinal illnesses, which can result in diarrhoea and dehydration. These infections can be transmitted by contaminated food, water, or surfaces.

HAI : Healthcare Associated Infections; UTI : Urinary Tract Infections; VAP : Ventilatory Associated Pneumonia; SSI : Surgical-Site Infections;

3. INFECTION PREVENTION AND CONTROL PROGRAMME

Every HCF must have a well-run IPC program in place in order to support HCWs in delivering high-quality healthcare. Evidence-based recommendations were released by WHO in 2016 and included in an implementation manual covering the main IPC components.

3.1 Goals

Reducing the risk of HAIs for patients, healthcare workers, and guests is the main goal. This is accomplished by:

- Improving outcomes by preserving safe and high-quality healthcare to lower morbidity and mortality; and
- Encouraging and supporting all types of HCWs to adhere to complete IPC practices at all levels of care.

3.2 Structure

- Chairperson
- A Member from secretary/ infection control officer
- Members from management/administration, medical disciplines, support services and Infection control nurse.

4. STRATEGIES FOR INFECTION PREVENTION AND CONTROL

Infection prevention and control is necessary way to protect patients and health care workers. Here are some of the strategies to prevent and control the infections.

1. Hand hygiene
2. Personal Protective Equipment
3. Environment cleaning
4. Screening and Isolation
5. Education and Training
6. Sterilization and Disinfection
7. Surveillance and Reporting
8. Vaccination

1. Hand hygiene [6,8-9]

In order to limit and prevent the spread of infection, hand hygiene is crucial and effective IPC practice. Hand washing is one of the best strategies to prevent the spread of infection. The WHO "Five Moments" model states that Healthcare professionals (HCPs) should wash their hands before treating patients, before administering clean or aseptic care, and if there's a possibility they'll come into contact with bodily fluids., and after touching the patient's surroundings or possessions.

2. Personal Protective Equipment [6,10-11]

When giving patient care, healthcare practitioners should wear the proper personal protective equipment (PPE), such as gowns, gloves, masks, and eye protection, to stop the spread of infectious agents. HCWs and potentially infectious materials are separated by PPE. Appropriate training, following procedures, and routinely assessing infection control methods are necessary for the efficient use of personal protective equipment.

3. Environmental Cleaning [6,12]

Healthcare facilities that are kept up look nice, provide patients a sense of security, and increase patient happiness. Hospital rooms, furnishings, and surfaces must all be routinely cleaned and disinfected to prevent the spread of illness. Hospitals may foster a safer atmosphere for patients and aid in their rehabilitation and general well-being by keeping things tidy and sanitary.

4. Screening and Isolation [6,13]

To assist prevent the illness from spreading to other patients, screening should be used to identify those who are colonized or infected with multidrug-resistant organisms (MDRO). Once isolated, these individuals can be kept under observation. Usually, hospitals have procedures in place for screening new or admitted patients. To stop the transmission of infectious diseases, individuals with known or suspected infections are kept apart from other people using isolation procedures.

5. Education and Training [6,14]

Healthcare staff should be provided with continuous education and training on infection prevention techniques, including the application of standard precautions, which are the fundamental infection prevention measures applied to all patients. The training should also cover the understanding of the modes of transmission, the chain of infection, and prevention strategies [38].

6. Sterilization and Disinfection [6,15]

Every piece of medical equipment, particularly reusable equipment, needs to be cleaned or sterilized before use in order to stop the spread of illnesses. When vital medical equipment comes into contact with body parts, sterilization is usually applied. Reducing the amount of microorganisms on surfaces, in instruments, or in the surrounding surroundings to a level deemed safe is the process of disinfection.

7. Surveillance and Reporting [6,16]

Hospitals should identify and report infectious illness outbreaks and implement the necessary control measures. An effective surveillance system predicts the outcome of infection control activities and correctly identifies the group that is at risk. Reporting is the process of sending surveillance data to the relevant authorities or organizations in charge of keeping an eye on and enforcing infection control procedures.

8. Vaccination [6,16]

To maintain efficient infection control in the hospital setting, HCWs should adhere to local regulations and stay current on immunization recommendations given by their employers and public health authorities. To safeguard their health and stop them from getting sick and infecting others, healthcare workers must be vaccinated against infectious diseases.

5. GLOBAL INFECTION PREVENTION AND CONTROL NETWORK

The Global Infection Prevention Control (GIPC) Network seeks to reduce the incidence of health care-associated infections (HAI), particularly in the setting of outbreaks, and to address the global burden of antimicrobial resistance in support of all Member States and WHO priorities.

The GIPC Network achieves this through focusing on the needs of low- and middle-income health care settings and countries, assisting in the development and spread of evidence-based recommendations, adjusting to different situations, and considering the most efficient use of frequently scarce resources.

The GIPC Network is managed by the WHO's Service Delivery and Safety Department, working under the direction of the Infection Prevention and Control (IPC) worldwide unit, according to an engagement plan that was introduced in 2016.

The IPC global unit collaborates with the WHO AMR secretariat, the WHO Infectious Hazard Management department, and relevant focal points in regional offices to ensure that the Network's goal is inclusive and comprehensive.

6. CONCLUSION

Healthcare associated infections occurs from healthcare facilities where treatment is provided to patients. As there is an increase in HCAs leads to severe public health issues. For this, Infection Prevention and Control Programme has been implemented by WHO to deliver high quality healthcare to patients. As a part of this programme some of the best strategies like hand hygiene, PPE, environmental cleaning, vaccination.... can be maintaining to prevent and control infection. As this IPC practices or strategies can be habituated by the healthcare facilities, we can protect public from these infections and provide quality healthcare to the nation.

7. REFERENCES

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