AN OVERVIEW OF CHALLENGES FOR INFECTION PREVENTION AND CONTROL IN HOSPITALS

Amer Ayyadhah Muta Alamri[1*], Abdulellah Salman Salma Aloqmani[2], Abdallah Ebrahim Ateeh Allah Alzahrani[3], Mohammed Hamid Ali Sulaimani[4], Waleed Mohammed Dakhilallah Almalki[5], Abdulaziz Ali Mahdi Alnuayri[6], Muna Hassan Ahmed Hamdi[7], Magid Mohammad Mohammad Almalke[8], Ibrahim Mahdi Ahmad Alayafi[9], Khaled Safar Mansour Alzahrani[10]

Abstract:
Hospital infection prevention and control (IPC) is sometimes seen as mundane and overly strict by doctors. However, the ongoing presence of avoidable healthcare-associated infections, rising levels of antimicrobial resistance (for which hospitals play a significant role), and occasional but potentially catastrophic outbreaks of emerging infectious diseases in hospitals indicate that IPC should be treated with utmost seriousness. Healthcare personnel frequently do not adhere to good infection prevention and control (IPC) methods, and there is substantial data indicating that doctors, in general, exhibit less consistent compliance compared to nurses. The presence of IPC practice violations carries substantial, albeit frequently concealed, repercussions. This underscores the necessity for ongoing enhancement through the implementation of novel approaches, such as improved surveillance to detect and notify physicians about the actual impact of healthcare-associated infections. Additionally, it is crucial for healthcare professionals to engage in introspection regarding the misleading dichotomy between clinical autonomy and prioritizing patient well-being by adhering to regulations established for their protection. Furthermore, it is imperative to evaluate the ramifications of recent shifts in healthcare delivery, such as the proliferation of multiple, part-time consultant contracts, which may undermine the culture and standing of public hospitals.

[1*]Public Health Specialist, Health Surveillance Center At King Abdulaziz International Airport Jeddah
[2]public Health, Health Surveillance Center At King Abdulaziz International Airport Jeddah
[3]physiotherapist , Physical Therapy , Jeddah First Health Cluster - Al Laith General Hospital
[4]physiotherapist, Physical Therapy, Jeddah First Health Cluster - Al Laith General Hospital
[5]optical Lab Technician, Optics, Jeddah First Health Cluster - Al Laith General Hospital
[6]laboratory Technician, Laboratory, Jeddah First Health Cluster - Al Laith General Hospital
[7]physiotherapist, Physical Therapy, Jeddah First Health Cluster - Al Laith General Hospital
[8]specialist-Health Administration, Medical Store Administration, Jeddah First Health Cluster - Al Laith General Hospital
[9]optical Technician , Optics, Jeddah First Health Cluster - Al Laith General Hospital
[10]laboratory Technician, Laboratory, Jeddah First Health Cluster, East Jeddah Hospital

***Corresponding Author:** Amer Ayyadhah Muta Alamri
*Public Health Specialist, Health Surveillance Center At King Abdulaziz International Airport Jeddah

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Introduction:

At least one in ten patients in low- and middle-income countries (LMICs) acquire an infection while receiving medical care in a healthcare facility [1]. Healthcare-associated infections (HAIs) are the most common adverse outcome in the delivery of healthcare around the world. While healthcare-associated infections (HAIs) are responsible for deaths, disabilities, and expenditures to both health systems and patients, the rising use of antibiotics to treat them adds to the rise of antimicrobial resistance around the world. To put a stop to preventable healthcare-associated infections (HAIs), infection prevention and control (IPC) is essential, and it is also an essential component of providing health services that are safe, effective, and of high quality. According to estimations provided by the World Health Organization (WHO), high-quality IPC programs have the potential to cut HAI rates by thirty percent [2].

Eight fundamental components for the implementation of effective IPC are outlined in the World Health Organization's (WHO) guidelines for IPC at the national and facility level, which were published in 2016. These guidelines are intended to be implemented in all countries and health facilities. There is a significant amount of variation in the practicality of universal application depending on the context, and the adaptation of guidelines needs to be guided by the obstacles that are encountered in the local environment [3].

It is well known that there are obstacles that must be overcome in order to successfully deploy efficient IPC programs in settings with limited resources. There is a lack of political will, which directly translates into a scarcity of national level IPC policies, underfunding for IPC activities and dedicated staff, and resource shortages [4]. Hospitals frequently encounter poor IPC governance at both the national and facility levels. Furthermore, a significant number of hospitals are negatively impacted by inadequate infrastructure, which includes inadequate water, sanitation, and hygiene (WASH) services. The difficulties that are brought about by a lack of staff can be made even more difficult by the absence of IPC training for personnel and by a lack of compliance with IPC standards, such as maintaining proper hand hygiene. In addition, it has been demonstrated that overcrowding and poor infection surveillance systems are important impediments to efficient infection prevention and control in settings with limited resources [5].

Review:

Different countries with high incomes, moderate incomes, and poor incomes have different rates of the occurrence of HAIs. In nations with high incomes, the prevalence of these diseases can range anywhere from 1.4% to 5.1%, while in countries with intermediate incomes and low incomes, it can range anywhere from 6.3% to 17% [6]. HAIs are a significant problem that contribute to a large amount of morbidity and mortality in the countries of the Middle East. According to the findings of two review studies conducted in Iran, the estimate of the prevalence of HAIs was approximately 4.5%. Countries with low and intermediate incomes confront a multitude of challenges when it comes to putting strategies in place to control HAIs. A number of issues, including a lack of legitimate data, poor quality of laboratory data, inadequate communication at the local and national level, excessive workload for providers, and improper hand hygiene, have contributed to the complexity of the monitoring system in countries with low and middle incomes [7]. Increasing the effectiveness of any of these elements can be a useful step in the process of managing HAIs. By way of illustration, the incidence of healthcare-associated infections (HAIs) can be reduced by enhancing hand hygiene practices among nurses, physicians, and individuals involved in cleaning. Additionally, the rate of HAIs can be greatly reduced by increasing and modifying the ratio of nurses to patients [8].

Providers can benefit from a surveillance system that is efficient in order to plan for the decrease of HAIs. In order to improve their ability to plan and recognize HAIs, a number of countries are now designing and deploying systems to monitor HAIs. There has been a mechanism in place in Iran for the observation of HAIs since 2016, when it was first established and put into operation [9]. In the system that has been developed, the infection control nurses (ICN) are the ones who are accountable for determining, reporting, and keeping track of the causes of healthcare-associated infections (HAIs). This task requires the collaboration of several hospital departments. Among the most significant individuals involved in the process of discovering healthcare-associated infections (HAIs) are hospital department workers, laboratory personnel, team members, infection control committees, and specialists [9]. Evaluations in the laboratory and in clinical settings are necessary for this approach to diagnose HAIs. Identifying and reporting healthcare-associated infections (HAIs) can be difficult if each of these personnel is unable to perform their duties effectively [9].

Iran was the location of a number of qualitative research projects that were carried out between the years 2015 and 2019. These studies were designed to investigate a wide range of problems and difficulties, such as inadequate intersectoral

collaboration, a deficiency in human resources, a lack of awareness, the high workload of ICNs, a deficiency in financial resources, underreporting of infections, antibiotic consumption from the perspectives of various individuals in charge of prevention programs, and the management of healthcare-associated infections in Iran. However, information about healthcare-associated infections (HAIs) in the surveillance system is unavailable due to inadequate infrastructure for infection prevention and control programs [10]. Improving the surveillance system and providing access to reliable information would result in cost savings, improvements in patient safety and quality of care, and the prevention of infection outbreaks. Settings that are influenced by conflict are another sort of environment in which IPC measures need to be guided by the particular barriers and facilitators that are encountered locally. Despite the fact that armed conflict and widespread violence result in an increase in the demand for emergency medical and surgical care, they also have an impact on the factors that determine health, such as the availability of food, water, and sanitation, as well as access to services [11]. There is a possibility that personnel shortages, disruptions in supply chains, and damage to health infrastructure could further impede the availability of care and the quality of care that is provided in areas like these. The body of research on concerns relating to infection prevention and control in health care institutions in these settings is sparse; however, the evidence that is currently available suggests that healthcare-associated infections (HAIs) are widespread, and more specifically, that surgical site infections (SSIs) and antimicrobial resistance (AMR) are common consequences [12]. Despite this, there has been a lack of effort put forth to comprehend the difficulties encountered in these environments and to determine the methods that are effective in enhancing IPC at the facility level.

On the other hand, healthcare-associated infections (HAIs) continued to be a threat throughout the middle of the 20th century, particularly for the growing number of patients who were especially susceptible to the disease as a result of immune-suppressive medication or major surgery. At least until the excessive use of these drugs began to be reflected in increasing antimicrobial resistance (AMR) in the 1960s, and later, when fewer new ones meant that successful treatment was no longer guaranteed, strict IPC measures seemed less important. However, there was a plethora of new antimicrobials available to cure them, so strict IPC measures seemed less important. As a result, hospital infection prevention and control (IPC) saw a resurgence in the latter part of the 20th century, which was fueled by the concern that doctors had regarding their own personal risk from HIV and other bloodborne viruses. Hand hygiene, isolation of infectious patients, use of personal protective equipment, aseptic technique and use of sterile instruments for invasive procedures, and environmental cleaning were some of the IPC tactics that were commonly implemented during that time period. These strategies were comparable to those that were initially implemented in the 19th century. On the other hand, the implementation of evidence-based IPC policies was and continues to be unexpectedly difficult. This is similar to the situation with other preventive interventions, such as antibiotic prescribing recommendations being an example. This is the case for a number of reasons, which are generally consistent, albeit to varying degrees, across all healthcare professionals. These reasons include a lack of role models, heavy workloads, a focus on immediate patient care, inconvenience, uncertainty about how to apply policies, scepticism about the effectiveness of policies, the absence of obvious consequences for breaches, and the number and complexity of policies and guidelines.No explanation, however, satisfactorily explains the relatively low level of IPC compliance among physicians [13].

In a recent qualitative study conducted at a prominent hospital in Sydney, twenty-six clinical leaders in the fields of medicine and nursing were questioned about their perspectives on the attitudes and practices of hospital physicians toward intraprocedural procedure (IPC). In their comments, they claimed that the practices of doctors are distinctive and categorized them as ranging from exemplary to awful. The assessment of the danger of infection by doctors was frequently used as the basis for even appropriate practices. This was in contrast to the rules of the IPC, which many physicians believed were frequently unsuitable or applied in an excessively rigid manner. There are some medical professionals who hold the belief that significant HAIs are unavoidable and uncommon. Furthermore, they have a limited understanding of the frequency or impact (for patients) of less serious HAIs, which is why they consider IPC to be of low priority [14].

As is the case with other preventive programs, the IPC is frequently a victim of its own success and is difficult to maintain. However, ongoing threats of preventable HAIs, increasing antimicrobial resistance, and emerging infections with a low incidence but high consequence, such as those that have caused serious hospital outbreaks in other developed countries, require continued vigilance. Without a commitment from all healthcare professionals, including doctors, improvement is

impossible. This is especially true for all medical experts. IPC methods have historically been ingrained in nursing culture, which doctors frequently disparage as rule-based and inflexible. This is in contrast to a medical culture that is supposed to be more dynamic and independent. This perspective completely misses the mark. In contrast to individual patient care, which includes the use of clinical judgment, infection prevention and control (IPC) practice is inherently mostly rule-based. Violations of these rules have possible ramifications that extend beyond the impacts on individual patients; for example, a single instance of pathogen transmission can be multiplied, putting other patients and staff members at risk. Despite the fact that there will inevitably be breaches in IPC practice in busy clinical environments, there is very little justification for anybody to routinely avoid common-sense IPC practices, and even less justification for anyone to argue with or abuse frontline personnel who are attempting to apply them. The medical profession has a reciprocal commitment to govern the unprofessional behaviors of a small minority of individuals who put patients and colleagues in danger [15]. If the medical profession places a high value on clinical autonomy, then we must honor this obligation.

Conclusion:

There is the possibility of finding a solution: numerous hospitals all over the world, notably in northern Europe, uphold high standards of infection control practice and manage to keep HAI rates low. However, in order to achieve persistent change, a commitment from the entire system, sufficient resources, and new initiatives are required. These initiatives typically involve government regulation, which is supported by financing and penalties for noncompliance. There are many obstacles to effective IPC that were identified in this paper, and many of them are common in low- and middle-income countries. Among these are inadequate infrastructure, shortages of resources and manpower, low levels of education among the staff, inadequate in-service information and communication technology training, and large numbers of visitors. In settings that are affected by conflict, there is an additional load placed on health facilities and the implementation of their IPC programs. A jump in the number of security incidents and conflicts led to disruptions in the supply chain, an increase in the number of patients, and an increase in the infection rate. In spite of the fact that the hospitals who were a part of this study encountered major obstacles, they were also able to demonstrate how they overcome specific issues despite having little resources and receiving minimal funding. These tactics offer chances for learning and the exchange of knowledge across different contexts, which is especially important in light of the current worldwide coronavirus pandemic.

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