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EDITORIAL

Establishment of Infection Prevention and Control Service: A Time for Action!

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The term 'Healthcare-associated infection' is used to describe infections that are related to the delivery of healthcare in *any care setting* (e.g. hospitals, long-term care, and outpatient locations). Some patients who develop infections will have received care from multiple healthcare facilities (HCFs), in these cases sometimes it is not always possible to establish with certainty, where the primary source of infection occurred by these patients. The term Healthcare-associated infection replaces both the formerly used terms of *Hospital-acquired infection* and *nosocomial infection.*

The real burden of healthcare-associated infections (HAIs) is unknown, this is mostly due to difficulty in gathering reliable surveillance data. However, it has been estimated that at any time, over 1.4 million people worldwide are suffering from infections acquired in various healthcare facilities. HAIs affect all countries, irrespective of their level of development, and can impact patients, healthcare workers, families, carers and community at large.

Based on published data, the incidence of HAIs in high-income countries occurs in somewhere between 5% and 10% of all healthcare interactions. For example, in the USA it has been estimated that 1.7–2 million patients suffer HAIs annually resulting in nearly 90,000 deaths each year.[1] The European Centre for Disease Prevention and Control estimates that, on any given day, about 80,000 patients (1 in 18 patients) have at least one HAI resulting in at least 37,000 deaths per year in European countries.[2]

In low and middle-income countries, the risk of HAIs is somewhere between 2–20 times higher, it is estimated that over 25% of healthcare interactions can result in a HAI.[3] For babies who are born in hospital, infections are responsible for between 4% and 56% of all deaths in the neonatal period while in high-income countries, up to 30% of patients are affected by at least one HAI while in an intensive care unit.

Establishment of an effective infection prevention and control (IPC) service is an integral part of quality and patient safety programmes within every healthcare facility. Published data indicates that the provision of good IPC services helps contribute to the effective utilization of beds by reducing the length of hospital stay and post discharge attendance. It also helps reduce the healthcare cost associated with treating HAIs which includes enhanced surveillance to detect possible outbreaks, isolation measures, environmental cleaning as well as investigation costs (laboratory and radiological) related to diagnosing and managing these infections.[4] In addition, it helps prevent the spread of multi-drug resistant microorganisms, thus reducing both the consumption and cost of use of broad spectrum antimicrobial agents. This allows healthcare facilities to integrate IPC as part of an antimicrobial stewardship programme and help prevent and control spread of antimicrobial resistance (AMR) microorganisms as outlined in the WHO Global Action Plan.[5] One neglected aspect ignored by many healthcare professionals is that reducing HAIs not only improves patient satisfaction, but also minimizes the financial and psychological impact on individuals and their families which may result both in morbidity and mortality associated with avoidable HAIs.

Published literature has clearly identified the major deficiency in the provision of good IPC practices in Pakistan.[6,7,8] The WHO has published various guidelines which not only outline the core components to provide effective IPC services, but also develop assessment tools and minimum requirements for IPC services in all types of healthcare facilities.[9,10,11,12]

In view of the current and previous outbreaks of HIV infection in Pakistan,[8] the National Institute of Health has taken a first step and with the help of the WHO and local experts developed the first *National Guidelines for Infection Prevention Control* to be published this year. This is commendable as these guidelines will not only act as a resource for setting up and maintaining an IPC infrastructure in Pakistan but also provide teaching and training tools. The guidelines are based on best current scientific evidence and it is hoped that it will help implement evidence-based IPC practice and prevent unsafe, ritualistic and wasteful practices[4] which are common in all healthcare facilities. However, both

implementation and sustainability of the standards set out in these guidelines on a national and local basis would be a challenging task as most healthcare facilities in Pakistan lack even basic IPC infrastructure. Amongst others, one of the main reasons for the lack of development of IPC infrastructure is that neither the policy makers at the national and provincial level nor the senior managers at local healthcare facility level are fully convinced that IPC is a significant element of patient safety. As a result, all the investment in health sectors are directed towards providing care for treatment of diseases rather than prevention of avoidable HAIs. Due to the lack of IPC infrastructure there a degree of acceptance exists amongst many healthcare workers that getting HAI is part of the delivery of healthcare and very little can be done in order to reduce this.

In the minority of healthcare facilities where IPC infrastructure exists, HAI reduction is considered the responsibility of the IPC team. A key reason for this understanding is the lack of a local HAI surveillance programme to assess the scale of the problem and is compounded by the absence of IPC training to educate staff that HAI prevention is everyone's responsibility.

As a first step, these challenges can be overcome by establishing effective IPC programmes at both national and healthcare facility levels. However, this task will not be easy and will require senior healthcare policy makers both at federal and provincial level to undertake significant strategic planning in the short, medium and long term that is accompanied with a clear delivery programme. To establish such a programme, technical subject matter expertise will be required as now IPC is considered a medical speciality in its own right. Although an IPC role is often undertaken by a Medical Microbiologist, Infectious Diseases Physician or Public Health Doctors, they are rarely trained to conduct the full range of duties required of an IPC Doctor.

Therefore, it is essential that education and training must be available for clinical staff and a career structure must be established for both IPC doctors and nurses on a nationwide basis. To achieve this, it may require technical expertise from countries where the IPC is already fully established. It is essential all IPC professionals are properly qualified and trained, therefore there is a requirement for a best practiced based local certification or diploma course to be established which forms part of a postgraduate qualification complete with a subsequent formal onward career development pathway.

Fully trained IPC teams will not only prevent unsafe practices, but will also focus resources to implement best evidence based practices and consequently reduce the occurrence of HAIs. An investment towards building a strong IPC infrastructure is not only cost effective, but also crucial in improving patient safety and quality of care for all. Successful implementation of an effective IPC programme requires adequate resources and engagement and support from senior healthcare managers (both medical and non-medical).

In conclusion, in view of global emergence antimicrobial resistant microorganisms and new and emerging infections, e.g. Ebola, Avian influenza and recent global epidemic of Covid-19 caused by the SARS-2 Corona virus has clearly demonstrated the need to establish IPC services both at national and healthcare facility level as a matter of urgency in Pakistan. It is time that a comprehensive national IPC programme must be established which will also integrate IPC with an AMR programme. This task will be difficult and require significant investment, however of utmost importance in view of the ongoing outbreak in Larkana of HIV and Covid-19 outbreak globally, the time has come for action.

REFERENCES

1. Centre for Diseases control and prevention. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention. Atlanta: Centre for Diseases control and prevention, 2009.
2. European Centre for Disease Prevention and Control. Point Prevalence Survey of Healthcare Associated Infections and Antimicrobial Use in European Acute Care Hospitals. Stockholm: European Centre for Disease Prevention and Control, 2013.
3. World Health Organization. Report on the Burden of Endemic Health Care-associated Infection Worldwide. Geneva; World Health Organization, 2011.
4. Damani N. Manual of Infection Prevention and Control. Oxford University Press. Oxford, 2019.
5. World Health Organization. Global Action Plan on Antimicrobial Resistance. Geneva: World Health Organization, 2015.
6. Mahmood A, Rehman F, Chughtai F. A survey of infection control practices in the delivery room and nursery to investigate and control the high rate of neonatal sepsis: An experience at a secondary care hospital. J Pak Med Assoc 2008; 58: 237-40.
7. Baqi S, Damani N, Shah SA, Khanani R. Infection control at a government hospital in Pakistan. Int J Infect Control 2009; 5: 1-7.
8. Altaf A, Pasha S, Vermund SH, Shah SA. A second major HIV outbreak in Larkana, Pakistan. J Pak Med Assoc 2016; 66:15:10-1
9. World Health Organization. Guidelines on core

components of infection prevention and control Programmes at the national and acute healthcare facility level. Geneva: World Health Organization, 2016.

10. World Health Organization. IPC Assessment Framework at the Facility Level. Geneva: World Health Organization,2018.
11. World Health Organization. Improving Infection Prevention and Control at the Health Facility. Interim practical manual supporting implementation of the WHO Guidelines on Core Components of Infection Prevention and Control Programmes. Geneva: World Health Organization, 2018.
12. World Health Organization. Minimum requirements for infection prevention and control. Geneva: World Health Organization, 2019.