



Summary brief

September 2021

Good infection prevention and control works: low level of healthcare associated infections in a tertiary hospital in Nepal

Reference: Koju P, Liu X, Zachariah R, Bhattachan M, Maharjan B, Madhup S, Shewade HD, Abrahamyan A, Shah P, Shrestha S, Li H, Shrestha R. Incidence of healthcare associated infections with invasive devices and surgical procedures in Nepal, Public Health Action; 2021.

e-mail:
kojuprimesh@gmail.com

Healthcare Associated Infection is an infection acquired after 48 hours of hospital stay.

Key Messages

- Among patients admitted in Dhulikhel Hospital, Kathmandu University Hospital who had invasive devices (e.g. urinary catheters) and/or undergone surgical procedures, 5% had healthcare associated infection (HAI) (15.5% in other low and middle income countries).
- This reflects good infection prevention and control practice and the hospital management committee should continue supporting these efforts.
- Over half of the patients in intensive care unit had HAI. Those with HAI had longer hospital stays and unfavourable outcomes (died, left against medical advice, not improved, referred out). Focused attention is required to further reduce the level of HAI.

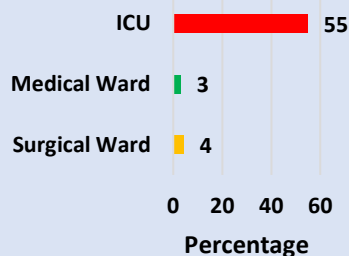
What is the problem and why is it important?

- HAIs are a recognized global public health challenge affecting over 1.4 million patients, a large proportion caused by antibiotic resistant organisms.
- Surgical procedures, use of invasive devices and intensive care unit (ICU) admission increase the risk of HAIs.
- HAIs may cause prolonged hospital stays, long term disability, additional costs to patients, families and health systems, increased antibiotic resistance and unnecessary deaths of patients. They also put all the workers in the hospital at risk.
- The occurrence of HAI is a reflection of the IPC standards. We thus, report the occurrence of HAIs among patients admitted to a tertiary hospital in Nepal.

How did we measure it?

- We analysed medical records and laboratory data of all patients (\geq one year of age) admitted to Dhulikhel Hospital, Kathmandu University Hospital between December 2017 to April 2018. This study included patients who had invasive devices and/or had undergone surgical procedures.

Incidence of HAI (n=66)



- We also compared hospital outcome among those with and without HAI.

What did we find?

- Out of 1310 inpatients, 5% had HAI. The most common bacteria among HAI patients were *Escherichia coli* (44%), *Enterococcus spp.* (23%), and *Klebsiella spp.* (11%).
- Over half of the patients in intensive care unit had HAI.
- Patients with HAI had longer hospital stays (7 to 18 days) compared to those without HAI (4 to 7 days).
- Unfavourable outcomes (died, left against medical advice, not improved, referred out for complications) were five-fold higher among patients with HAI compared to those without HAI (4.5% vs 0.9%).

Implications

- The low occurrence of HAI demonstrated the effective implementation of IPC measures in the institution. The hospital management committee should continue and further strengthen ongoing efforts towards good IPC practices.
- The IPC committee needs to pay focused attention to reduce HAI occurrence in the intensive care unit.
- As a WHO sentinel site for AMR surveillance, the current study serves as a useful yardstick for operational research to monitor HAI.
- The Research and Development Division of the hospital needs to conduct similar research regularly for up-to-date evidence to enable informed decision making; **a worthwhile investment for worthwhile returns.**