

## ABSTRACT

The objectives of this study were to describe some characteristics of Hospital Associated Infections (HAIs) among patients and to assess knowledge, attitudes and practices (KAP) of nurses on HAIs in Intensive Care Units (ICUs) of National Hospital of Sri Lanka (NHSL).

This study was a descriptive cross sectional study with two parts; part I to determine proportion and related factors of HAIs among patients and part II to assess knowledge, attitudes and practices of nurses on HAIs in the ICUs of the NHSL

The study was carried out in ten ICUs of the NHSL during a period of 3 months. Estimated sample size for the part I of the study was 320. All patients in the ICUs who had completed 2 days after hospital admission and, admitted during the study period were enrolled in to the study using the consecutive sampling technique. All the nurses attached to ten ICUs in the NHSL (n= 256) were enrolled in the part II of the study and response rate was 73%. Two record sheets were used in the part I of the study and for part II, a self administered questionnaire and a check list were used.

Out of the 320 patients, 48 patients had HAIs. Thus the proportion of patients with HAI was 15%. However total number of HAIs found during the study period was 70, because some patients had more than one HAI. Thus the proportion of HAI was 21.9%.

The most common types of HAIs found were Surgical Site Infection (32.9%), Lower Respiratory Tract Infection (17.2%) and Urinary Tract Infection (17.2%). Gram negative organisms were responsible for 80% of HAI and of them Coliforms were the commonest (32.5%). *Candida* and MRSA were identified in 12.5% and 7.5% of isolates respectively.

The proportion of patients with HAI is significantly associated with; different ICUs ( $p < 0.01$ ), category of ICU ( $p < 0.05$ ), urinary catheter ( $p < 0.001$ ), endotracheal tubes ( $p < 0.01$ ) and reason for admission ( $p < 0.01$ ).

Highest proportion of HAI was observed from Recovery Unit (37.5%) while lowest proportion was from Intermediate Coronary Care Unit (1.9%). Surgical ICUs had higher proportion of patients with HAI (18.7%) compared to medical ICUs (9%).

Patients presented with neoplasms had highest proportion of HAI (31.8%) whereas those presented with circulatory diseases had lowest proportion (7.4%).

Majority of HAIs had occurred within three days of ICU admission (51.4%) and this difference is statistically significant ( $p < 0.001$ ).

Duration of ICU stay was positively correlated with number of HAI reported ( $C = 0.39$ ). Majority of patients with HAI had stayed in ICUs for more than seven days

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(47.9%) whereas only 8.5% of patients without HAI had stayed more than seven days. This difference was statistically significant ( $p < 0.001$ ).

Patients with HAI had a higher proportion of mortality (37.5%) compared to patients without HAI (8.1%). The difference between HAIs and mortality of patients is statistically significant ( $p < 0.01$ )

A majority of nurses (80%) had good knowledge on HAIs. Knowledge on HAIs was significantly associated with age of nurses. The present study observed positive attitudes in prevention of HAI in 93% of nurses and most of the nurses (71.3%) considered HAI as an important health problem.

The practices of the nurses ensuring the prevention of HAIs were assessed by observation of a sub sample. Percentages of nurses good in hand washing, usage of gloves and injection practices were 25%, 40% and 75% respectively.

Present study highlights HAIs as an important health issue in the hospital setting. Therefore hospital authorities should strengthen the current infection control programme in order to minimize the proportion of HAIs prevailing in the ICUs. Further studies are needed to assess the burden of HAIs. Continuous training and reviews to update the hospital staff would be useful.