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Real time' burden of infections in a public hospital in Auckland: Focus on hospital acquired infections


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Background: Infections are common in hospitalised patients—admitting diagnosis or acquired during hospital stay. Lower respiratory tract (LRTI) and urinary tract (UTI) infections are sometimes diagnosed clinically without microbiological evidence. We determined the prevalence and spectrum of infections at time of admission or infections acquired during hospitalisation (HACI) at Waitakere Hospital, a 135 bed secondary level care public facility with adult General medicine and rehabilitation inpatient wards.

Methods & Materials: A clinician led survey was conducted on 2 selected days in August and November 2013. All 6 general medical and 3 rehabilitation teams completed a questionnaire for patients admitted under their respective care for >48 hours, including spectrum of infections and device usage. Diagnosis of infection was clinician based, regardless of supporting microbiological or radiological data, reflecting 'real time' prevalence'. Patient follow up was till study day only. HACI was acquired after 48 hours of hospital stay, excluding infections that may have developed later during stay. Patient characteristics and risk factors for HAI vs non-HAI were compared.

Results: A total of 195 patients were assessed. Comorbidities included diabetes (25.6%) and chronic lung disease (16.5%). Infection was the admitting diagnosis in 81 patients (41%), LRTI in half of cases. Only 40% of LRTI was supported by radiology or cultures. Indwelling devices, including peripheral vascular catheter, were common in medical (60%) compared to rehabilitation (18%). Twenty-two HACI occurred in 20 patients (10.5%), with point prevalence of 5.1%. UTI was diagnosed in 12 patients (60%), including 2 urosepsis and 4 catheter related infections. Other infections included 5 LRTI and 2 *C. difficile* colitis. Comparison between patients with or without HACI showed HACI patients were older (85 vs 73 yrs), with longer hospital stay (13.8 vs 8.2 days), and higher urinary catheter usage (42% vs 3%). About 30% of HACI were due to ESBL *Klebsiella* species.

Conclusion: This study highlights high real time burden and spectrum of infections at the time of admission, and significant proportion of clinically based diagnosis of LRTI. Prevalence of HACI, patient characteristics and risk factors although comparable with previous studies, showed an impact of ESBL on infections.

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Outbreak of Lassa fever in a bakery: Investigation and epidemiological surveillance of contact persons - Ibadan, Oyo state Nigeria; August, 2012


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Background: Lassa fever (LF) is a severe hemorrhagic illness caused by Lassa virus and associated with substantial morbidity and mortality. The virus is transmitted to humans by contact with the excreta or blood of rodents *Mastomys natalensis*. In 2012, LF outbreak affected 19 out of 36 states in Nigeria; In August 2012, a case of Lassa fever was reported in a bakery at Ibadan metropolis, we investigated the outbreak to determine its magnitude, source, possible risk factors and to recommend control and preventive measures.

Methods & Materials: We reviewed hospital records from July–August 2012, interviewed health workers and conducted active case search and environmental assessment including rodents search. Blood samples were obtained from high risk contacts; including household contacts, bakery staff and health workers for serological tests. A suspected case was defined as any person resident in Ibadan or reported sick at the health facility between July and August 2012 with fever >38°C (101°F) and one or more of following: bleeding, chest pain, and not responding to appropriate anti-malarial or antibiotics treatment within 24–72 hours of treatment. A confirmed case was a suspected case with positive ELISA IgM.

Results: Two cases were identified; one confirmed case and a suspected case with one death (case fatality rate of 50%). There was no epidemiological linkage between the two cases, and serological test for all high risk contacts were negative. There was evidence of rat infestation in the home and bakery surroundings. There were no standardized protocols for the case detection and management of LF in all health facilities visited.

Conclusion: The possible mode of spread was rodent to human. We conducted public health education and assessed health facilities epidemic preparedness response capacity. We recommended further research into prevalence of infected *Mastomys* rat in this locality, and training of health workers on early detection and case management.

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