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Paper Poster Session

Prevention of hospital and healthcare-associated infection

Current status of facilities and staff personnel for infection prevention and control programmes among the hospitals in the Republic of Korea: Multicentre cross-sectional analysis

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Background: Infections caused by 6 types of multidrug-resistant organisms (MDROs) have become legally reportable diseases to a national sentinel surveillance program since 2010 in the Republic of Korea (ROK). However, little is known about the details of current status of individual hospital based infection prevention and control programs in ROK. The aim of the study was to evaluate the current status of individual hospital based infection prevention and control programs in ROK.

Material/methods: Multicenter cross-sectional survey of 100 hospitals participating in the national surveillance programs for MDROs in the ROK was conducted in September 2015. The survey consisted of 140 standardized web-based format questions including infrastructure, staff personnel, accreditation evaluation, and detailed practices of antibiotic stewardship and infection control program for MDROs. Descriptive analysis was performed for further evaluation.

Results: The survey response rate was 41.0%, with 41 hospitals of various bed size completing the survey [200 – 499 beds hospitals (n=7), 500 – 699 beds hospitals (n=9), 700 – 899 beds hospitals (n=17), and ≥ 900 beds hospitals (n=8)]. Hospital accreditation evaluation was found to be conducted in all of them. Average number of staff personnel associated with infection control practice on each hospital was 2.68±1.7. Implementation of the antibiotic stewardship program was seen in 92.7% of the responding hospitals. Prevalence of multidrug-resistant *Acinetobacter baumannii* (MRAB) isolates has been monitored in 92.7%. However, active surveillance cultures and isolation to a single room for MRAB acquisition in ICUs was seen in 29.3% and 17.1%, respectively. Regular ICU environmental surveillance cultures were conducted in 29.3%. Higher medical staff personnel to hospital bed ratio was seen in larger beds hospitals. However, infrastructure and infection control protocols seemed to have no difference, in terms of detection, reporting, and preventive measures of MDROs, condition of single rooms for isolation, and number of hand-wash stands per a hospital bed, stratified by the bed size. Also there were no differences in rates of active environmental surveillance cultures, average number of clinical cultures performed per a hospital bed, and consumption of hand sanitizers and disposable gowns per a hospital bed among them. However, the larger bed hospitals were found to have the higher proportions of ICU beds and higher prevalence of MRAB isolates than those of smaller bed hospitals. In multivariate analysis, non-isolation of MRAB carriers to a single room was found to be a significant predictor (odds ratio, 13.2; 95% confidence interval, 2.0 – 86.3) associated with increasing isolation of MRABs in the hospitals.

Conclusions: This study demonstrated that the current status of facilities and staff personnel for infection prevention and control programs among the hospitals in the ROK. Further studies are

required to determine the optimal strategies to operate infection control and prevention programs effectively in the ROK.