Effectiveness of Comprehensive Implementation of Individualized Bundling Infection Control Measures for Prevention of Healthcare-Associated Infections in General Medical Wards


Background: The prevalence of healthcare-associated infection (HAI) in general medical wards at Siriraj Hospital, Bangkok, Thailand is 10 percent even after infection control measures have been launched. The objectives of this study were to determine effectiveness of comprehensive individualized bundling infection control measures in reducing HAI and to determine the lowest possible rate of HAI in general medical wards at Siriraj Hospital.

Methods: This was a cluster randomized controlled study in 8 general medical wards at Siriraj Hospital. The general medical wards were randomly allocated to 4 control wards and 4 intervention wards. The patients hospitalized in the control wards received regular healthcare as well as regular measures for prevention of HAI. The patients hospitalized in the intervention wards received additional measures. Each patient in the intervention wards was visited by infection control team once a day on weekdays until he/she left the hospital. The infection control team identified risk factors for developing HAI for each patient and coordinated with local healthcare team for eliminating or minimizing such risk factors of each patient and encouraged the responsible personnel to comply with infection control measures appropriate for each patient.

Results: From January to April 2009, there were 954 patients (9,650 hospitalization-days) in the intervention wards and 920 patients (9,777 hospitalization-days) in the control wards. The characteristics of the patients in both groups were not significantly different. The prevalence of HAI in the intervention wards was significantly less than that in the control wards (5.6% vs. 9.2%, p=0.003). The VAP and CAUTI rates in the intervention wards were also significantly less than those in the control wards whereas the CABS1 rates were not significantly different. Six episodes of HAI of the patients in the intervention wards could have been avoided.

Conclusion: Comprehensive individualized bundling infection control measures was effective in reducing HAI in general medical wards at Siriraj Hospital and the target of overall prevalence of HAI in general medical wards should not exceed 4.9 percent.