

before vaccination was more cost-effective than universal vaccination.¹ In fact, self-reported history is a simple technique for case inclusion for vaccination. Based on the previous report by Wiwanitkit, in cases where medical personnel reported “a previous infection history,” it is usually reliable.² Another alternative method that might be cost-effective is asking for self-reported history and then doing further serologic screening in cases with uncertain history or without previous infection history before vaccination should be studied.

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Impact of catheter-associated urinary tract infection bundle on other health care-associated infections



To the Editor:

We read with great interest the article by Sulis et al¹ about the effect of the ventilator-associated pneumonia (VAP) bundle on the rates of other health care-associated infections in a long-term acute care hospital setting. In the study they showed that after introduction of a VAP bundle, the incidence rates of VAP gradually declined as did the incidence rates of bacteremia, vancomycin-resistant enterococci, and methicillin-resistant *Staphylococcus aureus* colonization or infection rates.¹ It triggered us to investigate the impact of other infection control measures, such as the central line bundle and catheter-associated urinary tract infection (CAUTI) bundle, on different types of health care-associated infections (HCAIs). Our recent study proved that the rate of CAUTI in a neurosurgery (NS) intensive care unit (ICU) can be reduced to zero after implementation of a prevention care bundle.² However, we did not evaluate the possible effect of the CAUTI bundle on other HCAIs, including VAP and central line-associated bloodstream infections (CLABSIs). Therefore, we conducted this study to

disclose the impact of CAUTI bundles on the rates of HCAI, VAP, and CLABSI.

This study was carried out in an NS ICU at a regional teaching hospital that has 10 adult ICU beds and 1 intensivist. Since August 2013, the CAUTI care bundle was implemented in the entire ICU. The bundle includes several components, including hand hygiene, ensuring that there are indications for urinary catheter insertion, use of an aseptic technique by trained health care providers, maintenance of a sterile closed drainage system, keeping the drainage bag below the level of the bladder, daily review of the indications for urinary catheter, early removal of unnecessary catheters, and avoiding routine changing of catheters or drainage bags.² In addition, no other infection control measure was changed during the study period.

CAUTI, VAP, CLABSI, and HCAI were defined according to Centers for Disease Control and Prevention's National Healthcare Safety Network guidelines.^{3,4} Outcomes including CAUTI per 1,000 catheter days, VAP per 1,000 ventilator days, CLABSI per 1,000 catheter days, and HCAI per 1,000 inpatient days were measured. To evaluate the impact of bundle care on the rate of CAUTI, VAP, CLABSI, and HCAI over time, we divided the study time into 2 parts, including the preintervention period (January 2012–July 2013) and postintervention period (August 2013–July 2013).

During the 1-year postintervention period, there was a total of 7 episodes of CAUTI, and the catheter utilization rate was 0.85. The rate of CAUTI was 2.23 per 1,000 catheter days. In contrast, the rate of CAUTI during the 18-month preintervention period was 3.2 per 1,000 catheter days. For VAP, the incidence rate declined from 3.69 per 1,000 ventilator days in the preintervention period to 2.90 per 1,000 ventilator days in the postintervention period. For CLABSIs, the incidence rate declined from 2.08 per 1,000 catheter days in the preintervention period to 1.92 per 1,000 catheter days in the postintervention period. For HCAIs, the incidence rate declined from 7.30 per 1,000 inpatient days in the preintervention period to 4.91 per 1,000 inpatient days in the postintervention period.

In this 2.5-year study, we confirmed that CAUTI in the NS ICU can be prevented after implementation of a prevention care bundle in spite of a high catheter utilization ratio as found in our previous study.² Furthermore, we also disclosed the positive impact of the CAUTI bundle on the rate of VAP, CLABSI, and HCAI. Because we did not change other infection control measures in addition to the CAUTI bundle during the study period, our findings suggest that the decline of the rate of other HCAIs may be the change of culture and clinical practice after implementation of the CAUTI bundle. After the introduction of the bundle care and continuing education, all of the team member better understand the importance of infection control practice and pay more attention to the prevention of HCAIs.

In conclusion, the impact of the CAUTI bundle may not only limit the rate of CAUTI and may also affect the rate of VAP, CLABSI, and HCAI in the ICU.

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