EMPLOYEE TRAINING DOES MATTER: A SYSTEMATIC EVALUATION OF THE APPLICATION OF HFMEA IN INSTRUMENT STERILIZATION PROCEDURES

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Purpose: The quality of medical equipment sterilization plays an important role in infection control in hospitals. Although the staffs from medical equipment supply rooms are the main people who respond to provide clean and aseptic equipment, it also relies on all the staff whoever has a chance to use these equipments to improve the patient safety. Therefore, this study aims to provide evidence that the employee training on the whole concept of aseptic validation needs.

Methods: A medical center in the central Taiwan is chosen in this case study. Survey is adopted with stratified random selection, and 40 samples are selected from all employees with the seniority over one year. HFMEA is adopted to evaluate the entire equipment sterilization process. A hazard analysis and Decision Tree are used to identify the potential failure modes and causes which to improve.

Results: The first part of results shows that there are 57 failure modes and 132 causes of failure and these exist in the whole instrument sterilization procedure. The reasons are mostly human errors including the lack of the cognition on precaution and professional knowledge, busyness, carelessness, cost saving, unsuitable packages and so on. The second part of results shows that the complete knowledge of equipment sterilization procedure is required and it reduces the defect-free rate from 49% to 3.7%.

Conclusions: The HFMEA methodology is acknowledged as being a predictive way of risk management. Multiple significant errors can be identified and actions can be developed before its occurrence to improve medical quality and protect patient safety.

ACTIVE SURVEILLANCE OF AUTOMATED ENDOSCOPE WASHERS TO PREVENT HEALTHCARE ASSOCIATED INFECTION

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Purpose: Four of 55 endoscopes were incidentally colonized by Mycobacterium mucogenicum group in October, 2013. IPCs began to investigate the origin of contamination.

Results: The inner channel of 55 endoscopes and collected the fluid for cleaning and disinfection for these endoscopes, tap water, chlorohexidine solution, and rinse water in the AEW (automated endoscope washer) were collected for bacterial and mycobacterial cultures. PFGE was used as a molecular epidemiology tool.

Conclusions: There is no significant difference between the bacterial growth and demographics of the participants. Also, none of the samples were confirmed positive as ESBL by phenotypic testing. Furthermore, the group is continuously performing surveillance regarding ESBL producing Enterobacteriaceae among healthy population in Quezon City and other populated cities in Manila, Philippines.

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Purpose: Extended spectrum beta-lactamase-producing Enterobacteriaceae (ESBL) is an emerging public health concern. It was in the 1990s when the first report of a case was published in a U.S. hospital. In 2013, one of the main concerns of all Member states of the WHD South-East Asia Region was the growing importance of Antimicrobial Resistance, making utmost priority to preserve the efficacy of antibiotics in the fight against microbial diseases. In Philippines, studies on the prevalence of extended spectrum beta-lactamase-producing Enterobacteriaceae (ESBL) are still limited as reported in the study of Tiong et al. in 2010. In present study, stool samples among adults who were required for routine laboratory test as part of their pre-employment were collected for phenotypic, sensitivity and bacterial identification of ESBL producing Enterobacteriaceae.

Methods: Phenotyping, sensitivity testing and bacterial identification were done for the 30 positive samples. Clinical isolates were subjected to produce ESBL based on the disk diffusion method were measured following the 2013 CLSI standard — susceptibility testing for Enterobacteriaceae.

Results: As to the demographics of the participants, 68% male and 32% female, age group 20 to 25 age class, and the lowest is 14% from less than 20 years old. Our study used 30 samples, 15 of which were for positive growth on Mac Conkey agar with Cefotaxime. From the 30 isolates: Highest sensitivity is from Cefepime (FEP) with 30% (100%), followed by Aztreonam (ATM) with 29% (97%), Ceftazidime (CAZ) with 27% (90%), and Cefotaxime (CTX) with 21% (70%). An 8 (27%) intermediate result was noted with Cefotaxime which is the highest among the antibiotics used. For the bacterial identification, 50% (15) of the total isolates were Escherichia coli followed by Enterobacter aerogenes with 33% (10), Proteus mirabilis with 13% (4) and Citrobacter freundii with only 1% (1).

Conclusions: There is no significant difference between the bacterial growth and demographics of the participants. Also, none of the samples were confirmed positive as ESBL by phenotypic testing. Furthermore, the group is continuously performing surveillance regarding ESBL producing Enterobacteriaceae among healthy population in Quezon City and other populated cities in Manila, Philippines.
in the first quarter of 2012 and it dropped to 4.02% in 2013. CRKP percentage in Klebsiella pneumoniae isolates for nosocomial infection was 28% in 2012 and it dropped to 9.1% in 2013. Since May of 2014, active surveillance was restricted to the transferred case from other hospital or respiratory care wards and who received prolonged antibiotic during hospitalization.

Conclusions: Patients who were transferred from other hospital or respiratory care ward should be considered as high risks of CRE carriers as well as those with prolonged antibiotic medication during hospitalization. Active surveillance of CRE can early identify of possible carriers and helps for prevention of CRE outbreak in the hospital.

Methods: We prospectively conducted surveillance for all inpatients who had Central venous catheters (CVCs) in 32 wards and 4 ICUs of a teaching hospital with 850 beds, from January to December in 2013. CLABSI incidence rate (cases/1,000 catheter-days) were surveyed using CDC/NHSN surveillance definition including CLABSI events. Event data on age, gender, type of catheter, duration of catheter utilization, department, type of ward were obtained.

Results: Overall, the CLABSI rates of all inpatients were 1.61(cases/1,000 catheter-days) and central catheter utilization ratio was 0.07(catheter-days/patients days). A major causative CVC of CLABSI was non-tunneled line(53%), and peripherally inserted central catheter was followed(37%). The CLABSI rates were 1.59(cases/1,000 catheter-days) in inpatient wards and 1.62(cases/1,000 catheter-days) in ICU. There was no difference on CLABSI event inpatient wards vs. ICU.

Conclusions: In KOREA, recently study was aimed to reduce CLABSI for ICU but this study showed that CLABSI for inpatient wards were similar incidence with ICU. We suggest that it is necessary the further study to analyze for risk factors of CLABSI in inpatients ward and also to conduct the hospital-wide strategies implementations for prevention of CLABSI.

HOSPITAL-WIDE SURVEILLANCE OF CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS; INPATIENT WARDS VS. INTENSIVE CARE UNITS

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Purpose: Central line-associated bloodstream infections (CLABSI) are among the most common and serious outcome experienced by inpatients. There were many studies on CLABSI of intensive care units (ICUs), but the studies of inpatient wards were rarely reported in Korea. The aim of this study was to determine the incidence of CLABSI for all hospitalization patients and to compare their CLABSI events.

Methods: We applied active surveillance on early environmental cleaning to patient admitted with high risk could prevent MRSA colonization. Early implementation of straightening high risk groups include patients with bedsore, steroid therapy, and long-term hospitalization. Increasing the admission assessment of high risk patients can reduce MRSA colonization. Early implementation of straightening environment cultures were found on 7% of admitted patients at the first sampling, and every three days by taking their bed rails culture samplings until patient discharge. The rate of clean wound, implant use and deep tissue infection among the most common and serious outcome experienced by inpatients.

Conclusions: We performed three investigation ways included 1. Control the unnecessary operator entry 2. Shorten the aseptic apparatus exposure time 3. Emphasize the aseptic technique of brush hand and the adequate aseptic covering area. The purpose of our study was to determine the risk factors of MRSA colonization by using active surveillance on early environmental cleaning. The mean of transforming negative to positive environmental cultures was 11±10 days. Patients admitted with a nasogastric tube was a significant factor (p = .005) for positive environmental MRSA colonization. Logistic regression, after adjusting other factors, showed that patients with bed sore resulted in 2.7 times with MRSA colonization (95% CI 1.21-6.63, p = .020), and 1.1 times with an extra day of hospitalization (95%CI 1.03-1.08, p = .015).

Conclusions: Active surveillance could early detect MRSA colonization. The high risk groups include patients with bed sore, steroid therapy, and long-term hospitalization. Increasing the admission assessment of high risk patients can reduce MRSA colonization. Early implementation of straightening environmental cleaning to patient admitted with high risk could prevent the dissemination of MRSA.

EXPERIENCE SHARING IN REDUCTION OF CLABSI IN ICU OF REGIONAL HOSPITAL BY USING BUNDLE CARE

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Purpose: Central venous catheter (CVC) is one of the common used equipment in intensive care unit. According to Taiwan Nosocomial Infection Surveillance system (TNIS), the density of central venous Catheter-related blood stream infection is Z. CLABSI is a potential risk caused morbidity