

P2560 Impact of interventions to decrease indication of insertion and prompt removal of unnecessary central venous catheter to reduce bloodstream infections in the intensive care unit

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Background: Health care-associated infections are among the leading causes of death and increased length of hospital stay. Patients admitted to intensive care units often need central venous catheters for the infusion of several drugs and for parenteral nutrition even though they may be at risk for central-line associated bloodstream infections if infection control practices are not followed.

Materials/methods: A cohort study was conducted in intensive care units of 30 adult beds of a tertiary hospital in Santo Andre, Brazil. Two periods were compared: A. January to June of 2017 (reference period) and B. July of 2017 to October of 2018 (period of continuous improvement). As of July of 2018, a new intensive care team was admitted and the infection prevention program for central-line associated bloodstream infections was reviewed. In addition to auditing the compliance to the central-line bundles, daily multidisciplinary visits were performed to evaluate the necessity of maintaining the catheters; to remove any unnecessary catheter and to review the need for the device at the time of discharge from the intensive care unit. Additionally, an environment of mutual collaboration was created and the nursing staff, the unit physicians and the multidisciplinary team were empowered to discuss and critically evaluate the cases of infection.

Results: In the reference period, the rate of catheter usage in the unit was 64,2% and in the period of continuous improvement, 46,9% ($p < 0,01$). The central-line associated bloodstream infections incidence density was 3,44 per 1000 catheter/day in the reference period and 1,82 per 1000 catheter/day in the continuous improvement period (RR 1,69; CI 95% 1,04 – 2,75; $p=0,042$). In the months of continuous improvement, we observed a sustained decrease in the rate of infections.

Conclusions: The integrated efforts of the intensive care unit team to reduce the incidence rates of central-line associated bloodstream infections, with special emphasis to the proper indication for insertion and daily evaluation of the possibility of early withdrawal of the catheters had an important impact on the incidence of this infection. We expect to expand this project to other units of the hospital in the following months.

