Author’s response to reviews

Title: Epidemiology and impact of a multifaceted approach in controlling Central Venous Catheter Associated Blood Stream Infections outside the intensive care unit.

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We submit our revised manuscript MS: 1715919755833707 “Epidemiology and impact of a multifaceted approach in controlling Central Venous Catheter Associated Blood Stream Infections outside the intensive care unit” following your instructions and addressing reviewer comments.

Revisions made:

In page 4, METHODS, Setting, we specify that "The study was conducted in a 350-bed teaching hospital from 1991 to 2011 with the approval of ethics committee of Hospital A. Marcide."

Comments to reviewer Francois L’Héritéau.

Major compulsory revisions.

Abstract

The precision that the check-list for CVC insertion was implemented only in ICU is added in the abstract.
Methods

Page 6, Catheter placement and care, we have clarified that “aqueous povidone-iodine solution was used as a skin antiseptic for CVCs inserted by physicians outside ICU and for all catheters after care performed by ward nurses outside ICU. Catheter care in ICU was performed with alcoholic chlorhexidine solution”.

In RESULTS, Prevalence studies, page 9, 3rd paragraph, we have clarified the evolution of the number of catheter-days retrieved from prevalence studies from 1991 to 2011 and we say the factors could be explain the temporal variations in the use of CVC.

Bacteraemia surveillance

1. We have clarified in page 9, last paragraph, that a total of 309 CVC-ABSIs were recorded in 260 patients. Among these patients, 224 experienced one episode and 36 more than one episode.

The design of our case-control study in which we compute Odds Ratios were patients with a peripheral catheter-associated BSI. We agree with the reviewer, and we have deleted this part.

In page 11, lst paragraph, we provide data about CVC incidence in the rest of the year (in periods other than July-September).

Outcome of bundles

We add the precision that “CVC-ABSI rates” are “estimated CVC-ABSI rates” (e.g. results section in abstract; page 11, 2st paragraph; page 12, 3rd paragraph).

We agree with the reviewer. The chi square is not appropriate to compare CVC-ABSII incidence densities (i.e. /1000 catheter-days).

We have removed the p values in the text and in the table where were these data. But we want to reaffirm that our results reflect that CVC-ABSIs rate decreased after the interventions as it samples in Figure 1, and the decrease achieved in Internal Medicine ward in the year 2009 has a clear statistical significance, page 11, 2nd paragraph

In page 11, third paragraph, we have clarified that alcohol-based hand rub consumption variations were not statistically significant.

In results section, we disclosed the performed blood cultures/inpatients-days ratios from 1998 to 2011 (page 9, Bacteremia surveillance), administrative data about the total number of blood cultures performed during previous years are not available. Similarly, we disclosed data about increasing use of catheters (prevalence studies, page 9, 1st and 3th paragraph).

Discussion

Page 14, 1st paragraph, we discuss why the "bacteremia zero" programme was
implemented in ICU and the reduction in CVC-ABSIs was observed outside. We also say that the decrease achieved in CVC-ABSIs rates could be due to a decrease of device utilization ratio between 2008 and 2011, as suggested by the reduction in the estimated number of CVC-days.

We have clarified typing mistakes:
Abstract: “in Internal Medicine wards”.
Page 12, 1st paragraph of discussion section “The decrease achieved”.
Page 13, 1st paragraph, “bundles”
Page 14, last paragraph, “CVC-ABSIs rates in Internal Medicine wards”.

We submit our revised manuscript. All authors have read and approved the submission of the manuscript.

The manuscript has not been published elsewhere and it is not currently under consideration for publication by another journal.

We hope that the changes could be sufficient for the acceptance of the article for publication and that you communicate us the final decision as soon as possible.

Thank you very much in advance.

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