Reviewer's report

Title: An intervention study to improve hand hygiene in the emergency department: getting to the point

Version: 2 Date: 20 March 2013

Reviewer: Alexandre R Marra

Reviewer's report:

I really appreciate the opportunity for being the reviewer of this manuscript about an intervention study to improve hand hygiene in the emergency department. This is an interesting study addresses data on HH in an ED setting. Importantly, HH compliance improved significantly without increasing workload. That is an important subject, given the need to improve infection prevention in an era where multiresistant organisms are on the rise yet new antimicrobial agents are less frequently encountered.

I have some questions:

1. A particularly striking aspect of this paper is the nature of the intervention to improve compliance. The paper will have special value if it describes the intervention in some more details. This will help readers who would like to implement it in their own institutions. Some of the intervention might be classified as "audit and feedback" because results of observations were presented to staff. Much of the intervention might be classified as "education" because of discussion of opportunities for hand hygiene. Please clarify specifically what was really implemented or what was really considered as "interventions".

2. In some reports (example: McAteer J, Stone S, Fuller C et al. Development of an observational measure of healthcare worker hand-hygiene behavior: the hand-hygiene observation tool. J Hosp Infect 2008;68:222-9), interobserver reliability is described with the kappa statistic. Would it be appropriate to report this statistic in this setting?

3. Documentation was performed using a modified version of the WHO observation record. Direct observation was performed anonymously by only one highly trained observer. Furthermore, studies that rely solely on direct observation of hand hygiene can have an important bias caused by the Hawthorne Effect, leading to an overestimate of actual performance. It could be inserted at limitations in discussion section.

4. I am not sure what is the number of avoidable opportunities. Please clarify. My five moments for hand hygiene is not easy to collect data and the observers need to be very well trained.

5. In page 8 - last paragraph - you have commented -- Of note was that no differences were documented for the different healthcare professions (physicians, nurses, medical students, trainee nurses) and for the different patient groups. Please show your data and the comparisons.
6. In discussion - line 9 page 10 -- you discuss about handwashing and your study is about hand hygiene. Do you have data about handwashing in ED?
7. Figures 1 and 3 should be deleted. Put data in result section.
8. Why the running title is -- "Hand hygiene in the anaesthesia working room area"?
9. Page 9 - What is -- "Seite: 9"?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.