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Letter to the Editor

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Letter to the Editor

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To the Editor,

The article 'Environmental cleaning and disinfection of hospital rooms: A nationwide survey' by Han, *et al.,* was published in volume 49, January 2021 in of this journal. Han *et al.* evaluated current hospital disinfection strategies across the USA to pinpoint areas of improvement to prevent environmentally-caused Healthcare Associated Infections (HAIs)[1]. As an academic group studying antimicrobial resistance (AMR) and effective disinfection and Infection and Prevention Control (IPC) practices, we feel responsible to comment.

Preventing Healthcare-associated infections (HAIs) is a significant challenges in hospitals [2], thus we agree with the purpose of this study to investigate current disinfection strategies. Although the inconsistencies in cleaning methods and products are detailed, the relevance of these to HAI and *Clostridioides difficile* infection (CDI) rates are not described. Similarly, while we agree with the need for more precise disinfection guidelines, it is also important to communicate the impact of less effective disinfection practices on HAI rates. This is because disinfection products often have ranging efficacies depending upon the pathogen, hence one single product may not be suitable to fully disinfect a room, thus allowing HAI pathogens to persist. Algorithms of disinfection, i.e. employing two or three types of disinfection measures (such as biocides and UV-C for example), may be more effective to eradicate HAI pathogens in clinical setting in future, especially when microorganisms are exhibiting increased resistance to antimicrobials and disinfection [3, 4].

Findings from Han *et al.,* (2021) provide evidence of sub-optimal floor-cleaning regimens where 63% of respondents reported no disinfection of patient room floors, instead using neutral cleaners for daily and terminal disinfection. They also showed that disinfectant agents are used more frequently in terminal cleaning than daily cleaning [1]. This may contribute to environmental transmission, rendering terminal cleaning a final *essential* activity that must be conducted in depth - which should not be the case if a hospital's aim is to avoid HAIs transmitted during the patient's stay. These types of inappropriate disinfection practices often lead to pathogens remaining within clinical settings [5 6 7 8], thus demonstrating the need to train cleaning staff appropriately [9 10] and to employ appropriate disinfection practices to reduce HAI transmission and infection rates.

Although the questions used in the survey differentiate between contact and non-contact isolation rooms, the survey Reponses did not detail exact pathogen(s) responsible for the patient's infection within each isolation room. This information would have been useful when considering disinfectant use. Perhaps a future study could incorporate environmental sampling alongside the survey to see if the data matches.

Communicating the HAI rates (and specifically CDI rates) for each respondent hospital would allow for a comparative data sets to establish how effective the disinfection strategies are. It would then be possible to compare strategies across regions and evaluate any similarities or need for improvement. The evaluation of hospital disinfection strategies to prevent environmentally-caused HAIs is more important than ever to standardise disinfection practices in the USA and globally.

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