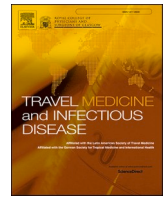




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## Correspondence

## Microbial contamination of the surface of mobile phones and implications for the containment of the Covid-19 pandemic



## ARTICLE INFO

## Keywords

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Cell phone  
Fomites  
Hygiene  
Virus

## Dear Editor,

We read with interest the review by Olsen & colleagues (2020) [1] underlining the possible role of mobile phones (MPs) as possible source of microbial infection. At the same time, the paper pointed out that, among the 56 identified investigations regarding the microbiological contamination of the surface of the MPs, only one study focused on the presence of viruses (specifically, the authors searched for viral RNA [1]).

The emergence of novel coronavirus SARS-CoV-2 in December 2019 and its high transmissibility, resulting in a rapid coronavirus disease (Covid-19) outbreak globally, has led the scientific community to look for undetected infection pathways [1]. The SARS-CoV-2 has been shown to spread not only from person to person but also through environmental and inanimate surfaces [2]. MPs have been proposed to act as “Trojan horses” in propagating pathogens, including viruses, during epidemics and pandemics [1].

The growing number of reports regarding bacterial contamination of MPs is contradicted by a paucity of advice provided to both healthcare workers and patients on the use and disinfection of MPs, particularly in hospitals. The development of research investigating MPs as vehicles of pathogens and their correlation with user habits could be useful to the World Health Organization (WHO) and to government agencies to increase public awareness and to formulate education material on MPs hygiene [3].

In our recent work [4] we observed that, in a sample of 108 students in health care professions (HPs), almost all of them (93%) used the telephone in the ward, and only 11% of those who used MPs wearing gloves stated that they changed them after use during common health care. In the same sample, only 3% said they cleaned the surface of their phones daily. We collected very similar data in a subsequent study on a new sample of students in HPs (n = 83; use of MPs in the ward: 89%; use without changing gloves: 47%; daily cleaning: 2%) (*unpublished data*) (Fig. 1). These habits could potentially reduce or nullify the effect of hand hygiene procedures, since previously decontaminated hands may become contaminated again by microorganisms present on the device [3].

The Covid-19 pandemic has strongly underlined the critical

importance of hygiene practices to counteract the spread of pathogens: it has highlighted once again that a public health concern is not merely a medical problem, as it affects society as a whole [5]. The actual increased societal awareness has led major MPs companies such as Apple, Samsung, and Google to release guidances for proper MPs disinfection [3] while CDCs recently published advices for cleaning and disinfecting high touch surfaces such as MPs at home; according to CDCs, when no producer’s guidance is available, alcohol-based wipes or sprays containing at least 70% alcohol should be used to sanitize electronic devices (<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html>; updated May 27, 2020). In light of Covid-19 pandemic, such procedures could be implemented also in the community, as a preventive measure to reduce the spread of the virus as well as other pathogens.

Taking into account the shortcomings in the current scientific landscape, further research is warranted, focusing both on the identification of viral material on the surface of MPs and on the isolation of viruses that may be present, in order to understand whether and to what extent they remain viable and virulent after lying on the devices.

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## Declaration of competing interest

The authors declare that there is no conflict of interest or financial disclosure about this publication.

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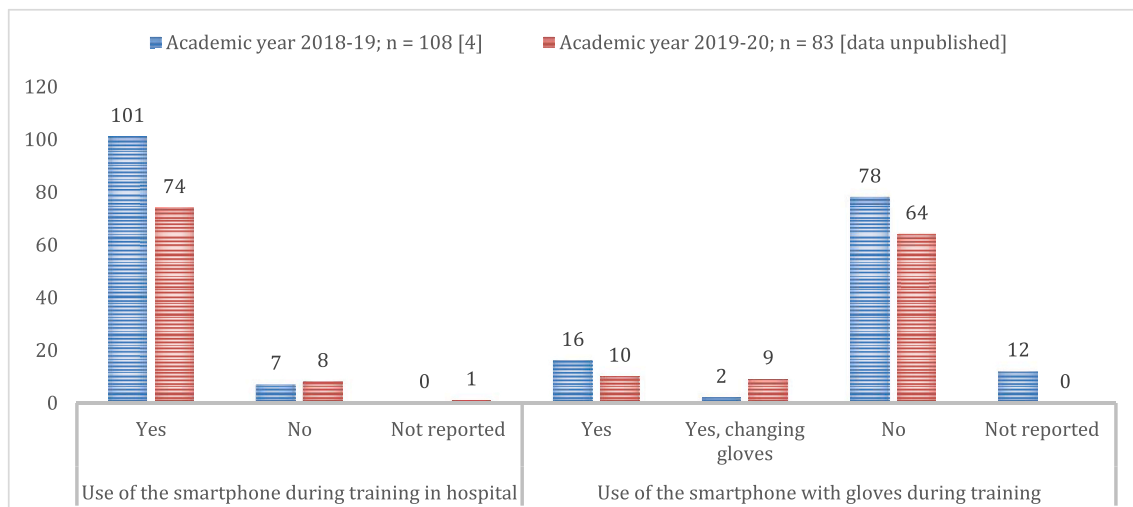


Fig. 1. Use of mobile phones in hospital: healthcare professions students' habits in Rome, Italy.