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Letter to the Editor

Could humor improve hand hygiene?



¿Podría el humor mejorar la higiene de manos?

Dear Editor,

Health-care associated infections (HCAIs) represent a risk of mortality, longer hospital stays and higher expenses.¹ Although most HCAIs are preventable,² preventive measures are not fully followed. The WHO reports a global hand hygiene (HH) average of 59%, which lamentably did not change during the COVID-19 pandemic.³

In 1843, it was discovered that using disinfectant for HH could prevent deaths caused by puerperal fever. Despite the evidence, they failed to generate a mandatory strategy. Almost 150 years were needed to develop HH guidelines,⁴ and its implementation programs remain a challenge.⁵

More than a “mandate”, behavior changes are required. Therefore, it is necessary to address behavior determinants. The delta difference of HH adherence achieved by a program has an almost linear association with the number of behavioral determinants that the program addresses. 18, 28, 42, 43, and 50% of HH adherence delta difference is reached if 1–5 behavior determinants are addressed. Knowledge, awareness, attitude, self-efficacy, action control, maintenance and behavior facilitation are some of the most used behavior determinants in successful HH programs.⁵

In psychology, normal human behavior is motivated by a need to maintain an ideal arousal level. According to the arousal theory of motivation,⁶ stimuli that are moderately surprising are preferred over stimuli that offer too little or too much novelty in order to maintain arousal. Humor brings those types of stimuli and arousal.⁷ Furthermore, using humor is recommended by the advertising literature, since it is recognized as a convincing strategy. Humor is persuasive, attracts consumers, improves attitudes toward the brand and enhances product remembering. Furthermore, humor can go “viral”, so the ads are spread by the consumers themselves.⁸ Thinking of HH as the selling product and healthcare workers as consumers, it seems that humor might be necessary to improve HH adherence.

A report of the 2015 APIC Film festival emphasized the importance of humor in infection prevention.⁹ In a HH photography contest in 2014, the winners included humor photos.¹⁰ In addition, when Googling for “infection prevention and humor”, a myriad of funny results appear. However, when searching for “Humor AND infection control” in PubMed, there is scarce information.

On a symposium about patient safety in 2023, we conducted an anonymous survey. The attendees had to scan a QR code according to their birthday, which was either odd or even. Both groups answered demographic questions and a question on a 10-point

Likert scale: How likely is it that you wash your hands after you leave? A sentence was shown afterwards for odds: “Frequent HH is recommended. Enterobacteria can temporarily be on the hands”. For the evens, and next to a comedic animation: “Frequent HH is recommended. . . You don't know who did NOT wash their hands when going to the toilet”. 86 people answered, 47% were less than 40 years old and the rest between 40 and 60 years old; 44.1% were physicians, 19.8% nurses, 32% students, and 3% professors. There were no differences among groups in these parameters ($p > 0.2$). The final question from the evens group, which included an animation, had a higher median (10, IQR 10–10 vs. 8.5, IQR 8–9, $p = 0.04$). 58.3% of the evens group answered they would definitely perform HH, against 38.9% of the odds.

In this survey we used a sentence that expressed the same concept, but approached differently: one stated the fact and the other, in a humorous sense, was embellished with a comedic animation. In equal circumstances, the group in which humor was used was more likely to report that they would perform HH. Although a small questionnaire, it reveals that, even in professionals, humor can improve the willingness to perform HH.

Broader and longer studies are needed to prove what was found in that survey. In the meantime, it seems that humor could be used to improve HH adherence. With the evidence on HCAIs' harmful effects, on the infection prevention power of HH and the benefits of humor, the final question is: should humor be mandatory for HH programs? For now, it seems that it is not counterproductive.

WARNING: When using humor, be careful not to use sarcasm, racism, religious or political themes, or any potentially offensive topic. Bear in mind that humor must be closely related to the message.

References

1. Haque M, Sartelli M, Mckimm J, Abu Bakar M. Health care-associated infections – an overview. *Infect Drug Resist.* 2018;11:2321–33. <http://dx.doi.org/10.2147/IDR.S177247>.
2. Schreiber PW, Sax H, Wolfensberger A, Clack L, Kuster SP. The preventable proportion of healthcare-associated infections 2005–2016: systematic review and meta-analysis. *Infect Control Hosp Epidemiol.* 2018;39:1277–95. <http://dx.doi.org/10.1017/ice.2018.183>.
3. World Health Organization. Global report on infection prevention and control global report on infection prevention and control; 2022. <https://www.who.int/publications/i/item/9789240051164> [accessed 28.04.23].
4. World Health Organization. WHO guidelines on hand hygiene in health care; 2009. <https://www.who.int/publications/i/item/9789241597906> [accessed 28.04.23].
5. Huis A, Van Achterberg T, De Bruin M, Grol R, Schoonhoven L, Hulscher M. A systematic review of hand hygiene improvement strategies: a behavioural approach. *Implement Sci.* 2012;7:1–14. <http://dx.doi.org/10.1186/1748-5908-7-92>.
6. Cherry K. Arousal theory of motivation: definition, examples, and impact; 2022. <https://www.verywellmind.com/the-arousal-theory-of-motivation-2795380> [accessed 28.04.23].

7. Eisend M. The influence of humor in advertising: explaining the effects of humor in two-sided messages. *Psychol Mark.* 2022;39:962–73, <http://dx.doi.org/10.1002/mar.21634>.
8. Cline TW, Kellaris JJ. The influence of humor strength and humor-message relatedness on ad memorability: a dual process model. *J Advert.* 2007;36:55–67, <http://dx.doi.org/10.2753/JOA0091-3367360104>.
9. Film festival uses humor and education to promote infection prevention. Association for Professionals in Infection Control and Epidemiology (APIC); 2015. <https://dev.apic.org/news/film-festival-uses-humor-and-education-to-promote-infection-prevention> [accessed 28.04.23].
10. World hand hygiene day 2014: clean shots photo contest. Provincial Infection Control Network of British Columbia (PICNet); 2014. <https://www.picnet.ca/conferences-events/past-conferences-events/world-hand-hygiene-day-2014-clean-shots-photo-contest> [accessed 28.04.23].

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