

## Letter to the Editor

[The Editor is not responsible for the views expressed by the correspondents]

### Beyond The Breeze : Surprising Drawbacks of Hand Dryers

SIR, — Hand hygiene is an essential aspect of infection control in the Intensive Care Unit (ICU), and proper hand drying after washing is a crucial step in this process. Wet skin is more likely to transmit bacteria than dry skin, making adequate hand drying an essential part of hand hygiene<sup>1</sup>. The Epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England emphasises the importance of completely dry hands for effective hand hygiene<sup>2</sup>. A study found that hand drying reduced the translocation of bacteria by up to 99% compared to wet hands<sup>3</sup>. Clear recommendations exist for handwashing with soap and water, but less is known about the relative efficacy of hand-drying methods in reducing contamination<sup>4</sup>. In health care setups, Paper towels, cloth towels, and hot air dryers are commonly used to dry washed hands<sup>1</sup>. Different methods of hand drying have varying levels of efficacy. In healthcare facilities across India, electric hand dryers are prevalent, mainly due to their affordability. However, these hand-drying devices have many disadvantages that need to be considered. Studies have revealed that hand dryers can contribute to the spreading of bacteria. These devices have been found to disperse bacteria up to a distance of 3 feet, which is a cause for concern<sup>1</sup>. Additionally, jet air dryers, a more powerful version of hand dryers, can disperse bacteria even further, up to a distance of 2 meters.<sup>1</sup> They contaminate the clothing and the surrounding environment by dispersing the bacteria, thereby increasing the risk of cross-contamination and spreading to bystanders<sup>1,5</sup>. Studies have shown that using a hand dryer after washing hands may lead to more bacteria on the hands than without using a hand dryer<sup>6</sup>. As found by many studies, paper towels are an effective alternative. However, various studies have found that good-quality paper towels dry hands efficiently, remove bacteria, and prevent

environmental contamination<sup>1,2</sup>. Considering the current average cost per sterile paper towel to be around eight rupees, this might not be cost-effective in resource-limited settings. It is imperative that we reconsider the use of hand dryers and explore alternative measures that are both cost-effective and efficient.

### REFERENCES

- 1 Huang C, Ma W, Stack S — The Hygienic Efficacy of Different Hand-Drying Methods: A Review of the Evidence. *Mayo Clinic Proceedings* 2012; **87(8)**: 791-8.
- 2 Loveday HP, Wilson JA, Pratt RJ, Golsorkhi M, Tingle A, Bak A, et al — epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *Journal of Hospital Infection* 2014; **86**: S1-70.
- 3 Patrick DR, Findon G, Miller TE — Residual moisture determines the level of touch-contact-associated bacterial transfer following hand washing. *Epidemiol Infect* 1997; **119(3)**: 319-25.
- 4 Boyce JM, Pittet D — Healthcare Infection Control Practices Advisory Committee, HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. Society for Healthcare Epidemiology of America/Association for Professionals in Infection Control/Infectious Diseases Society of America. *MMWR Recomm Rep* 2002; **51(RR-16)**: 1-45, quiz CE1-4.
- 5 Moura IB, Ewin D, Wilcox MH — From the hospital toilet to the ward: A pilot study on microbe dispersal to multiple hospital surfaces following hand drying using a jet air dryer versus paper towels. *Infect Control Hosp Epidemiol* 2022; **43(2)**: 241-4.
- 6 Kouadri F — Microbiological Assessment of the Different Hand Drying Methods and Washroom Environment Cross-Contamination. Falkingham J, editor. *International Journal of Microbiology* 2020; **2020**: 1-7.

Subbaiah Institute of **Darshan Rajatadri Rangaswamy<sup>1</sup>,**  
Medical Sciences, Shimoga, **Niranjan Kamble<sup>2</sup>,**  
Karnataka 577222 **Kiran Kavatagi<sup>3</sup>**

<sup>1</sup>MBBS, MD, DNB, Assistant Professor, Department of Pediatrics

<sup>2</sup>MD, Associate Professor, Department of Pediatrics

<sup>3</sup>MD, Associate Professor, Department of Microbiology