Bacillus subtilis application on decolonisation of *Staphylococcus aureus*

Microbiome and probiotic studies have become increasingly popular in recent years, suggesting that more clinical trials examining the effectiveness of probiotics will be produced in the coming years. In response to the randomised clinical trial by Pipat Piewngam and colleagues,[1] we note the following points about the study.

The researchers chose to study the population of a rural area in Thailand. However, the microbiome population can vary on the basis of various factors, including the environment, lifestyle, diet, biomedical interventions, demographics, and geography of the individual.[2] This variation might be more pronounced in rural areas compared with urban areas where pathogenic *Staphylococcus aureus* colonisation is more common,[3,4] potentially affecting the generalisability of the study.

Furthermore, the paper does not mention the assessment of compliance. It would be valuable to assess the participants' compliance in the study, because some individuals reported unpleasant tastes and other unwanted effects. Although probiotics have been reported to cause few to no side-effects, the possibility should not be underestimated, especially when administered to susceptible populations. Previous studies have reported side-effects such as an upset stomach and unusual stool.[5] These issues could pose a notable problem for older or critically ill patients in real-world settings, and future studies should address the potential side-effects of probiotic administration.

Finally, the future applications of this probiotic should focus on higher risk groups, such as health-care workers, physicians, and patients in hospice care, who are all at a higher risk of severe infections, to assess its capability in controlling these pathobiomes.

We declare no competing interests.

*Muhammad Anshory, Hok Bing Thio
m.anshory@erasmusmc.nl

Department of Dermatology, Erasmus MC, University Medical Center, Rotterdam3015 GD, Netherlands

1 Piewngam P, Khongthong S, Roekngam N, et al. Probiotic for pathogen-specific *Staphylococcus aureus* decolonisation in Thailand: a phase 2, double-blind, randomised, placebo-controlled trial. *Lancet Microbe* 2023; **4:** e75–83.

2 Mirzayi C, Renson A, Furlanello C, et al. Reporting guidelines for human microbiome research: the STORMS checklist. *Nat Med* 2021; **27:** 1885–92.

3 Das B, Ghosh TS, Kedia S, et al. Analysis of the gut microbiome of rural and urban healthy indians living in sea level and high altitude areas. *Sci Rep* 2018; **8:** 10104.

4 Van Nguyen K, Zhang T, Thi Vu BN, et al. *Staphylococcus aureus* nasopharyngeal carriage in rural and urban northern Vietnam. *Trans R Soc Trop Med Hyg* 2014; **108:** 783–90.

5 Freedman KE, Hill JL, Wei Y, et al. Examining the gastrointestinal and immunomodulatory effects of the novel probiotic *Bacillus subtilis* DE111. *Int J Mol Sci* 2021; **22:** 2453.

Published **Online**
March 6, 2023
https://doi.org/10.1016/S2666-5247(23)00065-4