
Comment on: “The relationship between the exposure to healthcare settings and colonization with methicillin-resistant *Staphylococcus aureus* among medical students”Sophie Rainbow^{1,*}, Tenzin Dorji²

Dear Editor,

This article¹ provides crucial insights into the ways in which medical students undergoing clinical placement might pose a risk to patients. The authors have identified a key issue in the clinical teaching setting whereby medical students are unknowing carriers for methicillin-resistant *Staphylococcus aureus* (MRSA), and therefore contributing to the potential spread of this deadly infection to vulnerable patients. Medical students often spend much time with patients as part of their training, involving extended periods of interaction and physical contact through clinical examinations. These provide ample opportunities for patients to become infected with MRSA and could lead to a prolonged hospital stay, a deterioration in their health or even prove fatal.² Understanding how and why these medical students come to acquire MRSA may aid in disease prevention and ensure the safety of hospitalized patients.

It was found that the risk of being a MRSA carrier increased with the duration of clinical training. Fifth year medical students showed a much higher incidence of nasal and axillary

MRSA colonization than their first and third-year counterparts. Similar studies on medical students across the world have reported this relationship between length of clinical exposure and MRSA colonization, however the prevalence in this group of students was considerably higher.³ This discrepancy could be attributed to variations in infection control policies, the attitude of students towards hygienic practices and geographical differences. Of consideration here is that the study has not accounted for differences in the level of patient/student interaction. For instance, fifth-year medics are more likely to directly deal with patients and be more actively involved than first-year medics, thus raising the likelihood of getting infected.

The authors also found that the students' knowledge of good hygienic practice increased with time in medical school, but this did not necessarily help reduce the risk of being a carrier, as demonstrated by the high prevalence of MRSA in fifth-year students. This could possibly be due to students not applying their knowledge to clinical practice and therefore it would have been more insightful if their practical skills on infection control were assessed instead. Furthermore, the effect of theoretical knowledge on carrier prevalence was not appropriately addressed as it may have been obscured by the duration of the placement. Therefore, it could be useful to investigate the relationship between these questionnaire scores within the cohort and the risk of being a carrier. When on placement in hospitals or other clinical settings, it is easy to adopt the malpractices of qualified healthcare professionals who have perhaps become slack with upholding hygienic standards. This makes it necessary for healthcare professionals to maintain sanitary practice in order to set a good example for medical students.

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Based on our experiences in medical school, the knowledge and attitude of medical students towards infection control is often poor and rarely assessed. Despite constant reminders from the medical school and multiple visual cues around hospitals, there is certainly a sense of apathy from students when it comes to maintaining good hygienic practice. This could be accountable for the large numbers of students carrying MRSA, and perhaps highlights the need for routine knowledge testing to ensure students are well equipped for life in the hospitals.

Future development of this study may consider comparing medical students enrolled from different universities within Sri Lanka. This would not only map out regional and institutional differences in students undergoing clinical placements, but also allow the authors to identify if there is a health and safety concern in any specific hospitals, should the incidence show to be higher than the rest of the country. Another potential avenue would be to look at the carrier prevalence in other medical professionals such as physicians and nurses in order to make comparisons with this cohort and assess for any factors that may be influencing the trend seen here. We also believe that additional swabbing sites could be utilized to ensure more accurate MRSA testing. Many studies have demonstrated the nose, throat and groin to be the best anatomical sites for more sensitive detection,⁴ and so the authors may consider abandoning axillary swabs and instead adopt what is recommended in the literature.

Reducing the risk of medical students carrying MRSA is vital. It is not only a danger for frail and vulnerable patients, but also the medical students themselves since being a carrier significantly increases your risk of serious infection and death.⁵ The authors have highlighted a key issue,

which can serve as an indication for institutions worldwide to assess the knowledge and safe practice of their medical students. We would perhaps like to see a prospective cohort study following first-year medical students through their training and correlate their risk of being a MRSA carrier with the amount of hygienic practice training the students have completed.

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