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# Perspectives of medical students towards the prohibition of direct patient contact during a pandemic

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## I. INTRODUCTION

Singapore raised its Disease Outbreak Response System Condition (DORSCON) from yellow to orange on the 7<sup>th</sup> of February 2020 after it is first reported unlinked community COVID-19 case on the 6<sup>th</sup> of February 2020.

The Department of Emergency Medicine (DEM) of Singapore General Hospital (SGH) hosted clinical rotations for medical students (MS) from Duke-NUS Medical School. Their clinical rotations lasted four weeks, during which MS were expected to achieve competence in history taking, physical examination, formulating a management plan, and performing minor procedures.

The local curriculum relies heavily on clinical rotations, during which MS directly contacts patients to fulfil their learning objectives. During DO, clinical postings were postponed, and the term break was brought forward (Ashokka et al., 2020). Restricting MS from entering hospitals and having face-to-face interactions with patients resulted in significant changes to clinical learning. Learning sessions involving direct contact that could not be held over remote platforms were cancelled.

We aimed to discover how MS felt excluded from clinical teaching during the COVID-19 pandemic and how teaching could be improved to support their learning.

## II. METHODS

A mixed method of qualitative content analysis and quantitative analysis was performed for this study. Purposive sampling was conducted among all the Duke-NUS MS whose clinical postings to SGH DEM were affected during the COVID-19 outbreak. The link for the online survey form was sent via email or WhatsApp® to 60 MS. Their preferences in learning were assessed by a simple descriptive quantitative analysis of the responses to multiple-choice questions and were followed by an open-ended question whereby template analysis was performed. The consent of each participant was obtained as part of the online survey. The sample of the survey is attached in Appendix A.

## III. RESULTS

### A. Quantitative Result

Twenty-five MS (42%) were keen to participate in all learning activities at all department areas during normal times if they were trained to wear adequate personal protective equipment (PPE). Twenty-one MS (35%) felt that all learning activities should only be in safe areas of the department with appropriate PPE. Twelve MS (20%) were not keen on having any patient contact.

## B. Qualitative Results

1) *What other areas of improvement department could introduce about learning during the current pandemic?*

Identified main themes, subthemes, and quotes from the open-ended questionnaire questions are presented in Table 1.

Main themes /subthemes	Quotes
1) <u>Balance of training needs with infection control</u> Patient contact is integral to medical education, but it had to be balanced during this pandemic by reducing infection transmission risk.	<i>"... there is simply no substitute for actually seeing patients for the best learning...."</i> <i>"I think it would be more dangerous to let the students into the wards with a false sense of security (i.e., anticipating limited exposure) than to be fully prepared for all situations."</i>
2) <u>Respecting medical students' choice</u> Some respondents felt that MS are all adult learners and should be given the liberty to weigh the risk of infection and benefit of learning through direct patient contact and decide if they want full clinical exposure to patients.	<i>"should be allowed to choose - whether or not they wish to see patients."</i>
2.1) <u>Competency and training needs</u> By preventing all MS from seeing the patients, some felt that this would result in MS not achieving adequate competency as a doctor, subsequently affecting the future healthcare workforce.	<i>"...We should be allowed to participate in national efforts to quell this disease and to learn as part of this job the national defence expects of us in the future."</i>
2.2) <u>Compromise in patient safety</u> If patients were to be managed by doctors who lack sufficient clinical exposure during their MS training, their care would be compromised.	<i>"...It's helping no one and least of all the patients who will encounter a fresh batch of HOs [House Officers] with little practical experience."</i>
3) <u>Risk reduction methods</u> Training MS to wear PPE correctly can reduce the risk of transmission significantly and prepare them for future pandemics.	<i>"To teach and equip students adequately as it would help students with clinical posting and understand the basic importance of PPE in the future as well be well prepared."</i>
3.1) <u>Remote learning is good but should be engaging and interactive</u> One of the challenges of remote learning is the difficulty faced by MS in maintaining a constantly high level of attentiveness. Hence, it is crucial that remote learning is engaging and interactive.	<i>"interactive digital simulations"</i> <i>"using polls was a good way to interact."</i>

Table 1. Themes, subthemes and medical students' responses

## IV. DISCUSSION

A multi-centre quantitative study was done in the USA by Harries et al. (2021) which showed that 83.4% of MS agreed to return to the clinical environment. These results were comparable with our study's quantitative result, which showed that 77% of MS were willing to return to the clinical environment during a pandemic.

Spencer et al. (2000) showed that direct patient contact is essential for developing clinical reasoning, communication skills, professional attitudes, and empathy. The findings of this study showed that MS felt that not having direct clinical contact with patients during the pandemic had adverse effects on their learning. Although actual patient contact is desired, this may be countered by the risk of COVID-19 infection, reflected in the first theme of "balance of training needs with infection control" only if adequate risk reduction can patient contact be achieved within a low-risk environment.

MS are all adult learners and should be given liberty on the need for full clinical exposure to patients. However, barring MS from clinical areas also occurred in other

countries, especially with the shortage of PPE during the initial emergence of COVID-19 (Rose, 2020).

PPE and infection control training for MS is crucial to ensure clinical teaching can be conducted safely during a pandemic outbreak. Norton et al. (2021) suggested that to avoid injury to patients and healthcare providers and reduce COVID-19-related anxiety among MS, better PPE and infection control training was essential.

### A. Limitation

As our study is a mixed qualitative content analysis and quantitative analysis study of a single centre, it is therefore affecting the generalisability of our results. More multi-centre research could be conducted to understand MS's opinions across Singapore better.

Secondly, another limitation is that our data was collected via an online survey, and we could not follow up with in-depth questions, unlike face-to-face interviews.

The study was done during the early phase of the COVID outbreak and was designed as an initial exploratory

study. The results could be used to establish initial information that can help guide future studies.

## V. CONCLUSION

From this study, it is essential that medical education needs to be more versatile in future pandemics and consider MS's opinions. We recommend the incorporation of PPE and infection control training in the undergraduate curriculum, as well as the set-up of an effective online learning platform.

## Notes on Contributors

Lim Mian Jie performed the literature review and the template analysis of the data and wrote the manuscript.

Wee Choon Peng Jeremy developed the methodological framework, performed the template analysis of the data, and gave critical feedback to the writing of the manuscript.

Dana Han Xin Tian submitted the CIRB application, recruited the participants, and collected the data.

Evelyn Wong conceptualised the study, collected the data, advised on the study's design, and gave critical feedback to the writing of the manuscript.

All the authors have read and approved the final manuscript.

## Ethical Approval

IRB exemption for this study was obtained (SingHealth CRIB reference number 2020/2134).

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## Declaration of Interest

There is no conflict of interest.

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## Appendix A

1. I agree to participate in this survey on the perspectives of medical students in an EM posting during the COVID-19 outbreak.
  - a. Yes
2. I think that during the outbreak when there is community transmission in Singapore, medical students.
  - a. Should be trained to wear adequate personal protective equipment and allowed in all areas of the department and be allowed to participate in all learning activities as during normal times
  - b. Should be allowed to safe areas of the department wearing appropriate personal protective equipment, and not be exposed to potentially infectious patients as they are not healthcare employees but students
  - c. Should not be allowed in the department at all but have learning without patient contact as any patient could potentially be infectious without symptoms
  - d. Other (please specify)
3. What other areas of improvement do you think the department could introduce with regard to learning during the current outbreak?
4. Thank you for your sharing. Please let us have any other comments here.