

EDITOR'S FOREWORD

Resilience in Student Research

Noor Adeebah Mohamed Razif

School of Medicine, Trinity College Dublin, University of Dublin, Ireland (MohameNo@tcd.ie)

Since early 2020, the world witnessed SARS-CoV-2—the COVID-19 virus—taking away the lives of their loved ones and stopping many large in-person gatherings such as going to the cinemas, conferences, and in-person lectures. Research done by students was also one of the activities that was inevitably affected by the pandemic. Many aspiring student researchers faced a halt to their exciting scientific investigations for the remaining academic year and their upcoming summer break unless they were essential or related to COVID-19. Various organised studentships and research programmes had to be cancelled too. This is largely because this research requires physical presence in a laboratory or physical interaction with patients. However, this did not bring student researchers down—their resilience shined through. In the past year, students around the world managed to make the most out of lockdowns and restrictions by carrying out research in the most accessible way they could, as demonstrated by the contents of this 21st volume of the TSMJ.

More importantly, it highlighted the various forms of research that could be done remotely. Literature reviews provide an overview of a topic using previously published works. The methodology of a literature review can be done at home since most publications are now readily available online. In this volume, Anurag Nasa wrote an insightful article about bacteriophage therapy and its potential to be a more sustainable alternative to antibiotic treatment for infections. The use of bacteriophage therapy may be useful to counter multi-drug resistant bacteria that are on the rise globally. Matthew Thomas, on the other hand, reflected on the potential of using bacteria as a vector for drug delivery, particularly with the use of synchronised lysis circuits, a niche form of communication that bacteria use to coordinate activities in a population. He also noted the incorporation of nanobodies into these bacteria, particularly those that exhibit immune checkpoint inhibitor properties, which makes drug delivery more efficient and reduces the toxicity of the medication. Aidan O'Riain provided a comprehensive review of adenovirus vectors, which have already been used to develop one of the COVID-19 vaccines, and its future potential in clinical practice. Literature reviews are an excellent starting point for researchers and health practitioners to understand a concept better.

Systematic reviews are one of the highest levels of scientific evidence based on the Oxford Centre for Evidence-Based Medicine¹. They synthesise information from multiple existing sources in an organised approach, within a specific set of parameters, to produce findings that are reliable with minimal bias. Not to mention, it is also a type of research that is convenient to do in this pandemic, as most of the work is done remotely by online database search and by video call meetings among co-authors. Sarah Waicus and Lauren Vrbanic conducted a systematic review of the treatment of hydrocephalus in congenital toxoplasmosis using the known drugs, pyrimethamine and sulfonamide. Roisin Guihen and co-authors managed to determine the common risk factors and associated comorbidities of hidradenitis suppurativa. Stefan Elekes and colleagues provided an up-to-date analysis of studies about the latest screening and treatment options for latent tuberculosis infection. Additionally, the rapid studies published for COVID-19 research also provided an excellent source of data for systematic reviews to be conducted from, even by students. Laith Al Azawi and colleagues studied the efficacy of the drug dexamethasone in patients who were admitted to intensive care units due to COVID-19, based on recent evidence. Systematic reviews are vital in informing clinical decision making in today's practice.

Various medical specialty bodies frequently hold essay competitions not only to promote their field, but also to encourage students to enhance their knowledge in the specialty. Niall O'Rourke, runner up of the College of Psychiatrists of Ireland Medical Student and Intern Essay Prize 2021, provided a succinct feature on virtual therapies that currently exist in psychiatry. He pointed out exciting new virtual therapies

that may have potential, although numerous limitations still need to be addressed before these therapies enter common clinical practice. Meanwhile, Lowri Edwards summarised the importance of patient-centred care by anaesthesiologists and other healthcare workers to manage a patient's expectations throughout the process of a procedure or operation. This was submitted to the College of Anaesthesiologists of Ireland 7th Annual Medical Student Essay Competition 2020. Garrett Huwyler provided a comprehensive discussion and comparison about the regulation of non-surgical cosmetic interventions in the European Union and the United Kingdom that earned him the prize winner of the TCD Dermatology Society Essay Prize 2021. Essays may not seem to be a valued form of scientific literature, but their key messages are usually relevant and suitable for the public to comprehend due to their straightforward evidence-based content and language.

To conclude, students should use the opportunity of this pandemic to explore other forms of research, particularly essays and reviews. Essay competitions are an ideal avenue to sharpen one's research skills. Reviews should not be underestimated and although they are not experimental or patient-based research, an enormous amount of effort and collaboration is still needed. This pandemic also highlights the need to incorporate research like this into the curricula of medical schools as it can have tangible benefits for students, such as increasing their depth of knowledge, improving scientific writing skills, and providing the chance to publish their works. Embedding research skills in students during their undergraduate studies better prepares them to carry out their own research in the future. More importantly, these skills will help them to translate and apply the knowledge gleaned from published works into their future occupations. ◀

Declarations

The author declares no conflicts of interest.

References

1. Cebm.ox.ac.uk. 2021. Oxford Centre for Evidence-Based Medicine: Levels of Evidence (March 2009) — Centre for Evidence-Based Medicine (CEBM), University of Oxford. [online] Available at: <<https://www.cebm.ox.ac.uk/resources/levels-of-evidence/oxford-centre-for-evidence-based-medicine-levels-of-evidence-march-2009>> [Accessed 16 August 2021].

I would like to thank the School of Medicine of Trinity College Dublin for not only helping us in publishing our 21st volume but also for encouraging students to carry out research by embedding research projects into the curriculum. I am also humbly grateful for sponsorship from the Medical Protection Society, AMBOSS, and the Trinity Association and Trust.

Lastly, I would like to express my deepest gratitude and appreciation towards the whole TSMJ committee for their unwavering support and for their hard work in making this volume possible. We could not have done this without all of you.