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Marcel F D'Eon

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Canadian Medical Education Journal

Editorial

Sleep deprivation and sleep debt among medical students, revisited

La privation de sommeil et le manque de sommeil chez les étudiants en médecine, revisités

Marcel F D'Eon[1]

[1]Professor Emeritus, University of Saskatchewan, Saskatchewan, Canada

Correspondence to: Marcel D'Eon; email: marcel.deon@usask.ca

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It has been exactly five years since I published my first editorial on sleep deprivation among medical students—and our complicity in perpetuating the problem.[1] Medical students are still tired, and it will take a concerted effort by both medical students and medical education leaders to make some headway. That is why I am circling back to this topic, not that I can't think of anything else!

To that end, I will build my remarks with two clusters of ideas. First, there is more to say about the research in this area, especially sleep debt about which I have recently become aware. Second, this is not only a wellness issue: lack of sleep seriously impairs learning. This should get the attention of medical students and faculty alike.

There are still very high rates of poor sleep quality, insufficient sleep duration, and excessive daytime sleepiness among medical students.[2,3,4]

I have known from previous inquiry that accumulated sleep deprivation had long-term consequences that are difficult to mitigate, but the term "sleep debt" is a new one for me. Sleep debt has been linked to neurobehavioural and physiological impairments leading to dangerous and injurious events.[5] and long-term negative health conditions.[6] We cannot continue to ignore this.

Sleep is crucial for learning and memory consolidation,[3] but the relationship to grades is not clear. It appears that sleep deprivation severely impairs learning ability and affects academic performance,[3] as well as short-term memory but maybe not GPA.[7]

Why is sleep deprivation endemic to medical schools? Change is generally complex and challenging and in medical schools near impossible. There are two places to start looking: students' attitudes and academic overload, which have been identified as causative factors. Yet, several other factors have not been sufficiently researched.[2] We need more research, but we could take some immediate action and study it carefully, as in an action research project.

What else is holding us back? Students may have found success in skipping sleep and feel, contrary to evidence, that more studying will be of more benefit. In the face of unrelenting pressure to learn more faster, students may feel they need to just put their head down, grit their teeth, and try harder. It may take more than a few sessions discussing sleep to turn some attitudes around and then act on the information that a good night's sleep is better than a few more hours of (tired) studying.[8] Consider how many students still use highlighting and re-reading as go-to study strategies. Students may still believe that sleeping in on the weekends makes up for a week of skimping on sleep when the research shows that it may take one night of solid sleep to catch up on one hour of sleep debt. Alcohol consumption does not help, but 15-20 minutes naps may. (I have told many students and faculty—usually in the context of improving lectures—that in my undergraduate years, if it had not been for lectures, I too would have been sleep-deprived likely due to undiagnosed sleep apnea.) Working with students is one way to address this sleepless epidemic.

The other complementary approach is for medical education leaders to make changes to medical schools that will provide space and support for medical students to attend to their sleep (and other wellness activities). Excessive content and less meaningful assignments can be eliminated. Leaders can identify and minimize instances of the hidden curriculum that encourage and valorize "all-nighters" and other manifestations of sleep deprivation that I wrote about in 2020.[1]

The endemic situation of sleep deprivation and debt among medical students is a serious health and learning issue that we cannot continue to ignore. The harmful and costly consequences should keep us up at night!

In this issue you will find a marvelous medley of topics from research design, to allyship, assessment, curriculum co-production, faculty development, and wellness. I trust you find several that are of interest to you.

Original Research

The article What it means to be an ally in Indigenous healthcare by Bruno and co-authors,[9] studied the role of allyship among healthcare providers identified as allies to Indigenous patients. They found that allyship involves community-defined actions, authentic advocacy, and a commitment to creating positive healthcare experiences.

Classification of the intensity of interprofessional learning in the context of clinical placements: a proposal based on theoretical foundations in interprofessional education and the results of a narrative review by Richard and team[10] is a French publication that proposed a classification for interprofessional education (IPE) internships based on factors such as learning methods, experience with patients, and length of internship.

Use of Boelen's conceptual model to develop a portrayal of the evolution of social accountability at a Canadian medical school by Cumyn et al.[11] is another French publication that analyzed the evolution of social accountability in the University of Sherbrooke's medical program since 2005.

"Like, we can't keep adding": a mixed methods study to explore the feasibility of implementing a co-produced 24-Hour Movement Guideline content by Morgan et al.[12] aimed to gain consensus on a 24-Hour Movement Guidelines curriculum map and objectives among Canadian medical faculty and students. They found strong consensus on most map components and identified key implementation determinants, particularly in the inner setting.

Brief Reports

Evaluation of a longitudinal Indigenous health elective in family medicine by Lisa Zaretsky and co-authors,[13] assessed the University of Calgary's Indigenous Health Longitudinal Elective (IHLE) pilot program, which exposed family medicine residents to Indigenous healthcare environments. Their results suggested that the program enhanced the understanding of Indigenous healthcare values and recommended improvements in program structure and self-reflective opportunities for residents.

Evaluating facilitator adherence to a newly adopted simulation debriefing framework by Smith and co-authors[14] evaluated facilitator adherence to a newly implemented debriefing framework in simulation-based medical education. Their results showed variability in adherence, with facilitators more consistently following educational behaviours than organizational ones.

The feasibility of an innovative online mind-body wellness program for medical students by Ray and team[15] assessed an online wellness program for medical students. They explored changes in perceived stress and quality of life.

User experience of the Written Exam Question Quality tool to inform the writing of new written-exam questions Vachon Lachiver and St-Onge[16] focused on a tool designed to assist faculty in the time-consuming task of writing higher-quality written exam questions. The authors found that the tool was is seen positively, but further research is needed to assess its impact on question quality.

Reviews, Theoretical Papers, and Meta-Analyses

Evaluating the outcomes of problem-based learning in postgraduate medical education: a systematic review and meta-analysis by Emma Mensour and co-authors[17] consolidated data on problem-based learning (PBL) application in postgraduate medical education contexts. They found that PBL produced similar learning outcomes to traditional teaching methods but improved trainee satisfaction and self-reported behavioural outcomes.

Black Ice

Six ways to get a grip on recruiting "Occasional Faculty Developers" by Hazelton and team[18] offered strategies for recruiting and retaining occasional faculty developers—many of whom are clinicians. They acknowledged the difficulty in recruiting occasional faculty developers due to clinicians' limited availability, while emphasizing the mutual benefits of faculty development, such as career opportunities for participants.

Six ways to get a grip on a mentorship program for residents and faculty by Harper et al.[19] highlighted the importance of mentorship in medicine and outlined six strategies for creating and evaluating mentorship programs for residents and faculty, including facilitating gender or racial matching when desired.

Canadiana

In Valuing virtue in medicine: a closer look at CanMEDS, Saroj Jayasinghe[20] explored the role of virtues within the CanMEDS framework and argued that virtue should be included as an additional thematic field in health professional education.

A history of the Antisemitic 1934 Montreal Hospital Strike by Groszman and Weisz[21] recalled Canada's first medical strike, which occurred in protest of a Jewish physician being appointed as a chief intern at a Catholic hospital. The authors used that event to highlight the history of systemic racism and antisemitism in medicine.

You Should Try This!

Implementation and evaluation of a novel orientation manual for the emergency medicine clerkship and elective rotation by Terry and team[22] described a mobile-friendly guide for emergency medicine medical students. The guide provides all the essential information for their rotation, helping them learn and perform better.

Commentary and Opinions

Sick by design? Why medical education needs health promoting learning environments by Do and co-authors[23] outlined how a Health-Promoting Learning Environment can foster well-being and connection through improved policies, inclusive spaces, and a more compassionate culture.

The commentary, Resist the Randomized Controlled Trials fetish: different questions require different pyramids of evidence, by Deonandan[24] contended that while Randomized Controlled Trials are useful for testing drugs, they are less suited for interventions like masks, which are better evaluated through lab studies.

Letter to the Editor

In response to Bruno et al.'s article,[9] Lam and co-author's letter, Indigenous Allyship in Medical Education,[25] reiterates the importance of healthcare professionals' allyship with Indigenous populations.

Scientific Reports

Reviewers' views on the editorial review processes of the Canadian Medical Education Journal by Lotoski and team[26] examined peer reviewers' experiences with invitations to review articles. The study highlighted the importance of acknowledging reviewers' contributions. They emphasized the need for ongoing improvements to the peer-review process.

Image

Yaghy and Perera's article and image, The roots of resilience,[27] compared medical residents' resilience to a tree needing nurturing elements to flourish. Through contrasting images—a thriving tree and a withering one—they compared a nurturing workplace with a toxic one, urging healthcare organizations to create conditions to help residents grow into compassionate physicians.

Works-in-Progress

Inclusive learning environments in medicine: a protocol on scoping what we know by Achtoutal et al.[28] outlined their scoping review on how health advocacy and Equity, Diversity, and Inclusion are integrated within medical learning environments. They hope their work will help to understand the factors and obstacles to creating an inclusive learning environment.

Enjoy!

Marcel D'Eon
CMEJ Editor-in-Chief

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