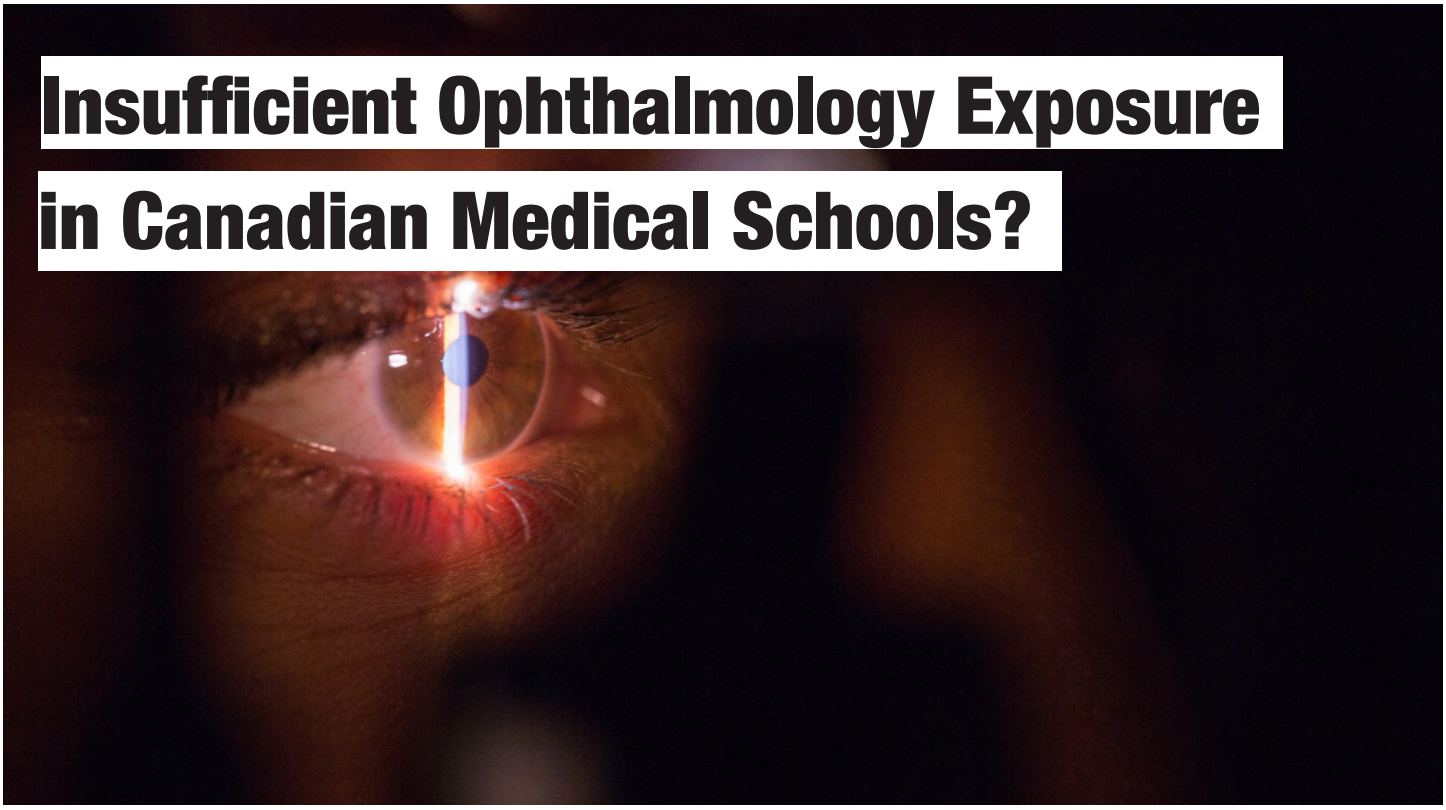
Insufficient Ophthalmology Exposure in Canadian Medical Schools?



Rishi Gupta[1]

[1]Université d'Ottawa, Ottawa, Ontario, Canada

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ABSTRACT

Ophthalmological education is crucial for physicians of all fields and the current medical school education system in Canada does not provide students with sufficient training to adequately address certain common ocular conditions. Students can graduate their medical school with often one to two weeks of exposure to ophthalmology over the course of their three to four-year degree. A method to improve the ophthalmological training involves implementing established guidelines from the International Council of Ophthalmology, which lists attainable and specific objectives for medical students to complete by graduation.

RÉSUMÉ

La formation ophtalmologique est cruciale pour les médecins de tous les domaines et le système actuel de formation des écoles de médecine au Canada n'offre pas aux étudiants une formation suffisante pour traiter de manière adéquate certaines affections oculaires courantes. Les étudiants peuvent obtenir leur diplôme de médecine avec souvent une ou deux semaines d'exposition à l'ophtalmologie au cours de leurs trois ou quatre années d'études. Une méthode pour améliorer la formation ophtalmologique consiste à mettre en œuvre les lignes directrices établies par le Conseil international d'ophtalmologie, qui énumère des objectifs réalisables et spécifiques que les étudiants en médecine doivent atteindre avant d'obtenir leur diplôme.

It is commonly known that although ocular concerns are a significant proportion of ambulatory care visits, there is insufficient exposure to ophthalmology during medical school. Recent graduates practicing as generalists have reported to feel undertrained when dealing with systemic conditions that affect the eye, diagnosing common causes of vision loss or demonstrating a thorough understanding of ocular and periorbital anatomy.[1] This paper will discuss the current state of ophthalmology education in medical school, issues caused by the current level of exposure, as well as possible ways to improve the curriculum for future medical school students.

The amount of time spent providing ophthalmology education in medical school has been decreasing over time due to a variety of factors, including an inability to provide personnel and financial resources that are required to teach the use of the unique instruments involved in ophthalmology. Some other reasons that have been postulated suggest a significant increase in the medical knowledge in various core areas of medicine, leading to a decreased focus on ophthalmology.[2] At present, almost half of all Canadian medical school graduates feel that they are not adequately trained in ophthalmology from their undergraduate medical education, likely secondary to most receiving one week or less of exposure to ophthalmology during their three to four year program. Ophthalmology education varies significantly across the country, with some schools offering no ophthalmology lectures in pre-clerkship. Through the course of clerkship, most Canadian medical schools offer ophthalmology as an optional selective rotation. This clinical experience in ophthalmology also varies significantly, with most schools offering one week and the highest being up to four weeks. The settings available to students to choose from are varied, including general, emergency and specialty clinics.[3] As a result, it is quite common for students to graduate medical school with only one week of lectures and no clinical exposure to ophthalmology, further illustrating the extreme lack of ophthalmic knowledge being provided to future physicians.

As a result of the limited exposure to ophthalmology, studies have shown that except for dry eyes and conjunctivitis, majority of residents in primary care specialties are not comfortable dealing with ophthalmology-associated conditions. There are numerous other conditions, including but not limited to, corneal ulcers, acute angle closure glaucoma and orbital cellulitis, that are important for primary care residents to recognize and have an adequate level of comfort to address in an emergency setting due to the high risk of vision loss. Furthermore, recent medical school graduates have stated low levels of comfort with using certain ophthalmic instruments, including a tonometer, a vital portion of the ophthalmic exam to evaluate intraocular pressure.[4] It is evident that there exists a significant disparity between the ophthalmology knowledge that a primary care resident is expected to graduate medical school with and what the current Canadian medical education curricula provide.

Over the past two decades, numerous studies list the concerns with insufficient ophthalmic education in Canada but there are, however, almost no studies that identify methods of improving the existing curricula to address these concerns. One of the few studies that analyses potential methods of improving undergraduate ophthalmology education was done in Toronto and published in 2021; it suggested a two-week block during pre-clerkship which included online lectures, self-learning online modules, case-based learning, an eye dissection lab as well as a clinical skills session. One of the primary goals of this study was to assess the efficacy of the novel eye dissection lab, and it successfully demonstrated that this lab session led to an improvement in gross anatomy, better scores on a knowledge-based test, as well as a self-perceived increase in competency, all of which were similar to favourable perceptions of cadaveric dissections for other medical fields.[1] Although this study does not address all the concerns with Canadian undergraduate ophthalmology education, it highlights that there is a significant room for improvement and further studies need to be done on methods to improve the current curricula.

In 2006, the International Task Force on Ophthalmic Education of Medical Students, on behalf of the International Council of Ophthalmology, created guidelines, known as the Principles and Guidelines of a Curriculum of Ophthalmic Education of Medical Students, that lists specific and attainable directives. These directives identify foundational knowledge and clinical skills that a graduating medical student should be able to demonstrate. In order to properly achieve these goals, they strongly recommend mandating ophthalmology exposure within both classroom and clinical settings. There are numerous common ophthalmic procedures that the Task Force recommends

every medical student should observe through the course of their training, including but not limited to a cataract operation, treatment of chalazion and the removal of a corneal foreign body. Furthermore, medical students should be adept at examination of the anterior segment with slit lamp biomicroscopy. The various suggested methods of conveying these ophthalmology skills include case-based learning, didactic teaching and clinical exposure, as well as integration of ophthalmic education with teaching of systemic diseases in subjects such as neurology or endocrinology. The document provides a detailed explanation with distinct objectives and topics that should be covered. The recommended number of hours for a medical student to adequately graduate medical school with ophthalmic competency involves approximately 40-60 hours of exposure.[5] The methods by which these guidelines, including both classroom and clinical goals, can be adequately addressed by each medical school in Canada will vary significantly. Adding further education time or modifying the existing curriculum to achieve these goals within the current allocated classroom teaching will depend on the resources available to each university and flexibility for modifications to the curriculum.

Overall, it is evident that there is a need for standardizing ophthalmology education in Canadian medical schools. There is a significant variance across the country in the quantity and quality of ophthalmology training that graduating medical students are exposed to during the course of their education. As the number of elderly patients rises across the country, it is more crucial than ever that a strong foundation in ophthalmology education is necessary and further research is required to identify the methods that are able to appropriately address these educational concerns.

REFERENCES

1. Felfeli T, Weisbrod DJ, Cao J, Cao KY, El-Defrawy SR, Chiu HH. University of Toronto's redesigned ophthalmology curriculum and eye dissection lab. Can J Ophthalmol. 2021;
2. Gostimir M, Sharma RA, Bhatti A. Status of Canadian undergraduate medical education in ophthalmology. Can J Ophthalmol. 2018;53(5).
3. Mah JM, Bellan L, Baxter SA. Undergraduate ophthalmology education in Canadian medical schools: a cross-sectional survey. Vol. 56, Canadian Journal of Ophthalmology. 2021.
4. Chan TYB, Rai AS, Lee E, Glicksman JT, Hutnik CML. Needs assessment of ophthalmology education for primary care physicians in training: Comparison with the international council of ophthalmology recommendations. Clin Ophthalmol. 2011;5(1).
5. Parrish RK, Tso MOM. Principles and guidelines of a curriculum for ophthalmic education of medical students: Presented by International Task Force on Ophthalmic Education of Medical Students - On behalf of the International Council of Ophthalmology (ICO). Vol. 223, Klinische Monatsblatter fur Augenheilkunde. 2006.