

Peer Review File

Article information: <https://dx.doi.org/10.21037/amj-23-223>

Review Comments:

Reviewer A

Comment 1: This is a very well-written manuscript that describes a symposium offered to medical students interested in ophthalmology at a COS meeting. The survey response rate of 87% was high and the symposium, including live workshops, was well received. One limitation which was stated by the authors was the financial limitations traveling to a national meeting. Considering that 64% of medical students have limited exposure to ophthalmology, future work might also consider offering similar symposia at a more local/regional level to allow those without exposure to gain an interest in ophthalmology.

Reply 1: Thank you for your comments, we agree with the stated and are hoping this manuscript can be used to exemplify the value and serve as inspiration for local/regional symposia.

Reviewer B

Comment 2: The authors describe a Medical Student Symposium (MSS) held at the Canadian Ophthalmological Society meeting that introduces medical students to the specialty. A cross-sectional quality improvement survey was administered to participants, where the majority of students found that their knowledge in ophthalmology improved and that they would attend again.

In the methodology section, it states that the "...survey was reviewed, modified, and validated by two ophthalmologists and two ophthalmology residents". (page 4, lines 97-99).

One of my major concerns with the survey design is that the face validity of the survey itself. Face validity in survey design should be from feedback from a group of individuals who are representative of the target population. The survey is targeted towards medical students; however attending ophthalmologists and residents were used to provide face validity. Could the authors comment perhaps on how this would not cause their survey to be inherently biased, and discuss what methods of validity they used when designing this survey?

Reply 2: Thank you for the comment. The survey was designed primarily by the lead authors of this paper, who were medical students at the time of the symposium. However, after initial survey design, the survey was brought for review, modification, and validation to two ophthalmologists and two ophthalmology residents. We merely listed the ophthalmologists and residents for validity's sake based on their knowledge expertise. However, we appreciate the perspective / interpretation of inherent bias and hence, we will add the following change in text as stated below. To clarify, the survey was inspired by previous Likert scales used in literature.

Changes in text: "The survey was initially designed by medical students and then subsequently reviewed, modified, and validated by ophthalmologists and ophthalmology residents. The survey aims to not be inherently biased by using evidence-based scales such as Likert scales developed similar to those in previous literature." (Lines 125-128)

Comment 3: In the same stream of thought, pilot testing was not performed on a small sample from the target population. Could it perhaps be helpful to explain why it was not performed?

Reply 3: Since the survey was designed by the lead authors and then further reviewed by ophthalmologists and residents, we did not consider to conduct a pilot test as the perspective of the target population (medical students) was taken into account as the lead authors were medical students at the time of the symposia.

Comment 4: Other factors for survey design also include assessment of test/re-test reliability. Would it be pertinent perhaps to label this a pilot survey, and assess its reliability at another COS meeting?

Reply 4: Yes, this is definitely a possibility. Given the success of the inaugural symposium, the COS Annual Meeting will be having a 2nd symposium in 2024.

Comment 5: In the survey results (Table 1), 3 respondents graduated in 2022 but the MSS was in 2023. Are these students residents or students participating in a gap year? It would be helpful to clarify this data point at the bottom of the table.

Reply 5: Yes, this was likely the case as many ophthalmology applicants will participate in a research fellowship / gap year following medical school to increase application competitiveness to re-apply for residency.

Changes in text: Footnote below Table 1 indicating that those respondents who chose 2022 are in a research fellowship / gap year. (Lines 140-141)

Comment 6: Could the authors also comment why debt load and personal expense were important in terms of the survey?

Reply 6: The COS Foundation generously sponsored registration fees for 10 medical student attendees for the Annual Meeting. As such, for their data collection, they were interested in exploring the potential impact of finances / debt load as a barrier for attendance.

Comment 7: Although qualitative responses were not obtained in the survey result analysis, it would be helpful to highlight how exactly this symposium improved the medical students' knowledge gap – what gaps were filled? How exactly as well did the symposium help the students with their residency application?

Reply 7: The ophthalmology curriculum in medical schools has been noted to be limited during medical training. As such, a review of important ophthalmology topics, hands-on skills, and networking with residents addressed potential gaps that may exist. It was important to the organizers of the symposium that the skills learned would be applicable at a foundational level to provide knowledge for both family and emergency medicine practices that may see initial eye complaints before referral to ophthalmology. For example, workshops revolving around general information for glaucoma would be quite helpful as concerns revolving around eye pressure are common presentations in both family and emergency clinics. Further, the symposium helped students with residency applications through informal mentorship offered during Q & A with residents, allowing students to gain insight on residency applications and practice through discussion.

Changes in text: Attendees were provided the unique opportunity to work with ophthalmology residents across the country at a single event. Consequently, increased

networking opportunities were made available to increase access to resident-medical student relationships, in addition to a range of perspectives from trainees at advanced stages in training. This concept was further beneficial through the informal mentorship offered during Question & Answer periods, whereby medical students gained insight on residency applications and practice through small-group discussions. (Lines 181-187).

Comment 8: In terms of addressing bias – the majority of respondents in the survey in table 1 were already interested in applying to ophthalmology residency (96.7%). How did this symposium then improve interest in the specialty (line 138-139) when the greater part of the attendees was already interested in ophthalmology?

Reply 8: Thanks for the feedback, we agree this can be clarified further. The symposium helped participants be more informed about ophthalmology through the keynote and workshop sessions offered.

Changes in text: While many participants were already interested in ophthalmology (96.7%), our survey results demonstrate that the symposium was well received by attendees. Participants not only felt the symposium addressed a gap in their current knowledge and opportunities, but a large proportion noted that they would attend again. (187-189).

Comment 9: Other things to note – in Appendix 1, descriptions of the actual station activities should be further discussed in detail. This would help the reader understand what exactly was taught during the stations.

Reply 9: Thank you, we will add the following descriptions to station activities – please see below.

Changes in text:

1. Station 1: Intravitreal Injection
 - a. Demonstration and guided wet-lab practice on a model eye of intravitreal injection. This workshop was aimed to provide insight on retina sub-specialty practice through common office procedures utilized to treat and manage retinal pathology, such as diabetic retinopathy.
2. Station 2: Lenses in Ophthalmology
 - a. Demonstrated various lenses such as 90 D, 60 D, 20 D, YAG capsulotomy lens, and gonioscopy laser lens. Understanding of the various lenses in ophthalmology is commonly not appreciated until residency where there is exposure to various subspecialty practices. For example, the 20 D lens is primarily used for indirect ophthalmoscopy, a common clinical exam in retina offices and in emergency clinics.
3. Station 3: Neuroophthalmology
 - a. Demonstration and explanation of Ishihara test for colour deficiency as well as various prisms. These skills are important for diagnosing optic neuritis, for example, a common presentation in emergency clinics.
4. Station 4: Glaucoma
 - a. Interactive session going through common cases and use of tonopen for measuring intraocular pressure. This workshop aimed to provide an approach to glaucoma, where attendees gained an understanding for initial diagnosis and management.