Assessing Interprofessional Impact of Slit Lamp Training in Emergency Medicine

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Introduction and Purpose

Interprofessional education in healthcare, increasingly acknowledged for its pivotal role, involves two or more professions learning from and with each other to enhance collaboration and improve patient care outcomes.

While emergency medicine (EM) physicians are among the few specialties conducting ophthalmological examinations during patient care, many EM residents have not had extensive training in these exams due to limited exposure and training opportunities. Our goal is to develop a more comprehensive understanding of the effectiveness of our slit lamp training and to gauge residents' appreciation for interprofessional collaboration and competence in performing various common slit lamp procedures. This initiative seeks to advance research in areas such as evaluating teaching techniques, developing curricula, and refining classroom management strategies.

Purpose:

- Teach the use of the slit lamp to emergency physicians to better diagnose common eye traumas: corneal abrasions and ulcers, Herpes simplex corneal infection, hypema, hypopyon, and glaucoma.
- Enhance collaboration between emergency medicine and ophthalmology for improved patient care.
- Instruct EM residents in ophthalmologic procedures and evaluate their post-training comfort level.
- Work towards medicine's interprofessional development

Methods

In this study, 27 Emergency Medicine residents participated in a slit lamp training session alongside Ophthalmology residents in an interprofessional classroom setting. The training included a pre-training video lecture followed by an in-person session. To assess the effectiveness of the training and identify any gaps in medical education, a survey questionnaire incorporating a 5 point Likert scale (Strongly Agree (5) to Strongly Disagree (1)) and open-ended questions was administered. Residents' self-assessments were collected both before and after the training. Participation in the study was voluntary, and it received approval from the Institutional Review Board. The results were analyzed using a paired t-test.

Results

Question Compared Pre - Post	Mean Difference (95% CI)	P-value
I feel comfortable using the slit lamp	-1.67 (-2.06, -1.27)	<0.001
I do not know how to set up the slit lamp	1.08 (0.55, 1.60)	<0.001
I know where to find the slit lamp in the department	-0.38 (-0.80, -0.30)	NS
I have difficulty adjusting the focus of the slit lamp	0.96 (0.53, 1.40)	<0.001
I am comfortable moving the slit lamp up, down, left, or right during an exam	-0.70 (-1.14, -0.27)	0.003
I can correctly position the patient to perform an exam	-0.62 (-1.12, -0.10)	0.029
I am comfortable changing light filters	-1.27 (-1.72, -0.87)	<0.001
I can easily adjust the light beam for optimal visualization	-1.52 (-1.98, -1.06)	<0.001
I can easily visualize structures	-1.52 (-1.96, -1.075)	<0.001
I am comfortable examining the cornea	-1.26 (-1.76, -0.76)	<0.001
I have difficulty examining the anterior chamber of the eye	0.31 (-0.25, 0.86)	NS
I have difficulty examining the posterior chamber of the eye	0.64 (0.22, 1.26)	0.43
I need the slit lamp to diagnose emergent eye conditions	-0.41 (-0.74, -0.07)	0.019
I am likely to incorporate the slit lamp into a patient eye exam	-0.40 (-0.74, -0.06)	0.022
I find the slit lamp time consuming to use during a patient exam	-0.12 (-0.46, 0.23)	NS

- Participants:
  - PGY1 residents 37%
  - PGY2 residents 30%
  - PGY3 residents 33%
- 74% had previous experience using the slit lamp:
  - 55.6% 1-5 prior uses
  - 51% attended previous slit lamp workshop
- 77.8% of participants watched pre-workshop video.
- Challenges to using the slit lamp noted by participants:
  - Equipment readiness
  - Lack of prior exposure
  - Issues with set-up
- Overall, EM residents experienced significant improvements in comfort level with slit lamp usage, eye examination skills, and integration into patient assessments.
- The most notable enhancement was observed in the comfort level with using the slit lamp before and after training (-1.67, 95% CI [-2.06, -1.27]).
- There was no significant improvement in the ability to examine the anterior eye chamber, perception of the slit lamp as time-consuming, or locating it within the department.

Conclusion

- Residents noticed significant improvement in most categories including comfortability using slit lamp, how to set up and focus the slit lamp, adjusting the slit lamp, correct patient placement while performing an eye exam, changing light filters, light beam adjustments, corneal examinations, preforming patient eye exams, and diagnosing emergent eye conditions.
- Interprofessional Education significantly improves EM residents' confidence in Ophthalmologic skills