

# Perceived satisfaction of ophthalmology residents with the current Iranian ophthalmology curriculum

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**Objective:** To assess the level of perceived satisfaction with the current Iranian ophthalmology curriculum in ensuring that residents acquire required competencies in various ophthalmology fields.

**Methods:** A closed-ended questionnaire was circulated to 100 residents or recently graduated ophthalmologists in Iran to measure their level of satisfaction about clinical conferences, journal clubs, scientific lectures, wet lab, simulation, evidence-based practice, and outpatient clinic and operating room training. They also cited the main barriers to a successful board exam.

**Results:** Ninety-nine questionnaires were completed and returned. Mean age of the responders was  $31 \pm 4.56$  years. A total of 36 (36.4%) responders expressed an overall satisfaction about the residency program, and 49 (49.5%) did not feel happy about the state of teaching evidence-based decision making. They identified cataract surgery and eyeglass prescription as the most common regularly functioning modalities in their centers. The majority of the participants stated they have received appropriate training in cataract surgery (71%), but only 9% were satisfied with the provided training in glaucoma or vitreous and retinal surgery. Nevertheless, their overall satisfaction with their outpatient skills was good.

**Conclusion:** The ophthalmologists felt quite confident in management of uncomplicated cases, especially cataract surgery at the level of general ophthalmology, but future studies can assess the effect of new practice-based teaching methods on the residents' clinical training and eventually on patient care.

**Keywords:** trainees' perspectives, clinical training, assessment, diagnosis

## Introduction

Ophthalmology is an emerging medical specialty, and its history in Iran and the Middle East dates back 5000 years.<sup>1</sup> The primary goal of this specialty training program is the diagnosis, medical assessment, and management of vision disorders. Ophthalmologists must have expertise in assessment and diagnosis of visual signs and symptoms. The standard curriculum for this specialty degree should enable residents to acquire enough competencies in order to ensure good clinical practice in various ophthalmology fields. Some studies have been performed to evaluate the accuracy of current ophthalmology curriculums.<sup>2-4</sup> Competency-based curriculum is defined to fulfill adequate patient care, medical knowledge, practice-based learning and improvement, interpersonal and communicational skills, professionalism, and system-based practice.<sup>2,3</sup> The Iranian national board of ophthalmology is in charge of monitoring the training process in ophthalmology departments all over the country. The competencies of the residents should continuously be assessed by standard tools. One of the suggested

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methods for curriculum evaluation is to assess student level of perceived satisfaction with his/her training in a particular department. This study investigated the adequacy of Iranian ophthalmology training from the young ophthalmologists' points of view. A self-administrated questionnaire was developed to assess the level of satisfaction of the ophthalmology residents about their own competencies in various ophthalmology fields predefined in the national curriculum.

## Materials and methods

This cross-sectional study was conducted in 2010. Residents of ophthalmology in their last year of education and ophthalmologists with less than 3 years of experience who had participated in a national gathering in Iran (Iranian ophthalmology congress – 2010) were asked to fill out a questionnaire. A closed-ended questionnaire was developed and circulated to the participants. It included questions with self-rating Likert scales about various aspects of the ophthalmology curriculum in Iran. The questionnaire was assessed through the Cronbach's alpha showing a coefficient of global reliability of 0.73. They were asked to express their level of satisfaction about clinical conferences, journal clubs, scientific lectures, wet lab, simulation, and outpatient clinic and operating room training. The questionnaire covered all segments from the current Iranian ophthalmology curriculum. The questionnaire was in three main parts. In the first part, the ophthalmologists were questioned about the quality of teaching methods used by the faculty members and the available training facilities like wet lab, library, and simulation. They were then asked for their competency to manage the patients in related fields. Through the third part of the questionnaire, they cited the main barriers to a successful board exam with Likert scales on agreement (strongly agree, somewhat agree, neutral/no opinion, somewhat disagree, strongly disagree). To increase the response rate, the objectives of the study and its possible role in improving the ophthalmology educational program were explained before circulating the questionnaire.

Quantitative analyses based on the Likert scale questions and McNemar test were used to analyze data.

## Results

A total of 100 questionnaires was given out; 99 of these were completed and returned, giving a response rate of 99%. The male/female ratio was 64/35. Mean age of the responders was  $31 \pm 4.6$  years; 42 (42.5%) were young ophthalmologists (age under 40).

Only 36 (36.4%) responders expressed their satisfaction about the residency program. The level of satisfaction had a significant association with training in outpatient clinics

( $P = 0.004$ ), operating rooms ( $P = 0.001$ ), inpatient rounds ( $P = 0.001$ ), mortality and morbidity conferences ( $P = 0.02$ ), and journal clubs ( $P = 0.001$ ), but no significant association was found between overall satisfaction and video-surgery, simulation, and grand rounds. Although the residents were open to new training methods such as evidence-based medicine, training with models, workshops, and e-learning, 49 (49.5%) did not feel satisfied about the state of teaching evidence-based decision making (Table 1). Fifty-one (51.5%) had never received training about professionalism. The figure was even less for interpersonal relationships. Fifty-eight respondents (58.6%) mentioned limited (or lack of) exposure to modern teaching modalities like simulation. Although teaching-skills and training programs for ophthalmology residents varied in different centers, they were happy about their leadership skills, effective clinical teaching skills in outpatient clinics and operating room, but not about the feedback, adequate discussion time, and workplace assessment (Table 2 and Figure 1). The appropriateness of the ophthalmology curriculum to develop competency from the residents' points of view is presented in Figure 1. They considered their competency to manage patients in various fields of general ophthalmology (Table 1). They identified cataract surgery and eyeglass prescription as the most common regularly functioning modalities in their centers. The majority of the participants stated they had received appropriate training in cataract surgery (71%), but only 9% were satisfied with the provided training in glaucoma or vitreous and retinal surgery. Nevertheless, their overall satisfaction with their outpatient skills was good (Table 1). The two main barriers to a successful board exam as stated by the participants were (1) lower learning chance due to high workload in outpatient clinics and (2) inappropriate teaching.

## Discussion

There is no doubt that the residents' training process must be redefined to meet all new demands for a competency-based

**Table 1** Competency of the physicians to manage patients in various fields of general ophthalmology

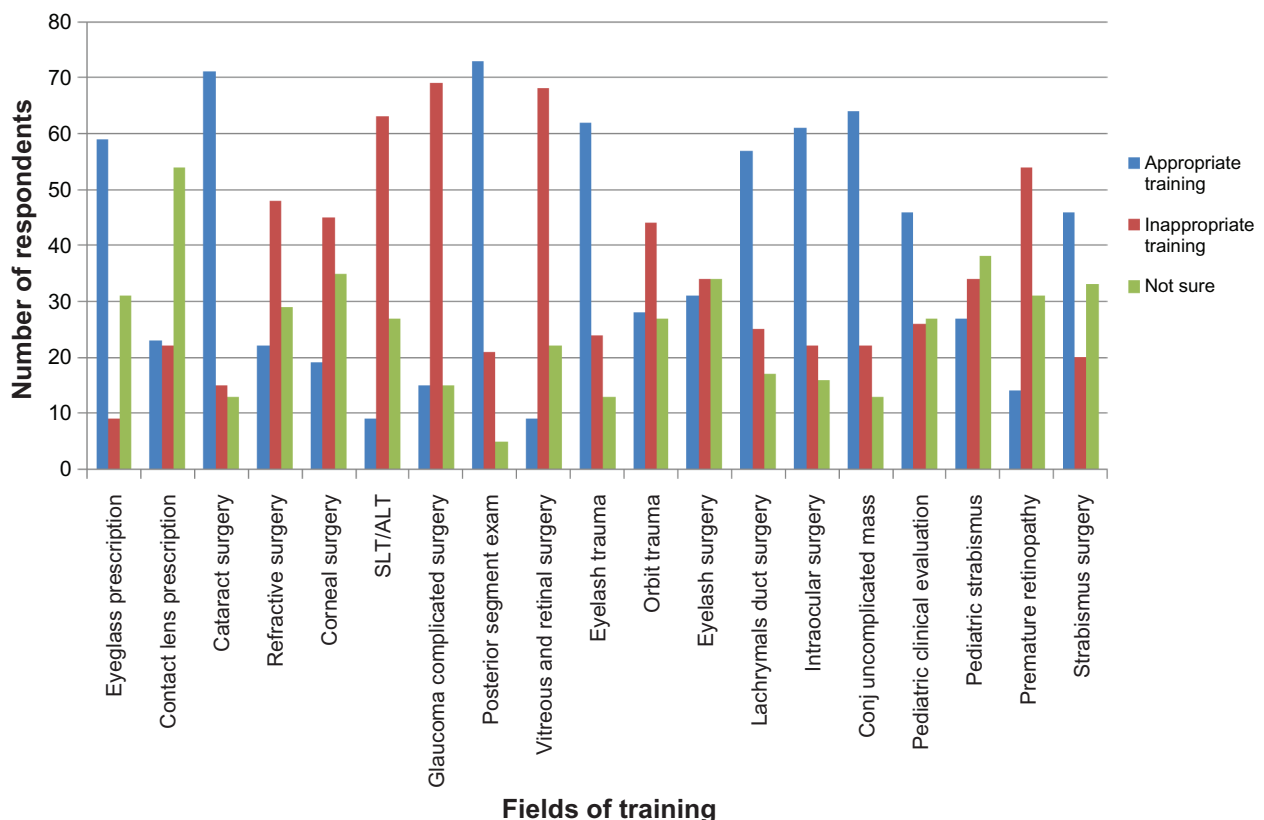
	Satisfied	Not satisfied	No option
Mortality morbidity conference	27 (27.3%)	48 (48.5%)	24 (24.2%)
Teaching wet lab	42 (42.4%)	24 (24.2%)	33 (33.3%)
Video-surgery	20 (20.2%)	27 (27.3%)	52 (52.5%)
Simulation	10 (10.1%)	31 (31.3%)	58 (58.6%)
Lecturing	58 (58.6%)	21 (21.2%)	20 (20.2%)
Traditional journal club	62 (62.6%)	13 (13.1%)	24 (24.2%)
Evidence-based decision making	35 (35.4%)	49 (49.5%)	15 (15.2%)
Evidence-based journal club	32 (32.3%)	43 (43.4%)	24 (24.2%)

**Table 2** Trainee satisfaction with different aspects of ophthalmology residency program in Iran

	Satisfied	Not satisfied	No option
Overall satisfaction	36 (36.4%)	37 (37.4%)	26 (26.3%)
Patient number	65 (65.7%)	22 (22.2%)	12 (12.1%)
Complexity of the patients	52 (52.5%)	38 (38.4%)	9 (9.1%)
Variation of the diagnosis	57 (57.6%)	21 (21.2%)	21 (21.2%)
Official education	30 (30.6%)	46 (46.9%)	22 (22.4%)
Operating room	61 (61.6%)	24 (24.2%)	14 (14.1%)
Outpatient round	50 (50.5%)	29 (29.3%)	20 (20.2%)
Teaching round	31 (31.3%)	35 (35.4%)	33 (33.3%)
Grand rounds	36 (36.4%)	33 (33.3%)	30 (30.3%)
Feedback and discussion	48 (48.5)	51 (51.5)	0

curriculum. Graduate residents should have enough responsibility and accountability to solve patients' visual problems with a high quality of care.<sup>5</sup> Many other sources confirmed the idea of competency-based training over time.<sup>5-7</sup> The first part of the questionnaire focused on the various teaching methods in order to develop a standard residency training program. Despite the high satisfaction of the ophthalmologists with ophthalmology lectures, traditional journal club, and mortality/morbidity meetings, less than 20% of the ophthalmology program spent enough time on evidence-based medicine, journal clubs, medical

ethics, clinical decision making, and leadership. Good clinical practice needs evidence-based discussion and critical thinking about the diseases and patient preferences. It seems the residents' tendencies are to acquire knowledge rather than practice core competencies. For this reason, workplace training and assessment may improve the quality of patient care. The young ophthalmologists and residents cited their ability to make a good clinical practice in diagnosis and treatment of cataracts, minor ophthalmology emergency, uncomplicated glaucoma, and eyeglass prescription, but still lacked enough competencies in posterior segment and complicated glaucoma or pediatric ophthalmology. Alwadani et al did a study about the forecasting of young ophthalmologists in Saudi Arabia, which showed the residents' preferences for a subspecialty training in anterior segment was the most popular.<sup>8</sup> The priority of the health system setting is related to the regional burden of the disease. For example, due to the high prevalence of diabetes in Iran (9.5%), the ophthalmology curriculum should include special items for the diagnosis and prevention of diabetic retinopathy, which affects more than 37% of the Iranian diabetic population.<sup>9</sup> In a similar study in the United States, regarding comfort level, 55.4% of ophthalmology residents, were "fairly satisfied" with vitreous-retinal training.<sup>10</sup>

**Figure 1** Appropriateness of the ophthalmology curriculum to develop competency from the residents' points of view.

**Abbreviations:** ALT, argon laser trabeculoplasty; SLT, selective laser trabeculoplasty.

On the other hand, in the last Iranian survey on prevalence of glaucoma, only 20% of the patients with glaucoma were aware about their condition. So the curriculum demands more attention in these areas.<sup>11</sup> Fortunately, the residents showed good confidence in diagnosis of posterior segment disorders (73.7%), but there is still a need for further improvement.

As we mentioned above, an adequate curriculum must define standard assessment tools. The Iranian ophthalmology curriculum cites a two-stage final exam for the last-grade residents, including a final multiple choice written board exam and an OSCE summative assessment. In this study, the residents cited inappropriate teaching methods as the main barrier to a successful board exam. The Iranian national board of ophthalmology should solve the problem by adapting traditional teaching methods from knowledge-based to practice-based methods. On the other hand, workplace assessment has to be the base for competencies in various ophthalmology fields.

In summary, reducing the rate of blindness is the main goal of the ophthalmology program. Although core competencies and technical skills are described in the Iranian ophthalmology curriculum, it seems most young ophthalmologists have the confidence to manage only the uncomplicated conditions, and it is also possible that the trainer's learning interests are affected by the fact that some learning fields in ophthalmology are highly related to their future income. However, satisfaction rates of the ophthalmologists about the outpatient and operating room training were comparable to other studies.<sup>10,12</sup> Evaluations of learner reactions and learning outcomes also suggested that the programs have positive effects. To our knowledge, this is the first study on ophthalmology residents' competency satisfaction in Iran. Further efforts in the evolution and assessment of teaching skills and the effects of teaching-skill training in ophthalmology are needed to stimulate the development of adapted programs for the ophthalmology discipline.

As a limitation to this study, some selection bias decreased the generalizability power of this study.

## Conclusion

To our knowledge, this is the first study on teaching-skills training, and the related trainee satisfaction in Iran, that showed a low overall satisfaction rate (36.4%). Confidence rates of the young ophthalmologists for management of uncomplicated cases, especially cataract surgery to the level of general ophthalmology, seem quite high, but future studies can assess the effect of new practice-based teaching methods on the residents' clinical training and eventually patient care.

## Disclosure

The authors report no conflicts of interest in this work.

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