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Research Article

Expectations of Third-Year Optometry Students Regarding Clinical Internships in Optometry

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Abstract

Introduction: Clinical internships are crucial in optometry education, offering hands-on experience to build clinical competence and patient examination skills. This study aims to assess optometry students' expectations of their internship programs using a self-administered questionnaire.

Methods: A validated self-administered questionnaire was sent via email to a representative sample of 20% of optometry schools and colleges in India. The final questionnaire, covering various aspects of internship expectations from third-year optometry students, included 32 items. To maximize participation, a reminder email was sent two weeks after the initial email. Data were analyzed using SPSS software with descriptive statistics.

Results: A total of 40 optometry schools and colleges responded to the survey (66.7% response rate). The 442 participants had a mean ± SD age of 20 ± 3.5 years, with the majority being female (324, 73.3%). A total of 380 students (86%) expressed willingness to attend an admission examination for the optometry clinical internship. The majority of the students (301, 68%) preferred internships at tertiary hospitals or institutes. Nearly all students (434, 98.2%) wanted to participate in simulation training before clinical rotations. A majority (228, 51.6%) were interested in examining all types of ocular pathology, while 52% (230) expressed interest in myopia management. Most students (396, 89.6%) preferred working in rural areas and also expressed interest in having leisure time and receiving a stipend during the internship.

Conclusion: Findings suggest that students have high expectations from their internships, not only about clinical practice but also in areas such as infrastructure and administrative support. The study provides valuable insights for institutions and educators aiming to strengthen optometry education in India.

Keywords: Internship; Expectations and Optometry Training

Introduction

Clinical internships are a pivotal component of the healthcare profession, where hands-on experience is essential for developing clinical competence and patient examination skills [1]. The transition from medical student to resident marks a crucial phase in healthcare education, where students take on significantly greater responsibilities and clinical care demands. This transition can be challenging, as it involves balancing clinical duties, academic learning, and personal well-being, all while adjusting to the realities of practicing in a hospital setting [2,3]. Patient satisfaction is closely tied to the competencies of healthcare professionals, and clinical internships play a pivotal role in equipping students with the necessary skills for effective healthcare delivery [4]. Clinical internships offer a vital learning environment for developing clinical skills in addition to professional skills such as critical thinking, decision-making skills, and communication skills, all of which are essential for aspiring healthcare professionals in real-world settings [5,6].

In a study among the medical graduates, it was reported that their curriculum didn't prepare well on clinical skills, analytic skills, and communication with patients and their relatives [7-9]. Clinical internships provide an opportunity to apply the classroom-based theoretical knowledge and skills in a real-world clinical setting to master the professional skills for clinical practice [10,11]. Students who are not well-prepared for the internship may struggle and fall short during their internship training [2,10,11]. Among the nursing students it is reported they often feel inexperienced, which can limit their learning opportunities and hinder their ability to respond effectively in unfamiliar clinical situations during their internship [12]. Clinical internships can be physically and mentally demanding, as interns are expected to provide care to patients under supervision while gradually transitioning to more independent roles [13]. Medical interns often report insufficient guidance and support from supervisors, which adds significant pressure during their clinical rotations [5]. The common challenges faced by medical residents during their training include sleep deprivation, feelings of mistreatment, and experiences of sexual harassment, particularly among female residents [13,14]. Additionally, interns may experience a gap between their expectations and the reality of their internships, particularly in areas such as organizational culture and the expertise needed to succeed [15]. These discrepancies can demoralize students, with factors like socioeconomic background and mismatched expectations adding to the stress of the internship [11,13]. A well-designed internship program equips interns to face real-world challenges. A study among medical students in Saudi Arabia found that interns felt well-prepared, with many believing that their training effectively supported their future career aspirations [10].

Optometry, a century-old program in India, has traditionally been an unregulated field, but the introduction of the National Commission for Allied and Healthcare Professions Bill, 2021, aims to address the need for greater standardization and regulation within the healthcare profession [16]. Typically, optometry is a four-year program in India, theory and hands-on sessions in the first three years of the program and a clinical internship in the final year of the program, involving clinical rotations in ophthalmology, optometry clinics and in the ophthalmic industry for hands-on practice [17]. An internship in optometry offers a dynamic platform for aspiring optometrists to gain comprehensive eye examination skills, sub-specialty training, and research work to become independent eye care practitioners. Clinical internship requirements vary from university to university, and clinical exposure also widely varies based on the institute where the optometry students pursue their internships [17].

Despite the crucial role internships play in developing the competencies of optometry professionals, there is limited research on students' expectations during clinical placements. Identifying students' expectations is essential for ensuring the success of clinical placements and addressing the needs of optometry interns, allowing for more efficient use of available resources for their learning. This study aims to explore the expectations of third-year optometry students regarding their upcoming clinical internship, which is part of the next academic year. By understanding these expectations, institutes and hospitals can better tailor internship programs to meet students' needs, enhance their learning experiences, and ultimately improve the quality of optometry care in India.

Materials and Methods

Ethics statement

The study was approved by the Institutional Review Board of the Hyderabad Eye Research Foundation (HERF), L V Prasad Eye Institute, and the study procedures adhered to the principles of the Declaration of Helsinki (LEC-BHR-R-118).

Study participants

There are approximately 370 optometry schools and colleges in India [17]. For this study, approximately 15% of optometry schools and colleges across India were selected to gather individual student responses about their expectations about the internship. A representative sample of optometry schools and colleges from various geographic regions across India was included to capture the diversity of the students responses [17].

Development of questionnaire

The questionnaire was developed after a thorough review of the existing literature on internship and clinical placement expectations [10-12]. All authors collaborated in multiple meetings to draft and refine the questionnaire, with valuable input from optometry faculty and current interns. Their feedback ensured the questionnaire's relevance and effectiveness in capturing students' expectations. The final questionnaire was assessed for face validity by sending the questionnaire to 15 experts, and content validity was evaluated by 14 experts from optometry schools and institutes across India, each with at least 5 years of teaching experience [18,19]. Of the 15 faculty members involved in face validity, 5 responded (33% response rate), and all the suggestions that were deemed appropriate were included in the final questionnaire. The revised questionnaire has the face validity of a percentage of agreement of 96.87%. For content validity, 5 out of 14 experts responded (35% response rate), the revised questionnaire has a scale-level content validity index average method of 98.2%.

The final questionnaire covered the following areas: selection process, students background clinical training and knowledge, expectations regarding clinical training including sub-specialties, mentorship, leisure time, and feedback mechanisms. It consisted of 32 items, including 18 binary (yes/no) questions, 10 multiple-choice questions, and 2 visual analogue scale questions. Additionally, 2 open-ended questions were included to gather qualitative insights on participants' expectations. The final questionnaire was shown in Table 1.

Age:

Gender:

Name of the college:

Name of the affiliated university:

Q1. Would you be interested in attending an admissions examination for a clinical internship in optometry?

Yes

No

Q2. If you were required to attend an admission examination for a clinical internship in optometry, what type of examination would you prefer for the admission process?

a. Theory exam only

b. Skill based exam only (practical)

c. Personal interview only

d. Theory and skill-based examination

e. Theory and personal interview

f. Skill based examination (practical) and interview

g. Theory, skill-based examination and interview

Q3. Rate your confidence in performing a comprehensive eye examination on peers (classmates and juniors) by the end of your third year in the optometry program, in preparation for starting the clinical internship.

Scale : 0-10 (0 = not at all confident, 10= very confident)

Q4. Rate how strong you are in the theory component of the optometry program by the end of your third year, in preparation for starting the clinical internship in optometry.

Scale : 0-10 (0 = not at all confident, 10= very confident)

Q5. Where would you prefer to pursue your clinical internship in optometry?

a. Tertiary level hospitals/institutional based clinical practice including NGO hospitals (Ophthalmology and Optometry practice)

b. Private hospital practice (ophthalmology clinic)

c. Private clinical practice (optometry clinic)

d. Corporate optical retail chain

e. Corporate optical or ophthalmic industry

Q6. After being admitted to a clinical internship in optometry, would you be interested in attending simulation training (pre-clinical training with peers) to enhance your examination skills before starting the clinical rotation?

Yes

No

Q7. If you were required to undergo simulation training (pre-clinical training), how long would you prefer the training to last?

a. Less than one week

b. For one week

c. For two weeks

d. For four weeks or more

Q8. Do you prefer to work independently during the internship with minimal support from the supervising faculty in the clinic (preferably after 1-2 months of initial guidance)?

A. Yes, I would like to work with minimal support

B. No, I need my supervising faculty to be monitoring my work throughout the internship

Q9. What is the expected number of patients you will see as an intern during the 1-year clinical internship in optometry, including both regular and specialty cases (as recommended by the university)?

Q10. Which type of ocular pathology are you most interested in observing during your clinical internship in optometry (you may select more than one option)?

a. Anterior segment diseases and ocular infections
b. Posterior segment diseases and glaucoma
c. Squint and binocular vision disorders including paediatric cases
d. Cataracts, including geriatric patients
e. Oculoplasty
f. Emergency cases
g. All the above
h. other

Q11. During your clinical internship in optometry, which sub-specialty areas would you like to focus on, in addition to the comprehensive rotation? (You may select more than one option.)

a. Contact lens
b. Low vision and rehabilitation
c. Optical dispensing
d. Myopia management
e. Orthotics and vision therapy including paediatric
f. Elderly eye care
g. other

Q12. How many patients would you like to examine per day during your comprehensive rotations in the clinical internship in optometry? (including both new and follow-up patients)

a. Less than 10 cases per day
b. 10-15 cases per day
c. 16-20 cases per day
d. More than 20 cases per day

Q13. How many patients would you like to examine per day in a sub-specialty clinic during your clinical internship in optometry? (including both new and follow-up patients)

a. Less than 4 cases per day
b. 4-6 cases per day
c. 7-8 cases per day
d. 9 cases and above per day

Q14. Would you like to include clinical rotations in diagnostics as part of your optometry internship program?

Yes

No

Q15. Would you like to receive coursework reading materials in preparation for the clinical internship in the optometry program?

Yes

No

Q16. Would you like to attend theoretical sessions as part of the clinical internship in optometry, even though the internship is primarily focused on hands-on, skill-based training?

Yes

No

Q17. If you were required to attend theoretical coursework, how many hours of theory classes would you prefer to have per week during the clinical internship?

a. Less than 3 hours per week
b. 4-6 hours per week
c. 7-8 hours per week
d. 9-10 hours per week

Q18. Would you like to include case presentations as part of the internship, where you present the cases to your peers and supervisors using PowerPoint Presentation(ppt) slides?

Yes

No

Q19. Would you like to maintain a logbook for recording cases and case summaries to enhance and reinforce your learning during the clinical internship in the optometry program?

Yes

No

Q20. Would you like a mentor from the internship institution, hospital, or clinic to guide your thesis or research work, in addition to the guidance from your university or college?

Yes

No

Not applicable (I don't have any research work part of my internship)

Q21. Would you like a dedicated supervisor or senior faculty member to guide you throughout your entire internship program in the clinics?

Yes

No

Q22. Would you like to attend academic events (such as conferences, seminars, and workshops) during your clinical internship in optometry?

Yes

No

Q23. Would you like to gain exposure to school vision screening and community eye screening programs during your clinical internship in the optometry program?

Yes

No

Q24. Would you be interested in working in rural areas during your clinical internship in the optometry program?

Yes

No

Q25. If you have to attend rural placements, how many weeks would you be interested in working in a rural area during your clinical internship?

a. Less than one week

b. 2 weeks

c. 3 weeks

d. 4 weeks and more

Q26. Would you like to have some leisure time for personal or family activities or life during your internship?

Yes

No

Q27. Would you like some leisure time during the internship to review and study the cases you managed in the OPD for self-reflection and learning?

Yes

No

Q28. Do you expect to have leisure time during the internship to engage in sports (including exercise) and cultural activities?

Yes

No

Q29. Would you like a stipend to be offered during your clinical internship in the optometry program?

Yes

No

Q30. Would you like theory and practical exams (such as the objective-structured clinical examination) to be conducted during and at the end of the clinical internship in the optometry program?
Yes
No
Q31. How would you prefer to receive feedback on your clinical performance during the optometry clinical internship?
a. Regular performance evaluations (written and practical exams)
b. One-on-one meetings with a mentor (verbal feedback)
c. Structured written feedback
d. Peer feedback
e. Informal feedback in a casual setting
f. General feedback (to the entire group)
g. Self-assessment tools
h. Don't want to receive any feedback
Q32. Please share any specific expectations or preferences you have regarding the clinical internship in optometry.

Table 1: The final questionnaire administered among the third-year optometry students about the expectations of the internship.

Data collection

The validated questionnaire was sent via email to the heads of optometry schools and colleges, with a request to distribute the questionnaire to the third-year optometry students about to begin their internships in the next academic year. A reminder email was sent two weeks later to encourage participation. The email contained a detailed description of the study and its purpose, a questionnaire weblink that, when opened, provided the study's purpose and sought participants from the students after consent only. The email was sent after the first semester of the third-year course completion, as students typically begin considering internships and applying for the internship during the second semester.

Statistical analysis

The survey data was analysed using SPSS software. Descriptive statistics were used, and participants' responses were provided using frequencies.

Results

A total of 33 optometry schools and colleges responded to the survey questionnaire (55.9% response rate). From these schools and colleges, 442 individual students responded. The participants mean ± SD age was 20 ± 3.5 years. Most of the participants were females (324,73.3%). The region-wise optometry schools and colleges responded to the questionnaire, and the students' participation response rate was shown in Table 2. A total of 380 students (86%) expressed their willingness to attend an admission examination for the optometry clinical internship. The preferred format for the internship admission examination was shown in Table 3. A total of 409 participants (92.5%) reported confidence in performing a comprehensive eye examination, rating their confidence 5 or higher on a scale of 10 by the end of their third-year optometry training. Similarly, 423 participants (99.4%) indicated confidence in the theoretical components of optometry coursework, also rating their confidence 5 or higher on a scale of 10. The majority of students (301, 68%) expressed a preference for pursuing their internship at tertiary-level hospitals or institution-based clinical practices, including NGO hospitals, as shown in Figure 1.

As part of the internship training, most students (434, 98.2%) expressed interest in participating in simulation training before starting their actual clinic rotations. Among them, the preferred duration for simulation training was two weeks (173, 39.1%), more than four weeks (118, 26.7%), one week (123, 27.8%), and less than one week (28, 6.3%). Most students (336, 82.8%) expressed interest in attending theoretical sessions during their one-year clinical internship. Regarding the duration, their preferences were less than 3 hours per week (200, 45.2%), 4 to 6 hours (189, 42.8%), 7-8 hours (42, 9.5%), and 9-10 hours per week (11, 2.5%). A majority of students expressed interest in examining all types of ocular pathology (228, 51.6%), followed by anterior segment diseases, including ocular infections (166, 37.6%), squint and binocular vision disorders, including paediatric cases (126, 28.5%), cataracts, including geriatric patients (99, 22.4%), posterior segment diseases and glaucoma (67, 15.2%), emergency cases (57, 12.9%), and oculoplasty (22, 5%). The majority of students (225, 50.9%) preferred examining 10-15 cases per day followed by 16-20 cases per day (84, 19%), more than 20 cases per day (68, 15.4%) and fewer than 10 cases per day(65, 14.7%) during comprehensive ro-

Region	Number of schools and colleges invited	Number of schools and colleges responded (n = 33) n (%)	Total number of students responses (n = 442) n (%)
South	19	13 (39.3%)	239(54.0%)
North	13	5 (15.15%)	70 (15.8%)
East	12	5 (15.15%)	21(4.7%)
West	9	9 (27.2%)	103 (23.3%)
North-East	4	1 (3.0%)	9 (2.0%)
Central	2	0	-

Table 2: Region wise distribution of optometry schools and colleges responded and students' participation response rate.

Admission examination format	Total number of students (n = 442) n (%)
Skill-based examination only	113(25.5%)
Combination of skill-based and theory examination	99(22.3%)
Theory and skill-based examination with a personal interview	76(17.1%)
Skill-based examination with a personal interview	67(15.1%)
Theory exam only	41(9.2%)
Personal interview only	28(6.3%)
Theory exam with a personal interview	18(4.0%)

Table 3: Shows the preferred format for the clinical internship in optometry admission examination.

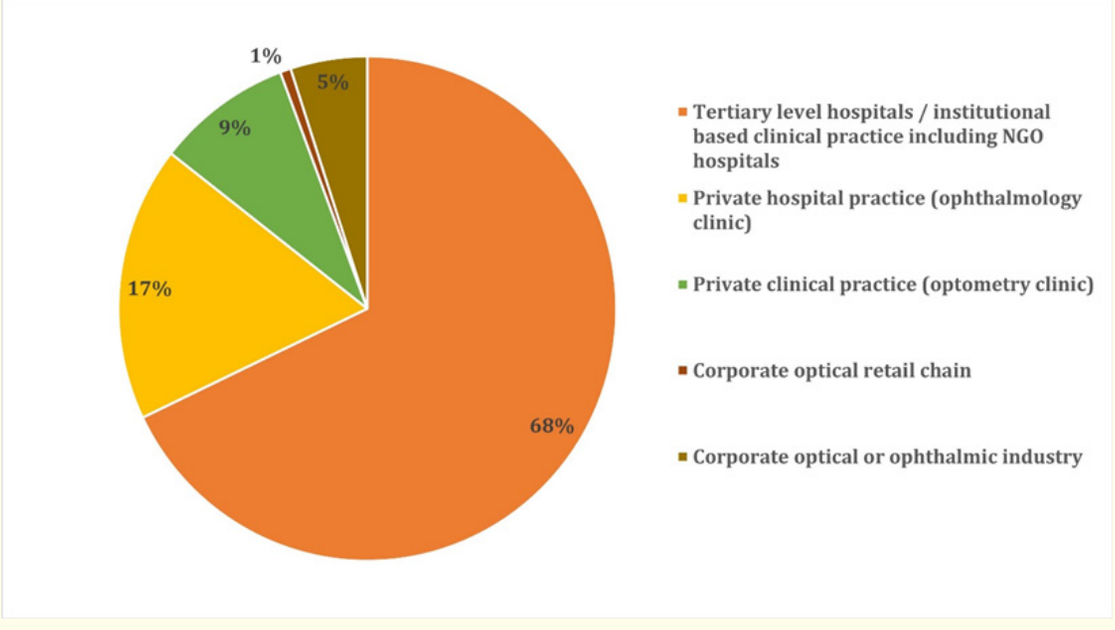

Figure 1: Optometry students' preferences to pursue clinical internship in optometry

tations. Regarding optometry sub-specialty training, the majority of students (230, 52%) expressed interest in myopia management as shown in Figure 2. The majority of students preferred examining 4 to 6 cases per day (206, 46.6%), followed by 7-8 cases (132, 29.9%), 9 or more cases (70, 15.8%), and fewer than 4 cases per day (34, 7.7%).

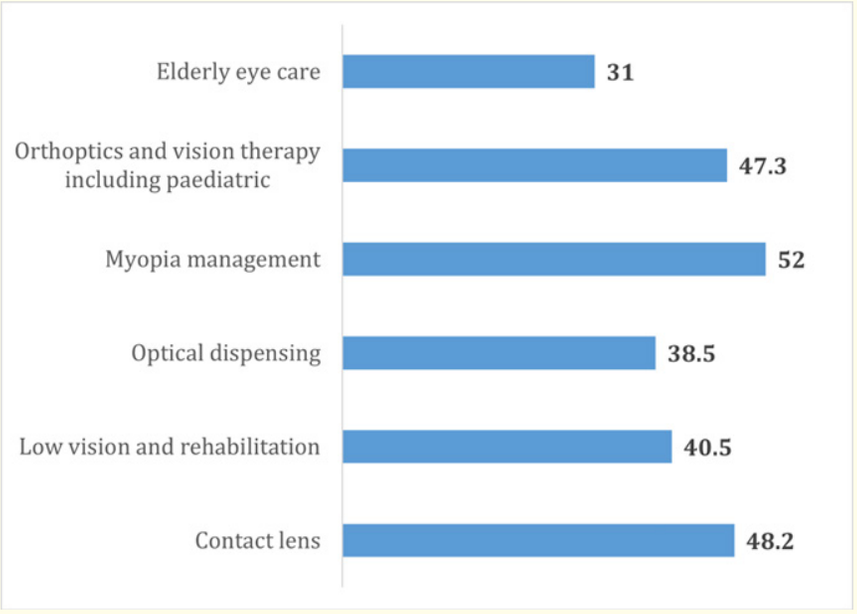

Figure 2: Optometry students' preferences (%) for sub-specialty training during the clinical internship.

The majority of students (396, 89.6%) preferred working in rural areas. Regarding the duration of rural postings, their preferences were two weeks (192, 43.4%), three weeks (68, 15.4%), four weeks or more (62, 14%), and less than one week (120, 27.1%). Most students (362, 81.9%) preferred having mentor guidance for their thesis, while 59 students (13.3%) selected "not applicable" as they do not have thesis work during their internship. Student expectations for different questions related to coursework, supervision, leisure and stipend were shown in Figure 3. Regarding preferred methods of receiving feedback on clinical performance, 136 students (30.8%) preferred written and practical examination format, as shown in Figure 4. The number of cases to be examined by interns varied between schools and colleges, ranging from 500 to 5,000 cases. The open-ended question on any specific expectations or preferences; most of the responses were related to diverse patient care exposure, stipends, and breaks during the internship.

Discussion

This study explored the expectations of third-year optometry students regarding their clinical internship. Nearly 98.2% of students wanted pre-clinical simulation training to build confidence in patient examination, and 82.8% were interested in attending theoretical sessions. A dedicated supervisor or senior faculty member was desired by 93.4% of students. Students also emphasized the importance of work-life balance, with 93.7% requesting leisure time for personal activities and 80.3% seeking time for sports and cultural activities. Additionally, 92.1% were open to receiving a stipend, and 52% expressed interest in myopia management as a sub-specialty.

A total of 409 participants (92.5%) reported confidence in performing a comprehensive eye examination. Similar responses were noted among medical interns, with 78% feeling that the residency preparation courses offered by their medical school adequately prepared them for the internship year [1]. In the present study, most participants indicated a desire for leisure time for sports or cultural, personal, or family activities. Similar findings were reported among Tanzanian medical interns, who agreed to have enough time to spend with family (59.3%) or for daily sporting and exercising(62.6%) [11]. However, in reality, the internship provided limited opportunities to spend time with family (25.3%) and daily sporting and exercising (22%) [11]. About 60% of the participants in this study reported that they would like to work independently in the clinic with little supervision or guidance; however, in contrast, 80.2% of medical students reported working independently as a part of an internship [11].

Figure 3: Optometry students' preferences (%) for sub-specialty training during the clinical internship.

L V Prasad Eye Institute is a WHO collaborating institute offering a variety of training programs for eye care professionals, including short-term courses, fellowships, postgraduate diplomas and clinical internships. Each year, approximately 150 students from about 25-30 optometry schools and colleges were admitted to the clinical internship in optometry, and students are posted across the institute network tertiary-level eye care centres for their training. At the Institute, our internship training primarily focuses on developing clinical skills, in addition to imparting knowledge components in training through methods such as case-based learning and struc-

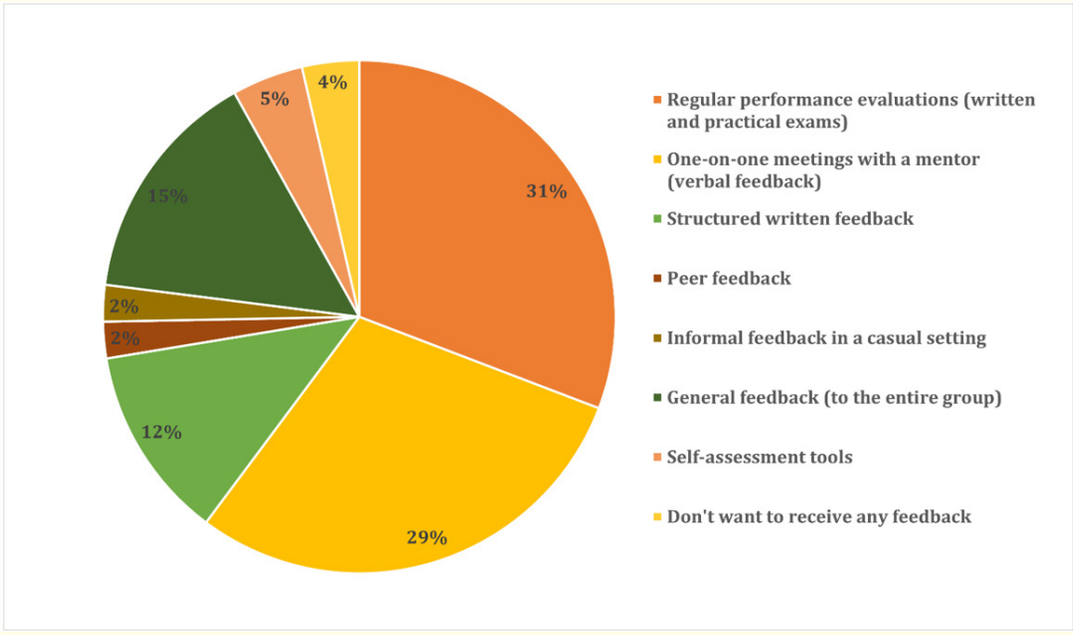

Figure 4: Preference to receive feedback on clinical performance during the optometry clinical internship.

tured classes using active learning. In the present study, 92.5% of participants reported confidence in performing a comprehensive eye examination by the end of their third year. However, based on our experience, many interns lack basic eye examination skills. To address this, institute provides 2-4 weeks of simulation training before clinical placements. Most of the students also reported attending simulation training before the actual clinical rotations.

A majority of students (51.6%) expressed interest in examining all types of ocular pathology. This aligns with a study conducted among practicing optometrists in India, where 98.4% reported providing routine eye examinations as part of their practice [20]. Regarding optometry sub-specialty training, the majority of students (52%) expressed interest in myopia management. In contrast, a previous study showed a higher preference for optical dispensing, contact lenses, and binocular vision [20]. Most of the optometry internships in India are conducted in urban settings, with limited or no rural placements. At our institute, we offer a few rural placements for some interns. Given that many prospective interns (89.6%) have shown interest in rural postings, we recommend that institutes incorporate rural placements into their internship programs. This would provide students with exposure to diverse patient populations and help extend eye care services to underserved rural areas. In our experience, optometry interns frequently fall ill and take medical leave during the internship program. This may be due to the stressful clinical duties and lack of breaks and leisure time, a concern supported by most prospective interns who expect some leisure time during the internship. In addition to providing diverse clinical exposure, leisure time, and offering stipends should be considered for running successful internship programs to enhance optometry education in India. We strongly recommend that institutes take these expectations into account when offering clinical internships to optometry students across India.

The major strength of the study is the use of a validated questionnaire, with participation from representative optometry schools and colleges across all regions of India. This is the first study reporting the students expectations about the internship among the optometry students. Despite a low participation rate from schools and colleges, the data offer reliable insights into internship expectations, with responses from students across various universities and from different states. Additionally, the colleges were not randomly selected from each region. Future studies could involve a larger number of optometry schools and colleges to improve the robustness of the results.

Conclusion

This study offered key insights into third-year optometry students' internship expectations, including both academic and non-academic activities during the internship. Minimizing the gap between expectations and reality will create a more conducive learning environment for optometry students during the internship. Institutes should consider these expectations when designing

internship programs to enhance clinical training, student satisfaction, and the quality of optometry training.

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Conflict of Interest

None of the authors have any potential conflict of interest in this study.

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