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Optometry students' perspective on optometry in suburban Western India: A qualitative study

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Abstract
Purpose: Optometry has been an established profession in India for 60 years. Despite this, students who choose this course may have misconceptions and unrealistic expectations about the profession. The goal of this study is to understand the perceptions about optometry among optometry students, prior to and during their studies.
Methods: A snap-shot narrative qualitative study using a semi-structured open-ended questionnaire was designed to understand the perception of optometry. Optometry students and educators from three suburban colleges were invited to participate. Forty-one participants took part in 24 in-depth interviews and 5 focus groups; of those 32 were undergraduate optometry students and 9 were optometry educators. Interviews and focus groups were audio-recorded, transcribed, coded, and analyzed.
Results: Three major themes emerged: retrospective perception of optometry, current perception and strategies to improve awareness level. All the participants mentioned that there was a considerable lack of awareness about optometry in society. None of the students stated that they chose optometry as their first choice of professional education. Most students expressed that they were provided with ample exposure during the curriculum to understand the scope of optometry. Various strategies were recommended to improve the level of awareness of optometry.
Conclusions: The current study highlights the lack of awareness and knowledge of optometry among the students while enrolling in the course. Knowledge about the scope of optometry

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practice among optometry students improved after extensive education and clinical exposure. Improving the awareness level of the profession will improve the quality of students entering the profession.
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Introduction

Optometric education has been established in India six decades ago, starting initially with a 2-year course, and then progressing to a 4-year graduation program.[1–3] In India, optometrists are trained in an extensive range of eye care services such as comprehensive eye examination, ocular diagnostic service, contact lenses and spectacle dispensing, vision therapy and visual rehabilitation.[4] In terms of the World Council of Optometry (WCO), Indian optometrists are highly skilled and competent.[5] They practice in multiple settings such as hospital/clinic-based practice, academics, optical retail, research, administration, marketing, and independent private practice.[6]

According to the India Vision Institute report, there were approximately 49,000 practicing optometrists, and 164 institutions providing optometry education in India.[7] WCO reports that there are about 358 teaching institutes and 250,000 optometrists, globally.[5] Overall, these numbers indicate that India contributes about 19.6% of the optometrists to the world. However, the proportion might be overestimated because only 70 out of 358 known optometry organizations across the globe work in collaboration with WCO.[5,7]

Despite being a well-established profession, optometric practice lacks acceptance in many countries.[8] Considering this scenario, we conducted a pilot study to explore the outlook and awareness of optometry among 9 optometry students and 2 optometry educators. Our pilot findings suggested that prior to commencing their studies, optometry students have misconceptions, false expectations and insufficient information about their profession.[9] A similar situation prevailed in many other developing countries, such as Mozambique, Saudi Arabia, and Ghana.[10–12] Eye care services in India are scattered, without formal regulation. There are no specific practice guidelines, licenses or registration for eye care professionals such as optometrists, refractionists, orthoptists, ophthalmic assistants, and ophthalmic technicians.[13] All these professions perform comprehensive eye examination and dispense spectacles and contact lenses without any specific regulatory structure,[13,14] whereas in developed countries the governments and/or law regulates the optometry education and provides practice guidelines.[15–18] Optometrists in developed countries such as the United Kingdom, Spain, Ireland, United States, Canada, Australia, and European countries play an integral role in eye care practice.[20–25] Other professions such as physiotherapy, occupational therapy, and speech therapy also lack awareness but, professions such as medicine and dentistry are well-accepted among the people in India.[19]

There have been no previous studies on the perception of optometry practice or optometry education in India. With respect to other nations, India is now above the Median Development Index, with a developing middle class. So there should be increasing popularity about the role of optometrists in the country, but to the best of our knowledge, there is no current information about this. While self-efficacy and efforts are both indicators of academic success, less is known about the effects of prior career knowledge and attitudes.[10,26] Students who choose their courses with a definite career plan are more likely to have academic success[27] and students who do not actively choose their courses are less likely to finish their degrees.[28] Likewise, students who were satisfied with their chosen course were more likely to succeed in their respective careers.[29] Given the importance of prior knowledge of the profession to academic success, value of course satisfaction and lack of information about optometry students' attitudes; a qualitative study was designed to understand the retrospective perception (i.e., the perception prior to entering the course) and current perception about optometry among optometry students, via focus group discussions and interviews.

Methods

A snap-shot narrative qualitative study was conducted using in-depth interviews and focus groups.[30] The rationale was to ensure a comprehensive understanding of the retrospective perception, present knowledge and future scopes of the profession. To obtain a broad range of perspectives, optometry students and educators (optometrist) were recruited from 1) Laxmi College of Optometry, 2) ITM Institute of Health Sciences (ITMIHS), and 3) Allied Health Science - Goa Medical College and Hospital. All the three colleges offered a four-year optometry undergraduate program and were located in suburban regions of Western India. The study was conducted in adherence to the tenets of the Declaration of Helsinki and was approved by the Institutional Ethics Committee of Goa.

Interview guide

A semi-structured open-ended questionnaire with probes was developed based on group discussions with optometrists engaged in student recruitment procedures and first-year undergraduate students. Questions were directed on the retrospective knowledge about optometry, present perception of the profession, future perspectives, and generalized view on awareness of optometry in the community. The interview guide was reassessed and modified after each ses-

sion (interview or focus group). However, the aim of the study was not altered at any point during the study period.

The interview guide used for optometry students were as follows; 1) When did you come to know about the optometry profession?, 2) How did you come to know about optometry?, 3) What information have you heard about optometry course or optometrist prior to course enrollment? (a. Course duration, b. Subjects involved in optometry, c. Practice pattern), 4) What was the perception of optometry among your family members or relatives?, 5) After enrollment into the optometry course, what is your perception about the profession and how it is different from what you already knew?, 6) What additional information did you come across during your course work?, 7) What is the role of an optometrist in eye care services?, 8) What are the future scopes in optometry?, 9) What is your future plan in the optometry profession after graduation?, 10) What is your generalized opinion on awareness of optometry in the community and why?, 11) What is the level of awareness of optometry among your family members or relatives?, 12) What is the overall level of awareness of optometry in India?, 13) What are the factors influencing the current level of awareness? (a. Eye hospital, b. Optical, c. Government policy, d. NGO initiative, e. Community outreach programs), and 14) How can we create more awareness in the community?. For optometry educators, the questionnaire was rephrased to refer to students' in the third person, without altering the meaning of questions. For instance, question 1 was rephrased as 'Based on your experience, when do optometry students come to know about the profession in general?'. Likewise, the rest of the 13 questions were rephrased and used as an interview guide for the educators.

Preparation for the interviews and focus groups

All the investigators were trained in the interview methods. English was chosen as the medium of discussion for the interviews and focus groups. A calm environment was identified in each institute to facilitate audio recording. The participants were divided into students and educators. A single moderator (DV) and a note-taker (BL) who had academic teaching experience moderated the sessions of educators. For the student participants, three moderators (SS, RK, and RKL) at three different venues and a note-taker (DV) moderated the sessions. The role of the note-taker was to record the non-verbal cues of all the participants and to assist the moderators in probing questions from the interview guide. All the interviews and focus groups were planned and carried out on separate days, which facilitated the author (DV) to transcribe the interviews and rephrase the questions in accordance with the response of the previous interview. Theoretical data saturation (redundancy of information) was considered as the endpoint of the study.

Data collection

The inclusion criteria for undergraduate optometry students were that they lived within 50 km of radius from the optometry college and belonged to the suburban locality. In the second group, optometry educators with academic teaching experience of at least one year and involved in optometry course recruitment process were included. Overall, the colleges had 262 students, out of which 117 students fulfilled the inclusion criteria. Using simple randomization 53 students were invited, out of which about 90% (48/53) conveyed their willingness to participate. Among the optometry educators, a total of 10 (out of 16) educators had been involved in the recruitment process and therefore fulfilled the inclusion criteria, out of which 9 were willing to participate. All the 9 educators were invited to participate in the study. The in-depth interviews were one-on-one discussion, and each focus group had 4–5 participants. At the start of each session, the participant(s) were welcomed, and refreshments were provided. The interaction between the moderator and participant(s) began with a general discussion on weather and daily news to create a friendly atmosphere. The participant(s) were then transferred to the interview site, and the agenda of the study was explained. Written informed consent was obtained from all the participants.

The discussion began with the narration of open-ended questions (one at a time), and the participants were asked to respond to the questions in English. During the interviews and focus groups, the above-mentioned interview guide was used as a reference to direct the moderator towards the study aim. Moreover, if a participant gave an uncertain or unclear statement, their reasoning was requested: such as 'why?' or 'what is your opinion on it' or 'how?' or 'when?' or 'anything else?'. A similar approach was administered for all the questions from the interview guide. On the other hand, if the participant did not respond to all the information on a specific question, probes were given. A scenario from the present study is given as an example: ''What information have you heard about optometry course before enrollment?'' If the participant had not mentioned anything about the 'course curriculum', then ''What have you heard about the course structure and subjects undertaken in the course?''. A parallel approach was followed in focus groups; also the participants were permitted to interact with each other to derive new categories. At the end of each session, the moderator summarized all the information stated by the participant. Any terminology expressed in the local language (Hindi, Konkani, and Marathi) was translated into English by the participants. Likewise, if any non-verbal cues were used during the session, the participant(s) were requested to express verbally. The data collection was concluded when no additional insights were obtained in the last 3 sessions.

Study participants

After, 24 in-depth interviews and 5 focus groups in two groups of 41 participants; data saturation was observed. Thirty-two undergraduate optometry students participated in 20 interviews and three focus groups (four participants in each) in group 1, among which 6 students belonged in the first-year, 7 in the second-year, 11 in the third-year and remaining 8 were optometry interns. None of the participants from the student group took part in both the interviews and focus groups. Four in-depth interviews and two focus groups (4 in first and 5 in second) were carried out among nine educators. Four tutors participated in interviews as well as focus groups.

Data analysis

The audiotaped in-depth interviews and focus groups were transcribed into verbatim by the moderators who conducted the interview. Each transcript was descriptively coded, and categorized by a single moderator (DV). Generalized data coding and analysis were carried out for all transcribed interviews and focus groups irrespective of the study group using NVivo 12 software (NVivo qualitative data analysis software; QSR International Pty Ltd. Version 12.0, 2018). The software helped organize and retrieve text linked by familiar texts. Qualitative content analysis was performed to compare the responses between two groups and the level of course completion.

Results

The 32 undergraduate optometry students who took part had a mean age of 19.36 ± 1.28 (SD) years, of which 21 participants were female. The 9 optometry educators who participated had a mean age of 30.5 ± 2.02 (SD) years and had a mean level of teaching experience of 3.83 ± 2.25 (SD) years respectively, of these educators 5 were female. The categories obtained from both groups were similar, as the study aimed to address the perception of the student community. Three major themes that emerged out of the qualitative analysis are as follows.

Theme 1: Retrospective perception of optometry

The subthemes obtained under this theme were; the outlook of optometry in society, the reason to undertake the course, and expectation(s) from the course.

a ***The outlook of optometry in society***

All the participants stated that there was a considerable lack of awareness about optometry in the community. Most students had come to know about the program after completing their higher secondary education. Several optometry students mentioned that their family members and relatives were not familiar with the profession when they enrolled and also mistakenly understood that the candidate was pursuing ophthalmology training. The educators suggested that lack of awareness about optometry is the most critical reason why higher secondary students with good academic merits do not take up the optometry profession.

> ''Most of the people in India have never heard about optometry or optometrist.'' *(Interview 03: Educator)*
>
> ''There is no awareness of optometry in society. Even when I informed my relatives that I am pursuing an optometry course; they asked, 'What is optometry exactly?' Then I had to explain to them about the course and the role of an optometrist in society.'' *(FGD 01; P26: Student)*

Some participants suggested that people from the urban community were quite aware of optometrists and their role than the rural and suburban communities. Many participants stated that their institute played an active role in providing optometry services in the locality, which in turn improved the awareness for optometry.

a ***The reasons to undertake the course***

Students' response

Many optometry students stated that they wanted to pursue medicine, and they did not choose optometry as their first career option. Apart from medicine, students were also interested in pursuing engineering, dentistry, microbiology, life sciences, humanity, and nursing. None of the students reported that optometry was their first choice for professional education. However, the primary purpose spelled out for choosing optometry was that 'optometry is related to eye care service', so they could serve their community. Reported evidence of job opportunities and community eye services were also expressed as the major reasons for choosing the profession. Participants with a family optical background stated that they wished to study general medicine, but eventually due to insufficient grades in higher secondary education they had to join optometry and support their family business. Family members, private professional counselors, seminars on career opportunities, eye examination or community eye screening were the sources of information for optometry in the present study.

> ''I wanted to pursue Medicine, but I couldn't meet the eligibility criteria. I was keen on providing community service, so I started looking for other career options in health care. I came across the optometry program; I felt optometry would be an ideal career where I can serve the rural community.'' *(Interview 03: Student)*
>
> ''While preparing for competitive examinations for health-care, I went through different courses that were available in my state (locality). That was the first time I heard that there is a branch called optometry that deals with eye care.'' *(Interview 17: Student)*
>
> ''I read online that optometrists had very high job satisfaction in many countries compared to other health-care professions; so I opted for optometry.'' *(Interview 18: Student)*

Educators' response

Optometry educators also reported similar observations during the undergraduate student recruitment process. Moreover, they felt that a considerable proportion of uptake of optometry education occurred among students with a family background in the optical industry. Some educators specified that students who were eager to pursue other health-care professions showed less interest in optometry education and withdrew from the course midway.

> ''Some students were pursuing optometry because they required optometry skills and graduation certificate to carry over their family business (i.e. optical industry).'' *(Interview 02: Educator)*
>
> ''Few students discontinue optometry course if they get into medicine or dental education.'' *(FGD 05; P39: educator)*

a ***Expectation(s) from the course***

All students recalled that they had limited information about optometry when they enrolled in the course. A majority of undergraduates thought, at the start of their studies, that the profession dealt with 'spectacle dispensing' only. In addition, some students also believed that optometrists would have to work alongside ophthalmologists, in a similar way to ophthalmic assistants. Only a few students perceived that after graduation, they would be able to perform independent eye examination to rule out refractive error and other ocular conditions. Most of the students expressed that they had better knowledge about the coursework of medicine, engineering, dentistry, physiotherapy, and nursing compared to their knowledge of optometry.

''I knew that optometry is a profession related to the eyes. I also had a thought that it is similar to an ophthalmologist except providing surgical management and drug administration.'' *(Interview 21: Student)*

''Before entering the course, I thought an optometrist had to work in lens manufacturing units, and optical sales after completion of the course.'' *(Interview 7: Student)*

According to the educators, first-year optometry students had inadequate knowledge about the coursework, curriculum, structure and future scopes. Likewise, some students reported that they did not have substantial information about the subjects in the syllabus and scope during the admission process. None of the students had heard about multidisciplinary practice patterns of optometry prior to the commencement of their course.

Theme 2: Current perception of optometry

The subthemes acquired in this theme were; understanding the role of an optometrist and the future scope of optometry.

a *Understanding the role of an optometrist*

After enrolling in the course, all students stated that optometry is the primary eye care profession. Students who had exposure to patient care agreed that their expectations towards the profession were adequate. Patient care helped them to understand the roles and responsibilities of an optometrist in eye care services. A majority of the students said that they could practice in various specialties of vision care after graduation. All interns mentioned that they could involve themselves in school vision screening and community eye screening programs in the future. Most educators mentioned that they guide optometry students in the career decision-making process during the coursework.

''After completing the coursework of specialty subjects such as contact lenses, binocular vision, and low vision in the third year; I am quite confident that the optometry profession has plenty of scopes.'' *(Interview 15: Student)*

a *The future scope of optometry*

Almost every student mentioned that optometrists can dispense spectacles, contact lenses, work in marketing sectors, hospital set-ups and academics. However, only a few students expressed that optometrist could practice independently in sports vision, pediatric optometry, industrial vision care (i.e., occupational optometrist), manufacturing units of contact lenses and spectacles, and ocular prosthetics. Moreover, the senior-level students expressed that they would practice contact lens dispensing, provide visual rehabilitation services, and vision therapy services. While comparing the responses across the levels of course completion, the third-year students and optometry interns had a better understanding of the career opportunities and practice patterns compared to the first and the second-year students. Similarly, the range of clinical investigations stated by the senior students was higher in number than the entry-level students. Most students claimed that they would pursue higher education in different specialties of optometry. A few students were planning on establishing an independent optometry practice soon after graduation. All educators felt that students' understanding of the scope and practice patterns had improved as the course progressed.

''Our college organizes yearly school screening programs at rural schools where we conduct vision assessment of the students and prescribe glasses. This experience has inspired me a lot, so I am considering to concentrate on pediatric optometry.'' *(Interview 11: Student)*

Theme 3: Strategies to improve awareness level

The first two themes highlighted the lack of awareness of optometry in India, which led to the development of this theme. Two subthemes were derived; the role of media and public health awareness.

a. Role of media

All participants mentioned that the media would play an integral role in creating awareness about optometry. They suggested basic strategies such as advertisements in newspapers, television, radio broadcast, and social networks. Most of the students specified that creating awareness on social media such as Facebook, Instagram, and Twitter would improve awareness among their friends and followers.

''Media is an influential source for publicity these days; we can advertise on radio, newspapers, and television channels about optometry courses and clinics. We have thousands of friends at the social media platform, which makes it the best option to promote optometry.'' *(FGD 02; P28: Student)*

b. Public awareness programs

Several participants felt that public awareness programs about optometry should be carried out in various parts of the country. Likewise, they also revealed that optometry practitioners should participate in discussions at public forums to enhance eye care accessibility. Many educators articulated that eye screening camps and rallies on eye health could also improve the awareness of the profession. The participants believed that adding information about the optometry course to career awareness programs for school students would create more impact on the younger generation. Most educators claimed that if optometry graduates set up optometry clinics to promote the profession and work for the underprivileged in rural regions, the awareness level of optometry will improve significantly. Few participants also

mentioned the need for the legislative body in the country to moderate the practice guidelines of optometrist is essential like physicians and dentists.

> ''I came to know about optometry from an eye screening camp conducted near my residence. There were hundreds of people being screened and referred to eye hospital, and some were given free spectacles too. So, organizing multiple camps in the community will also create awareness about the role of an optometrist.'' *(FGD 03; P31: Student)*
>
> ''I feel our graduates should initiate more of independent practice to improve the awareness level of optometry, rather than working in eye hospitals or optical chains. Also, we (optometrists) need the support of a national regulatory body; like the Medical Council of India and Dental Council of India to support physicians and dentists respectively.'' *(Interview 02: Educator)*
>
> ''We organize public awareness programs and vision screening programs to create awareness about optometry.'' *(FGD 05; P40: Educator)*

Discussion

Our findings showed that, prior to entering the course, the awareness and knowledge about the optometry profession were limited among optometry students. A majority of students had heard about health-care professional courses like medicine, dentistry, and nursing during their schooling but not optometry. Moreover, most student participants in this study never intended to choose optometry as a profession in the first place. The current study results highlighted that students with good academic merits prefer medicine or other professions initially, and settle to optometry profession when failed to procure their desired profession.

The time point at which the students learn about the role of a profession is crucial. The student participants acquired basic knowledge about optometry course at the age of 17.6 ($\pm$1.2) years, which was also the time they gathered information about the career options in the health-care. Literature suggests early-to-mid adolescence is the ideal time for career exploration.[31] However, the students in this study had never heard about optometry until late adolescence, and the opinion was also backed by optometry educators. Many students perceived optometrists as spectacle dispensers or lens manufacturers when they heard about the profession for the first time. The students also reported that their family members, relatives, and peers did not perceive the profession at par with other health-care professions prior to commencement of the course. Even in most European countries, optometrists were perceived as opticians for the initial five decades.[20] Our findings also suggested that a similar situation prevails in India currently (60 years after the introduction of optometry[1–3]). In addition, few studies have indicated a lack of awareness about the optometry profession in developing nations such as Mozambique, Ghana and Saudi Arabia.[10–12,32,33] Overall, the reason behind this lack of knowledge and awareness about optometry in these countries is not known.

Our study also showed that prior to entry, students were more aware of medicine, dentistry, and nursing compared to optometry. The roles of other professions such as physiotherapy, occupational therapy, and speech therapy are, like optometry, relatively unknown in India.[19] However, in contrast, the roles of optometry are well-understood by college students of the United States.[34] A reason for this finding could be the existence of a large number of optometrists in the United States, and there is a high probability that the participants' encounter the profession at some point in time. The national and state regulatory bodies moderating US optometry practice might also have played a major role in enhancing the reputation of the profession.[34] Nevertheless, our results suggested that vision care services being provided in the community might contribute to the existing awareness of optometry. This agrees with other studies, which also suggest that the role of eye care hospitals and community outreach programs remains vital in generating awareness about optometry in young people and their families.[35,36] In addition, career counselors and family members were the source of information about optometry in this study. Literature suggests that parents and school teachers commonly influence school students in career decisions making.[37] Surprisingly, none of the student participants in the present study stated that their school teachers, or school counseling professionals, mentioned or discussed optometry. This indicates that there could be a considerable lack of awareness about optometry in school teachers, career counselors, and society. In the current study, the desire to help the community, support family business and job opportunities were mentioned as factors for opting optometry. Similar findings were also reported in the literature.[38,39]

The perception of optometry students about their career changed after appropriate academic and clinical exposure to eye care. The students also highlighted that their family members, relatives, and peers viewed the profession positively after they enrolled in the course compared to their previous understanding. After entering the course, the students came across various aspects of optometry coursework which lead them to gain knowledge about future scopes and practice patterns in optometry. To the best of our knowledge, there are no studies that reported the changes in perception of optometry among the students pursuing the profession. A study by Thite et al.[6] reported that the Indian optometrists were involved in a range of services at eye hospitals, optical outlets, and community outreach programs. These findings are similar to our results, however, the retrospective perception of optometry showed conflicting responses which indicate a lack of initial knowledge about optometry practice. In addition, senior optometry students had a better understanding and knowledge of the career opportunities, range of vision care services and scope of practice, compared to their juniors. This suggests that optometry students need sufficient exposure and guidance to various eye care services during the curriculum to understand the broader perspective of optometry. Similarly, the literature also suggests that the knowledge about the range of practice patterns and the importance of multidisciplinary approach was higher among senior students and optometrists with higher academic qualifications, indicating the importance of more exposure.[6,40] These findings emphasize that the quality of education and optometry qualification are crucial in understanding the roles of the profession. In addition, De Souza et al.[4] and Rao[41] discussed the need for extensive training to deliver a successful eye

care service in India. Thus, the standards of optometry education and the quality of eye care services may depend on the framework of the academic curriculum pursued by the students. Currently, there is no standard curriculum followed by the optometry colleges in India, and developing such a curriculum may improve the profile of the profession.

Overall, the results of the current study highlight the urgent need to create awareness about optometry in suburban India. Assessing and generating awareness about optometry prior to course enrollment will not only improve the intake of meritorious students, but also enhance academic performance,[10,27,42] professional success,[29] and future job satisfaction.[43] A study by Grembowski et al.[44] illustrated a positive association between job satisfaction and quality of health care service provided. Thus, improving the current perception of students would also result in delivering a better quality eye care service to the community. Several innovative approaches were suggested by the participants to improve public awareness and knowledge about the optometry profession in the present study. Participants suggested that community activities could be used as a platform to improve the awareness level of the profession. Advertisements were also one of the strategies recommended to improve awareness about optometry. A similar approach was suggested by Moser and Reed to improve public awareness and to ensure an advantageous optometry practice.[45] Literature suggests several developing countries have a lack of knowledge about eye care service and optometrist in their community.[10–12,32,33] The strategies identified in our study could be implemented in these countries where awareness about optometry among career seeking students is minimal. Apart from awareness of the optometry profession, the participants also reported that these strategies will create awareness about eye health in society. Similar strategies were recommended to improve eye health in the previous studies.[4,45] The current study highlights that several false assumptions might prevail about optometry among the student community. These misconceptions about the profession might diminish significantly if the proportion of independent practice increases resulting in general-public encountering the profession in large numbers and building awareness in the country. A study in the United States reported that the high proportion of practicing optometrists influenced the exposure to the profession among college entering students.[34] However, the proportion of independent optometry practice in India was reported only 22%.[6]

Optometry educators emphasized the need for a national legislative body for independent optometry practice in the current study. This expectation is customary because of the existence of Medical Council of India and Dental Council of India which allows physicians and dentists to practice independently. Furthermore, there are different professionals in eye care such as optometrists, refractionists, orthoptists, ophthalmic assistants, and ophthalmic technicians who provide refractive services.[13] Whereas the role of eye care practice in developed countries are well-defined, this might be due to the presence of regulatory bodies in their nations, that maintains the standards of the services by stratifying the responsibilities of eye care practitioners.[20–25] At present, India is planning to establish a legislative and regulatory body for standardizing optometry education and moderating the practice guidelines of an optometrist in the country as suggested by the WCO.[5,46,47] Though most countries follow the WCO[5] guidelines for the optometry education program, the certifications provided to optometry course are diverse: such as bachelor in optometry, doctor in optometry, diploma in optometry, honors in optometry, etc. As per the framework and curriculum of these programs, it also differs from country to country irrespective of the presence of a regulatory body. For instance, in the United States, optometry education has evolved considerably in the last decade, with an increase in 5.7% of total clock hours in optometry education.[48] On the other hand, several other countries still follow the guidelines of WCO[5] and follow a specific pattern of curriculum. And eventually, after graduation, all these professionals from various countries will be titled as an optometrist. Now the question that arises here is 'whether all the trained optometrists perform a similar role in society and are they competent to practice in all the platforms?'. To resolve this particular issue, the optometry profession might be coordinated by a global autonomous body such as WCO[5] to deliver benchmark eye care services, recommend effective recruitment strategy for optometry schools, provide uniform structure to optometry curriculum, assure the quality of academic institutes[49] and enhance the specialty practice guidelines.[50] Implementing all these components could improve the competency of the profession, increase ease of access to eye care services, reduce the burden of avoidable blindness and eventually improve the status of the profession worldwide.

A major limitation of the current study is that it applies to a small number of optometry schools, making it challenging to quantify the awareness and knowledge about optometry for the whole nation. Perceptions are expected to vary from location to location within India due to cultural, educational, environmental and language diversities. Also, there are more tertiary eye care facilities available in urban and southern parts of the country compared to its rural regions, which could lead to different degrees of awareness at different locations. Moreover, factors like academic merit, language, gender and cross-cultural difference of participants were not considered in this study. Thus, there may be a need to conduct a national survey to explore the understanding of optometry among school students. Also, awareness studies about optometry could be planned among career decision influencers such as family members, school teachers, and career counselors.

To conclude, our results provide evidence of an initial lack of awareness and knowledge about optometry among students in India. The frequency of choosing the optometry profession as a preliminary career option is low in the community. Further, it is recommended that public awareness activities should be conducted to motivate school students to seek a career in eye care. Hence, improving the awareness level of the profession may improve the quality of students' entering optometry course. The findings also suggest that understanding the future perspectives and practice patterns of optometry services available improved considerably with the level of coursework provided at college. The outcomes recommend that trained optometrists in the country should practice optometry in all specialties independently like the developed countries, to improve the awareness level of the profession.

Conflicts of interest

The authors have no conflicts of interest to declare.

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