

Assessment of factors influencing the choice of ophthalmology as a post-graduation speciality among medical undergraduates

Shubhangi Pimprikar¹, Shailaja Karve^{2*}

^{1,2}Associate Professor, Department of Ophthalmology, SMBT Institute of Medical Sciences and Research Centre, Dhamangoan, Nashik, Maharashtra, INDIA.

Email: shailajakarve11@gmail.com

Abstract

Background: Selection of post-graduation speciality is very critical and crucial decision for medical students and it is influenced by intrinsic and extrinsic factors. Ophthalmology is very important part of primary care in India. **Aim:** To determine factors associated with preference of Ophthalmology as post-graduation speciality. **Material and Methods:** Descriptive cross-sectional questionnaire based study conducted on 247 medical undergraduates in private medical college in India. **Results:** Age range of students and interns was 22 to 25 years with mean age of 23.5 years. Female (47.7%) to Male (52.3%) ratio was 1:1.09. Out of total 247 students and interns, 28% were willing to take ophthalmology, 29% were not willing to take ophthalmology and rest 43% students and interns were not sure about their preference. Interest in ophthalmology and surgical branches, no emergency, influence of teacher, good life-work balance and new techniques were commonest reasons for preference while commonest reasons given by them for non-preference were dislike for surgical branch, saturation in field and expensive equipment. Income potential and investment requirement were two important pull factors. **Conclusion:** Interest in ophthalmology being a surgical branch, influence of role models, good work-life balance and opportunities to learn newer techniques were major attractive factors but saturation, return on investment, need of super-speciality education were some repelling factors. So this study will help the Medical Education and Ophthalmology experts to modify the system to persuade more students so that they will contribute to the enhancement of the field.

Keywords: Medical education, Ophthalmologist, Post graduation studies, NEET PG, Stress

*Address for Correspondence:

Dr Shailaja Karve, Associate Professor, Ophthalmology, SMBT Institute of Medical Sciences and Research Centre, Dhamangoan, Nashik.

Email: shailajakarve11@gmail.com

Received Date: 05/11/2019 Revised Date: 16/12/2019 Accepted Date: 09/01/2020

DOI: <https://doi.org/10.26611/10091422>

Access this article online

Quick Response Code:	Website: www.medpulse.in
	Accessed Date: 01 May 2020

INTRODUCTION

India has a total of 479 medical colleges with an annual intake of 67,218 MBBS students.¹ At present, there are over 23,000 post-graduation seats per year in government and private medical colleges across India.² Selection of post-

graduation speciality is very critical and crucial decision for medical students and this is ongoing process throughout their MBBS education period. The decision largely depends upon performance in entrance examination but the preferences for speciality are influenced by intrinsic (personal attributes, gender and preferences) and extrinsic factors (Patient load, emergencies, lifestyle and flexibility of the speciality and work environment).³⁻⁶ Ophthalmology is very important part of primary care in India. The role of an ophthalmologist is very important in National Program for Control of Blindness (NPCB), vision 2020 especially at the level of sub-district hospital and above.^{7,8} But, there are deficiencies of ophthalmologists at this-levels.^{9,10} Ophthalmology is a unique field of combination of surgery and medicine speciality. There are many attractive factors for preference towards ophthalmology as post-graduation

subject but there are factors like extensive investment, return on that investment and other factors which may alter these preference. Therefore, knowing the details of these factors that influence medical graduates decisions regarding ophthalmology as their post-graduation speciality can help in taking suitable measures in due course of time. So this study was conducted on medical students to determine factors associated with preference of Ophthalmology as post-graduation speciality in medical college in India.

MATERIAL AND METHODS

An observational descriptive cross-sectional study was conducted in a private medical college in Maharashtra, India on medical students and interns from July 2019 to December 2019. The aim of the study was to find out factors influencing preference of medical students and interns towards ophthalmology as post-graduation speciality. Medical students and interns of both genders who were willing to participate were included in study. Total 250 medical students (final year) and interns were enrolled but out of that 3 interns did not submit responses. Institutional Ethics Committee (IEC) permission was taken before commencement of data collection. Standard operating protocol and definitions were formulated at the beginning and followed throughout the study period. Written informed consent was taken from each participant after explaining study procedure in details. Confidentiality of identity of study participants was maintained. Information was collected through pretested and structured questionnaire. Information was collected using google forms having details like age, gender, preference of speciality subjects, reasons for opting in/ opting out Ophthalmology as speciality subjects etc. Collected information was then compiled in Microsoft Excel 2013 and analysed with SPSS v.16. Multiple responses were segregated and arranged in informative manner. Descriptive statistics like frequency, proportion, range and mean were used while Chi-square test used to draw inference ($p < 0.05$). Tables and graphs used at appropriate places to present data.

RESULTS

Study was conducted on 247 medical students and interns to know the details of their preferences for opting

ophthalmology as post graduation study. Age range of students and interns was 22 to 25 years with mean age of 23.5 years. Female (47.7%) to Male (52.3%) ratio was 1:1.09. Out of total 247 students and interns, 28% were willing to take up ophthalmology, 29% were not willing to take up ophthalmology and rest 43% students and interns were not sure about their preference. Among 69 students and interns who were willing to take ophthalmology, 59.43% were female as compared to male (40.57%). Percentages of males (59.72%) were more than female students and interns (40.28%) among those who were not interested in ophthalmology. The gender wise difference in preference for ophthalmology was statistically insignificant ($p > 0.05$). (Table no.1) Out of 247 students and interns, 28% (69) were willing to take up ophthalmology for their post-graduation study. Commonest reasons given by them were interest in study subject (47.83%), like surgical branch (40.58%), non-emergency branch (58.99%), due to influence by teachers (17.39%), good work life balance (15.94%) and like to learn and practice new technology (14.49%). Other reasons were clean branch (7.25%), small set up (5.8%), no requirement of X-ray or blood bank support (4.35%), no risk of infection from patients and no indoor patients. (Figure no.1) Twenty nine percent (29%) were not willing to take up ophthalmology for their post-graduation study. Commonest reasons given by them were dislike for surgical branch (30.56%), saturation in the field (25%), expensive equipment (13.89%), requirement of high level skills (11.11%), less earning compared to other surgical branches (9.72%), need to do super speciality, steep learning curve, less number of patients due to national health program and presence of lot of charitable organizations in field. (Figure no.2) Forty three percent (106 students and interns) were not sure about their preference for ophthalmology for post-graduation study. So they had reasons in favour of both yes and no. Commonest reasons for willingness were liking for surgical branch (35.85%), relatively non-emergency branch (28.30%), good work life balance (21.7%) and interest in ophthalmology (16.98%). Commonest reasons for unwillingness were need of expensive equipment (18.87%), less earning (8.5%), saturation in field (8.5%), requirement of high level of skills (7.55%) and less availability of patients due to national health program (7.55%). (Table no.2)

TABLES AND FIGURES

Table 1: Do you want to take up ophthalmology for your post graduate studies? (n=247)

Responses	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
Yes	28	40.57	41	59.43	69	100
No	43	59.72	29	40.28	72	100
May be	58	54.71	48	45.29	106	100
Total	129	52.3	118	47.7	247	100

Chi-square test value=5.636; p=0.059; Not significant

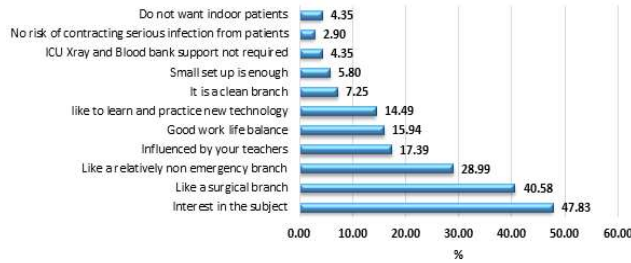


Figure 1: Do you want to take up ophthalmology for your post graduate studies?- YES (n=69)

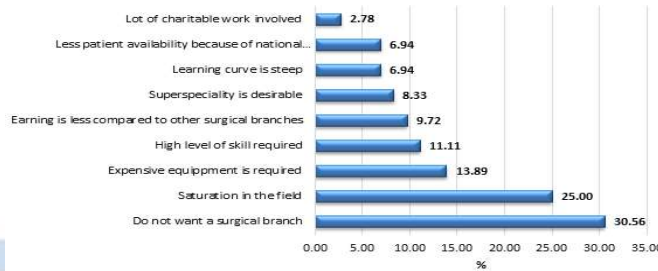


Figure 2: Do you want to take up ophthalmology for your post graduate studies?- No (n=72)

Table 2: Do you want to take up ophthalmology for your post graduate studies?- May be (n=106)

	Reasons	Frequency	%
Yes	Interest in the subject	18	16.98
	Like a surgical branch	38	35.85
	Like a relatively non-emergency branch	30	28.30
	Influenced by your teachers	11	10.38
	Good work life balance	23	21.70
	Like to learn and practice new technology	7	6.60
	It is a clean branch	6	5.66
	Small set up is enough	10	9.43
	ICU X ray and Blood bank support not required	1	0.94
	No risk of contracting serious infection from patients	2	1.89
	Do not want indoor patients	3	2.83
	Do not want a surgical branch	3	2.83
	High level of skill required	8	7.55
No	Learning curve is steep	5	4.72
	Expensive equipment is required	20	18.87
	Earning is less compared to other surgical branches	9	8.49
	Saturation in the field	9	8.49
	Lot of charitable work involved	4	3.77
May be	Less patient availability because of national programme	8	7.55
	Super speciality is desirable	6	5.66

DISCUSSION

Selection of post-graduation speciality in entrance examination is largely dependent on performance in examination but it also depends on choice or preferences of medical graduates. These preferences largely depend upon prestige of speciality, career opportunities, potential of income generation, work-life balance, preference towards surgical branches, hospital set-up cost, risk involved, patient satisfaction etc. A cross sectional study was conducted on medical students and interns to know their preference towards opting ophthalmology as post graduation study. In present study, female to male ratio was 1:1.09. Female students and interns were more interested in ophthalmology subject as compared to male students and interns. Percentage of male students and interns (54.71%) who were not sure about ophthalmology as post graduation subject was more than female students and interns (45.29%). This difference was found to be statistically not significant ($p > 0.05$). Study done by Abdullah *et al.*¹¹ on 275 medical students and interns, shows that ophthalmology was first choice for 28 students and interns. Among them 23 were male and 5 were female. This finding is contradictory to current study finding which showed more females were interested in ophthalmology. Study done by Subba *et al.*¹² reported similar findings with 52.1% females and 47.9% males willing to take up ophthalmology as post graduate subjects. Hussein *et al.*¹³ also reported similar trend in their study. Anand *et al.*¹⁴ reported similar findings in their study. The influence of gender on subject preferences also resembled the findings available in the previous literature.¹⁵⁻¹⁷ Good work-life balance was important factor among female students and interns. In current study, interest in ophthalmology and surgical branches were most common reasons for preference. Other common reasons were no emergency, influence of teacher, good work life balance and new techniques etc. Abdullah *et al.*¹¹ reported reasons for attraction of ophthalmology in their post-graduation study, which were high income (54%), private sector opportunities (40%), opportunities for part time job (40%) and free time for work (34%) and others. Subba *et al.*¹² reported influencing factors among students which were interest in subjects, job security, job satisfaction, employment scope, prestige and parental coercion. Previous study conducted in Alfaisal University¹⁸ reported, high income generation as common cause for preference. A study conducted on medical students in Jordan reported that income generation is most common factor behind selection of post-graduation study.³ Private sector opportunities in context of more income generation as well as lifestyle improvement were also important push factors in some studies.^{19,20} In current study, it was highlighted by reason like good work life balance in

15.94% participants which considered lifestyle, income and free time after work. Similar findings were reported by other studies.^{4,6,21} Patino *et al.*²² reported greater amount of patient satisfaction in ophthalmology as important factor for opting this subject. In current study, learning new things and facing challenges of surgical branches were common reasons for preference to ophthalmology. Similar findings were reported by previous studies.^{21,23} Role or influence of teachers was highlighted in many studies.^{16-18,23} In current study, influence of teachers was responsible in 17.39% students and interns for giving preference to ophthalmology. Abdullah *et al.*¹¹ reported reasons for non-attraction of ophthalmology in their post-graduation study, were difficulty in getting ophthalmology in entrance exam, unsatisfied patients, degree of stress, less opportunities to perform procedures etc. In current study, commonest reasons given by participants were dislike surgical branch (30.56%), saturation in field (25%) and expensive equipment (13.89%) etc. Low income generation due to availability of many charitable organizations and presence of National program for control of blindness in India⁷ reduces number of patients. Also costly equipment and set-up were major pull factors. The influence of motivational factors on subject preferences also matched the reports available in the literature.²⁴ Some studies in different countries have focussed different factors like intellectual content or challenge of the specialty,^{3,4,23} which was similar to current study findings. Years of training and need of super-speciality after post graduation were important factors in current study. Income potential and investment requirement were two important pull factors in current study like other similar studies in literature.²¹⁻²³ Other factors that have been discussed in present study and also noted by previous studies were influence of role models, risk assessment and direct patient contact.^{17,18}

CONCLUSION

This study has been conducted at a very crucial period of medical education process as at this level medical undergraduate has insight of all subjects, especially ophthalmology. So he/she can make better choice at this level. Interest in ophthalmology being a surgical branch, influence of role models, good work-life balance and opportunities to learn newer techniques were major attractive factors but saturation, return on investment, need of super-speciality education were some repelling factors. So this study will help the Medical Education and Ophthalmology experts to modify the system to persuade more students so that they will contribute to the enhancement of the field.

REFERENCES

1. Kumar R, Pal R. India achieves WHO recommended doctor population ratio: A call for paradigm shift in public health discourse! *J Family Med Prim Care*. 2018 Sep-Oct;7(5):841-844. doi: 10.4103/jfmpc.jfmpc_218_18. PMID: 30598921; PMCID: PMC6259525.
2. 10,000 more PG medical seats likely this year. Accessed on 04 Apr. 2020. Available at: http://timesofindia.indiatimes.com/articleshow/73624327.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
3. Khader Y, Al-Zoubi D, Amarin Z, Alkafagei A, Khasawneh M, Burgan S, *et al.* Factors affecting medical students in formulating their specialty preferences in Jordan. *BMC Med Educ* 2008;8:32.
4. Dorsey ER, Jarjoura D, Rutecki GW. Influence of controllable lifestyle on recent trends in specialty choice by US medical students. *JAMA* 2003;290:1173-8.
5. Wright B, Scott I, Woloschuk W, Brenneis F, Bradley J. Career choice of new medical students at three Canadian universities: Family medicine versus specialty medicine. *CMAJ* 2004;170:1920-4.
6. Dorsey ER, Jarjoura D, Rutecki GW. The influence of controllable lifestyle and sex on the specialty choices of graduating U.S. Medical students, 1996-2003. *Acad Med* 2005;80:791-6.
7. DGHS. National Programme for Control of Blindness and Visual Impairment (NPCB&VI). Government of India. Accessed on 4 April 2020. Available at: https://dghs.gov.in/content/1354_3_NationalProgrammeForControlOfBlindnessVisual.aspx
8. National Health Mission. Indian Public Health Standards. Ministry of Health and Family Welfare, Government of India. Accessed on 4 April 2020. Available at: <https://nhm.gov.in/index1.php?lang=1andlevel=2andsublinkid=971andlid=154>
9. Hospitals sans psychiatrists. *The Tribune—Chandigarh* online edition, 2 Mar 2000. Accessed on 19 Mar 2010. Available at: <http://www.tribuneindia.com/2000/20000302/haryana.htm>
10. India—Support to people with schizophrenia. Accessed on 29 Jan 2010. Available at: http://www.who.int/mental_health/policy/en/India_support_schizophrenia.pdf
11. AlSalman SA, AlQahtani GM, AlAsmari BM, Alhumaid SR, Masuadi E. Factors influencing the choice of ophthalmology as a career among medical students of King Saud bin Abdulaziz University Riyadh, Saudi Arabia. *J Health Spec* 2017;5:212-8.
12. Subba SH, Binu VS, Kotian MS. Future specialization interests among medical students in southern India. *Natl Med J India* 2012;25:226–9.
13. Dossajee H, Obonyo N and Ahmed S. Career preferences of final year medical students at a medical school in Kenya—A cross sectional study. *BMC Medical Education* (2016) 16:5 DOI 10.1186/s12909-016-0528-1
14. Anand R, Sankaran P. Factors influencing the career preferences of medical students and interns: a cross-sectional, questionnaire-based survey from India. *J Educ Eval Health Prof* 2019;16:12 <https://doi.org/10.3352/jeehp.2019.16.12>
15. Sreekar H, Nithya R, Nikhitha R, Sreeharsha H. Career intentions of medical students trained in India. *Educ Health (Abingdon)* 2014;27:64-65. <https://doi.org/10.4103/1357-6283.134319>
16. Kumar R, Dhaliwal U. Career choices of undergraduate medical students. *Natl Med J India* 2011;24:166-169. <http://archive.nmji.in/archives/Volume-24/Issue-3/Medical-Education.pdf>
17. Cleland JA, Johnston PW, Anthony M, Khan N, Scott NW. A survey of factors influencing career preference in new-entrant and exiting medical students from four UK medical schools. *BMC Med Educ* 2014;14:151. <https://doi.org/10.1186/1472-6920-14-151>
18. Alsubaie N, Aldhofaian HS, Alhuwaimel L, Ruxshan N, Alghamdi F, Shamia A, *et al.* Specialty preferences and the factors influencing them among pre-clerkship medical students: The first study from Alfaisal University-College of Medicine, Saudi Arabia. *Cureus* 2016;8:e894.
19. Newton DA, Grayson MS, Thompson LF. The variable influence of lifestyle and income on medical students' career specialty choices: Data from two U.S. Medical schools, 1998-2004. *Acad Med* 2005;80:809-14.
20. Zolaly MA, Kasim K, Mahmoud MI. Medical career selection among newly graduated physicians in Madinah, KSA. *Med Teach* 2013;35 Suppl 1:S63-7.
21. Schwartz RW, Haley JV, Williams C, Jarecky RK, Strodel WE, Young B, *et al.* The controllable lifestyle factor and students' attitudes about specialty selection. *Acad Med* 1990;65:207-10.
22. Patino CM, Varma R, Azen SP, Conti DV, Nichol MB, McKean-Cowdin R, *et al.* The impact of change in visual field on health-related quality of life the Los Angeles Latino Eye Study. *Ophthalmology* 2011;118:1310-7.
23. Ganschow P. Attitude of medical students towards a surgical career - A global phenomenon?. *Zentralbl Chir* 2012;137:113-7.
24. Heiligers PJ. Gender differences in medical students' motives and career choice. *BMC Med Educ* 2012;12:82. <https://doi.org/10.1186/1472-6920-12-82>.

Source of Support: None Declared
Conflict of Interest: None Declared

Policy for Articles with Open Access:

Authors who publish with *MedPulse International Journal of Ophthalmology* (Print ISSN: 2250-7575) (Online ISSN: 2636-4700) agree to the following terms: Authors retain copyright and grant the journal right of first publication with the work simultaneously licensed under a Creative Commons Attribution License that allows others to share the work with an acknowledgement of the work's authorship and initial publication in this journal.

Authors are permitted and encouraged to post links to their work online (e.g., in institutional repositories or on their website) prior to and during the submission process, as it can lead to productive exchanges, as well as earlier and greater citation of published work.