

A Cross-Sectional Study on Determinants of Career Choice Preferences among Undergraduate Medical Students at One of the Medical Colleges of Gujarat, India

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Abstract:


Introduction : Choosing a medical specialty is a life-defining decision for medical students. As medical students progress through medical course, it is observed that their interests in specialties change due to one reason or another. **Objectives:** 1.To assess career choices for post-graduation among under graduate medical students. 2. To determine the factors influencing the carrier choices of study participants. **Method:** A cross sectional study was conducted among 594 MBBS students of one of the Government Medical Colleges of Gujarat during December 2019 to March 2020. All undergraduate medical students except student from 1st year MBBS was enrolled in the study by purposive sampling. A self-administered pretested, semi-structured questionnaire was utilized to collect socio-demographic variables, their choice of post-graduation subject and reasons for the same. Descriptive statistics such as mean, standard deviation (mean \pm SD) and percentage were calculated. Chi square test was applied for statistical analysis. **Results:** Out of 594 participants studied, 375 (63.1%) were males and 219 (36.9%) females. Most preferred specialties were medicine 138(24.7%) and general surgery 60(10.7%) among all students. Obstetrics and Gynaecology 34(75.6%) and Community Medicine 2(59.0%) were preferred by females while General Surgery 51 (85.0%) and Orthopaedics 20 (87.0%) were more preferred by males as a career. This difference proved to be statistically significant ($p < 0.05$). The distribution by years with different specialties shows statistically significant differences with Medicine, Dermatology, Paediatrics, ENT, Ophthalmology and Others. Personal interest was most valued influencing factor among 184 (31.0%) followed by job opportunities 111 (18.7%) and the least popular factor was financial reasons 17 (2.9%). **Conclusion:** The majority of the students planned to specialize in clinical fields such as Medicine and Surgery. Most common factors influenced their choices were personal interests and career opportunities in the preferred fields. Financial reasons or the influence of the role model were least important factor as far as carrier choice of medical undergraduates was concerned.

Key Words : Career choice, Medical students, Post graduation.

Introduction:

Choosing a medical speciality as a career is a life defining decision for medical students. A speciality selection entails a transformation from the undifferentiated undergraduate stage to a fully differentiated professional enterprise in which all

future efforts are focused on a single specialized medical specialty.^[1] Choosing a medical speciality can be a very confusing decision for medical students with an increasing number of specialities and subspecialties available today. For most of them, it is a transition period, meaning what they considered as

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a career choice at time of entrance may change completely by the time they graduate.^[2]

Diverse factors influence medical students' career choice. Career preference is thought to play an important role at the time of admission to medical course.^[3,4] Other factors that have been suggested to play an important role are medical college characteristics, lifestyle preferences, prestige, job opportunities, expected income, longitudinal care, pre-clinical and clinical experiences, and role models.^[4-6]

Careful career choice by undergraduate medical students becomes critical as students may drop out of their chosen speciality or drop out due to incompatible aptitude or other reasons. Students may be urged to change their choice of speciality after spending few years in training. Such mishaps, mainly due to careless career choices, jeopardize efforts and undermine the entire process of intended delivery of adequate health-care services to the community.^[7] Adequate and efficient health workforce are required to achieve accessible and equitable health care.^[8,9] Therefore, it is important to strike a balance between meeting the needs of medical graduates and projections for health care workforce which align education, labour market and policies. The objective of this study was to identify the preferred career choices among medical students and the factors that influence their choices.

Method:

Across-sectional study was conducted among 594 medical students from Government Medical College, Gujarat from December 2019 to March 2020. Total of 700 undergraduate medical students, 200 from Second MBBS Part I (3rd and 4th Semester), 200 from Second MBBS Part II (5th Semester), 150 from Third MBBS Part I (6th and 7th Semesters) and 150 from Third MBBS Part II (8th and 9th Semesters) were contacted to study. All students who were willing to participate in the study were included by purposive sampling, so that ultimately 594 medical students were enrolled in the study. First year students were

excluded from the study, since they did not get to know all the subject areas as per seen in piloting. Students who were absent at the time of data collection were not included in the study.

After a comprehensive review of the literature authors developed a self-administered pre-tested, semi-structured questionnaire that includes demographic characteristics of the participants such as age, gender, current year of study and total income of family and occupation of father. The second section consists of the current preferred speciality choice, factors influencing the chosen speciality, and whether or not their parents were currently in medical practice. The purpose of collection of data was explained to the respondents after a brief introduction. The eligible respondents were interviewed after obtaining written informed consent. Data were entered into Microsoft Excel 2019 and analysed by using Epi-Info software (version 7.2.2.6). Descriptive statistics such as mean, standard deviation (mean±SD) and percentage were calculated. Chi square test for statistical analysis to find out the association between variables, p value < 0.05 was considered as statistically significant. Ethical committee approval was obtained from the Institutional Ethical Committee before conducting the study.

Results:

A total of 700 students were available for study in all semesters; 656 of them were present at the time of the interview. Thirty-four questionnaires were returned unfilled and 28 were incomplete. After exclusion of incomplete questionnaires total 594 questionnaires were analysed in the study.

Out of 594 students, 187 were Second MBBS Part I (3rd and 4th Semester), 164 were Second MBBS Part II (5th Semester), 125 were Third MBBS Part I (6th and 7th Semesters), 118 were Third MBBS Part II (8th and 9th Semesters) students. The gender distribution showed that 375 (63.1%) of the students were males and 219 (36.9%) females. The age group of study participants ranged from 18 to 25 years with a Mean

±SD of 19.7±1.52. Majority of participants 555 (93.4%) reported that both of their parents were not in the medical field, while only 39 (6.6%) had a one parent currently in medical practice. The demographics and other characteristics of the respondents are shown in Table 1.

Out of the 594 medical students, 559 students intended to pursue post graduation in various specialities, while 35 students did not plan to pursue a specialization. (Table 1)

When the reasons for not pursuing a postgraduate career were surveyed, 12 (34.3%) of them stated that there was no specific reason, 7 (20.0%) wanted to enter the public service, 6 (17.1%) stated that they would be satisfied with their graduation, 4 (11.4%) found it difficult to qualify for a postgraduate seat, 3(8.6%) indicated that their career settlement might be delayed due to postgraduation, 3 (8.6%) were confused about their career.

The top three preferred specialities were Medicine 138 (24.7%), then Surgery 60 (10.7%) and Radiology 50 (8.9%). The distribution by years with different specialties shows statistically significant differences with Medicine, Dermatology, Paediatrics, ENT, Ophthalmology and Others. (Table 2) Medicine subject was preferred by 138 medical students, out of whom 88 (63.8%) were males and 50 (36.2%) were females. Obstetrics and gynaecology 34 (75.6%) and Community Medicine 23 (59.0%) were more preferred among females than in males, while General Surgery 51 (85.0%) and Orthopaedics 20 (87.0%) were more strongly preferred among males as a career. This difference proved to be statistically significant (p <0.05). (Table 3)

The most common factor in choosing speciality was personal interest 184 (31.0%) followed by job opportunities 111 (18.7%) and private practice 89 (15.0%), and the least common factor was the financial reasons 17 (2.9%). Except for Obstetrics and Gynaecology all the surgical and allied branches

Table 1: Socio-demographic characteristics of study participants (N = 594)

Variables		n (%)
Gender	Male	375 (63.1)
	Female	219 (37.0)
Residence	Urban	498 (83.8)
	Rural	96 (16.2)
Current year of study	Second MBBS Part I (3 rd and 4 th Semester)	187 (31.5)
	Second MBBS Part II (5 th Semester)	164 (27.6)
	Third MBBS Part I (6 th and 7 th Semesters)	125 (21.0)
	Third MBBS Part II (8 th and 9 th Semesters)	118 (19.9)
Total family income per month (INR)	<20000	76 (12.8)
	20000 – 50000	317 (53.4)
	50001 – 100000	149 (25.1)
	100001 - 300000	52 (8.8)
Occupation of Father	Govt. job	201 (33.8)
	Private Job	161 (27.1)
	Business	128 (21.5)
	Agricultural	73 (12.3)
	Doctor	16 (2.7)
	Labourer	9 (1.5)
	Unemployed / Retired	5 (0.8)
	Died	1 (0.2)
Wanted to pursue post graduation	Yes	559 (94.10)
	No	35 (5.90)

were significantly more preferred by males as compared to females. The gender specific distribution of the influencing factors did not have statistically significant association with p value < 0.01. (Figure 1)

Discussion:

Medical students from all years of medical course were included in the current study. While second year students had no exposure to clinical subjects, third first year students had a preliminary exposure and third final year students were studying

Table 2: Preferred Speciality for post graduation among students according to their Current phase of study (N=559)*

Speciality	No. of students (%)					p value ***
	Second MBBS part I (3 rd and 4 th Semester) (n = 165)	Second MBBS Part II (5 th semester) (n = 163)	Third MBBS Part I (6 th and 7 th Semesters) (n = 116)	Third MBBS Part II (8 th and 9 th Semesters) (n = 115)	Total (N= 559)	
Medicine	49 (29.7)	28 (17.2)	40 (34.5)	21 (18.3)	138 (24.7)	0.001
Surgery	22 (13.3)	18 (11.0)	10 (8.6)	10 (8.7)	60 (10.7)	0.528
Radiology	19 (11.5)	17 (10.4)	10 (8.6)	4 (3.5)	50 (8.9)	0.180
Obstetrics and Gynaecology	5 (3.1)	19 (11.7)	10 (8.6)	11 (9.6)	45 (8.1)	0.057
Dermatology	0 (0.0)	18 (11.0)	6 (5.2)	18 (15.7)	42 (7.5)	0.001
Paediatrics	1 (0.6)	11 (6.7)	6 (5.2)	22 (19.1)	40 (7.2)	0.001
Community Medicine	7 (4.2)	15 (9.2)	6 (5.2)	11 (9.6)	39 (7.0)	0.128
ENT, Ophthalmology	19 (11.5)	7 (4.3)	4 (3.4)	2 (1.7)	32 (5.7)	0.005
Anaesthesia	6 (3.7)	12 (7.4)	9 (7.8)	4 (3.5)	31 (5.5)	0.422
Orthopaedics	0 (0.0)	8 (4.9)	6 (5.2)	8 (7.0)	22 (3.9)	0.042
Psychiatry	0 (0.0)	1 (0.6)	2 (1.7)	2 (1.7)	5 (0.9)	0.782
Others**	37 (22.4)	9 (5.5)	7 (6.0)	2 (1.7)	55 (9.8)	0.001

* 35 students did not want to pursue postgraduate studies

**Anatomy, Physiology, Pathology, Microbiology, Forensic medicine, Pharmacology

***Chi-square test was applied

clinical subjects, after completing the pre- and paraclinical subjects. A study done at a private medical college in southern India has shown that almost all students (99.2%) wish to pursue postgraduate studies, more than the 83.5% in the study done at a government medical college in Delhi.^[10] Similar findings are also reported from current study as the institute is also a government medical college. This difference could occur because the study was conducted in a different study setting (government versus private).

A small proportion of the students were not planning to pursue a postgraduate course. Several students did not give a reason for the same, but some students wanted to go into public service. A trained

medical person may be an asset in the public health service. Some of the other reasons relate to dissatisfaction with the system of postgraduate includes hard to qualify for post graduation seat and career settlement is delayed in medical education in India.

The top two preferred speciality choices in current study were Medicine and then Surgery. Traditionally students have preferred these two topics, as shown in other studies within India, other developing and developed countries.^[11-13] The current study observed that these specialities subjects have been popular amongst students as they are often most discussed by academic staff in medical college. It could also be because they are specialities that are

Table 3: Gender wise distribution of preferred choice of specialities among participants (N=559)*

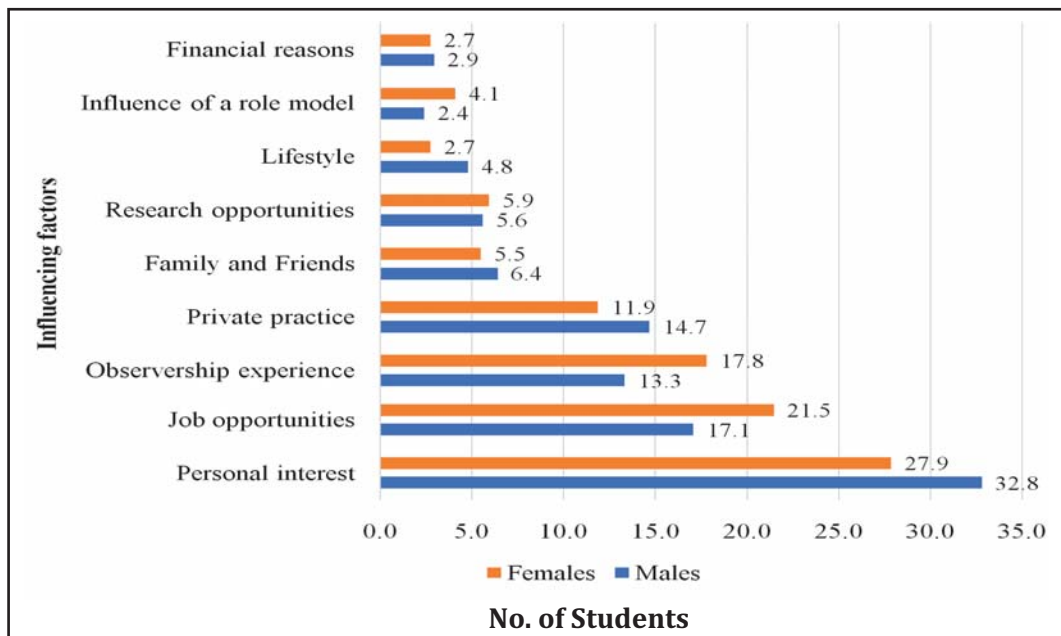
Speciality	Males (N = 352)	Females (N = 207)	Total (N=559)	p value***
Medicine	88 (25.0)	50 (24.2)	138 (24.7)	0.8231
Surgery	51 (14.5)	9 (4.3)	60 (10.7)	0.0002
Radiology	36 (10.2)	14 (6.8)	50 (8.9)	0.1659
Obstetrics and gynaecology	11 (3.1)	34 (16.4)	45 (8.1)	0.0000
Dermatology	22 (6.3)	20 (9.7)	42 (7.5)	0.1395
Paediatrics	28 (8.0)	12 (5.8)	40 (7.2)	0.3393
Community Medicine	16 (4.5)	23 (11.1)	39 (7.0)	0.0033
ENT, Ophthalmology	21 (6.0)	11 (5.3)	32 (5.7)	0.7483
Anaesthesia	20 (5.7)	11 (5.3)	31 (5.5)	0.8537
Orthopaedics	20 (5.7)	3 (1.4)	23 (4.1)	0.0150
Psychiatry	3 (0.9)	1 (0.5)	4 (0.7)	1.0000
Others**	36 (10.2)	19 (9.2)	55 (9.8)	0.6873

* 35 students did not want to pursue postgraduate studies

**Anatomy, Physiology, Pathology, Microbiology, Forensic medicine, Pharmacology

***Chi-square test

Figure 1: Gender wise distribution in percentage of factors influencing the career choice decisions of study participants (N=352 for males and N= 207 for females)



generally considered as major branches of the medical field. Another possible explanation is that students are not exposed to a wide variety of specialties in their early years of studying; they focus on basic subjects and have not yet gained any clinical

experience. Therefore, their choice was based on the major specialties that they tended to hear about or come across. Radiology, Dermatology, Obstetrics and Gynaecology, Paediatrics and Community Medicine were choices for some, with the remaining subjects

having very few prospects. Only a handful of our students considered a career in non-clinical subjects. In fact, around 9% of the students chose Anatomy, Biochemistry, Physiology, Forensic Medicine and Pathology. Psychiatry is the least preferred subject in this study.

Medicine was equally favoured in all years of students. However, the inclination to study Surgery and Radiology decreased as students became more senior. A similar finding was found in another study in India.^[14] Students from the third year of study were more likely to be influenced by experience during clinical posting in the various speciality of course compared to the students of second semester. Career preferences change dynamically as students' progress through the course and explore different specialities. we presume that students had certain choices of students at time of entrance might completely change. While study has not followed up on students' choices, it might be presumable that certain choices of students at time of entrance might completely change by the present one. It is just as likely that their choices will change in subsequent years.^[11] Otorhinolaryngology, Ophthalmology, Anaesthesia and Psychiatry only had few takers. This could be due to junior students not being exposed to this speciality until they reach their senior years. Therefore, they have no idea what it is like or what it entails. Further study to identify the reasons why students do not take up these subjects would be helpful. Once these reasons have been identified, it may be possible to design interventions to influence career choices. However, changing career preferences in one speciality can have undesirable effects on choices in another specialties.^[15]

Gender specific differences were shown in the preference of certain specialities in this study. Medicine was favoured equally in both the gender. Majority of the students 34 (75%) who choose Obstetrics and Gynaecology and 23 (60%) of the students who choose Community Medicine as their preferred speciality were females. This could also be

because Community Medicine is often viewed as a more family-oriented speciality that allows for a more controllable and manageable lifestyle. This remains an important factor for female medical students deciding on a speciality. Similarly, over 85% of the students who choose Surgery and over 87% of the students who choose Orthopaedics as their preferred speciality were males. This finding is consistent with other study results.^[16] The most popular influencing factor chosen throughout the study was personal interest. Other factors rated important by respondents included job opportunities, observer ship experience, private practice, lifestyle, family and friends, career stability and income. These factors were not very different from those reported by students in other Asian and Western countries.^[11,15]

Limitation:

The study identified "preferred" choice rather than the student's actual choice, making it difficult to determine if this is student's realistic career choice.

Conclusion:

Present study revealed that the students' most preferred specialties were Internal Medicine, Surgery and Radiology with gender differences; males preferred Surgical specialties such as Surgery and Orthopaedics and females preferred Obstetrics and Gynaecology and Community Medicine. Pre and paraclinical subjects were not in the foreground in the selection list. The most influencing factor for carrier choice was personal interest of the students. Other factors rated important by respondents were job opportunities, observer ship experience, private practice, lifestyle, suggestion of family and friends, career stability and income. A follow up study would be useful to identify further trends in career choices. Inhibiting factors can be utilized by mentors and the medical workforce to encourage students to choose specialties that are underrepresented and thus better serve the immediate community.

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Conflict of Interest: Nil

References:

1. Parlak A, Develi S, Yusuf Eyi E. Medical Teacher Factors affecting the choice of health speciality by medical graduates. *Med teacher*. 2015;37(7):702-703.
2. Aisha N, Ameen N, Jassim G. Career Choices Among Medical Students and Factors Influencing Their Choices. *Global journal of health science*. 2019;11(4):132-7.
3. Wright B, Scott I, Woloschuk W, Brenneis F, Bradley J. Career choice of new medical students at three Canadian universities: family medicine versus speciality medicine. *CMAJ* 2004;170(13):1920-4.
4. Wright B, Scott I, Powis D, Woloschuk W, Henry R, Turnbull D, et al. Career preferences of new medical students at four Australian universities: rural family medicine versus the rest. *Aust J Rural Health*. 2006;14(5):229-30.
5. Raja A, Jahanvi G, Patra S. Career choices of the first year students of Madha Medical College *International Journal of Community Medicine and Public Health*. 2017;4(4):1094
6. Avan BI, Raza SA, Hamza H, Khokhar S, Awan F. Factors Influencing the Selection of Surgical Specialty among Pakistani Medical Graduates. *Journal of Postgraduate Medicin*. 2003; 49(3):197-201
7. Zhang L, Bossert T, Mahal A, Guoqing H, Guo Q, Liu Y. Attitudes towards primary care career in community health centers among medical students in China. *BMC Family Practice*. 2016; 17:75
8. Guraya SY, Almaramhy HH. Mapping the factors that influence the career speciality preferences by the undergraduate medical students. *Saudi J Bio Sci*. 2018;25:1096-101.
9. World Health Organization. *The World Health Report 2008: Primary Health Care – Now More than Ever*. Geneva: Available from: http://www.who.int/whr/2008/08_overview_en.pdf. [Cited 2022 Nov 29]
10. Lal P, Malhotra C, Nath A, Malhotra R, Ingle GK. Career aspirations and apprehensions regarding medical education among first year medical students in Delhi. *Indian J of Community Medicine*. 2007;32(3):217-18.
11. Huda N, Yousuf S. Career preference of final year medical students of Ziauddin Medical University. *Educ Health (Abingdon)*. 2006;19(3):345-53.
12. Mariolis A, Mihas C, Alevizos A, Gizlis V, Mariolis T, Marayiannis K, et al. General Practice as a career choice among undergraduate medical students in Greece. *BMC Med Educ*. 2007;7:15.
13. Kar SS, Ramalingam A, Premarajan KC, Roy G. Do Medical Students Prefer a Career in Community Medicine? *Int J Prev Med*. 2014;5(11):1468-74.
14. Kumar R, Dhaliwal U. Career choices of undergraduate medical students. *Natl Med J India*. 2011;24(3):166-9.
15. Khader Y, Al-Zoubi D, Amarin Z, Alkafagei A, Khasawneh M, Burgan S, et al. Factors affecting medical students in formulating their speciality preferences in Jordan. *BMC Med Educ*. 2008;8:32.
16. Hin Hin Ko, Tim K, Yvette L, Fleming B, Vikis E, Yoshida E. Factors influencing career choices made by medical students, residents, and practising physicians. *British Columbia Medical Journal*. 2007;49(9):482-489.