



Original Article:

Specialty Preference Among Medical Students and Factors Affecting It

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Abstract: Introduction: Medical education is one of the core part of educational system of any country. Medical education requires undergraduate students to study a wide range of medical specialties. It is often assumed that students do not make their career preferences until after they have graduated from medical school. So the reasons and factors responsible for preferences need to be found out among medical students. Material and Methods: It was a Cross sectional study on 180 medical students to assess preference for specialty and factors responsible. Results: Out of total 190 medical students more or less everyone (97.89%) wanted to pursue specialization and majority of them (96.84%) wanted to pursue the same in Medical Field ($p > 0.05$). majority of male students were interested to pursue their specialization in the field of medicine (37.63%), surgery (23.65%) and pediatrics (13.97%). On the other hand female students were more interested in medicine (24.17%), pediatrics (32.96%) and obstetrics & gynecology (24.17%) ($p < 0.05$). Interest, by far was found to be most common factor (76.63%) responsible for the preference of particular medical specialty among all four groups of students (1st professional-25.27%, 2nd professional-75.92%, final professional-89.47%, interns-68.42%). Conclusion: It is thus concluded there are many factors playing role in the specialty selection and preference among the medical students and should be equally justified and addressed.

Key Words: Medical students; Specialty preference

Introduction:

Medical education is one of the core part of educational system of any country. Medical education requires undergraduate students to study a wide range of medical specialties. It is often assumed that students do not make their career preferences until after they have graduated from medical school. However, not only medical school entrants¹, but even medical school applicants, often have strong preferences for or against some medical careers.²⁻⁴ They love to choose clinical specialty rather than a preclinical and paraclinical specialty like Anatomy, Community medicine, Pathology etc.

Our country has been suffering with dearth of doctors since long. Though Govt. has made lot of efforts to fill this gap but still situation is not satisfactory. Still more needs to be done by

Govt. more and more medical colleges are being open up in the country to cope up with this problem. But for the smooth conduction of any medical college we need the good faculty so as to train immaculately budding doctors. But our country's medical colleges are facing this grave situation of faculty deficiency, especially in the Dept. of preclinical and paraclinical specialties and reasons are many among them e.g. interest and preference for specialty among the undergraduate students.

Some studies have well suggested that majority of medical students want to pursue their specialization in clinical branches and very few of them are interested in pre and paraclinical branches.⁵ And this thinking of students is creating this menace of disparity for faculty members in medical colleges. Lots of posts are still vacant in these streams despite stern efforts to fill them. This somehow is diluting our medical educational system.

So the reasons and factors responsible need to be found out among medical students. So that corrective measures can be choked out at earliest. Same was planned by conduction of this study though at small scale, among undergraduate medical students of GR Medical College with the objectives:

1. To find out preference order for different medical specialties among medical students.
2. To find out different factors responsible for the selection of particular specialty.

Materials and Methods:

Study design: Observational Cross sectional study.

Study duration: December 2010 to February 2011.

Study sample: 180 undergraduate medical students of G.R. Medical College, Gwalior.

Sampling technique: Stratified random sampling was used for the collection of sample.

Sample selection: For the selection of sample four different lists were prepared of undergraduate medical students with the help of college record. Each list was having 140 medical students a total of 700 medical students. Out of these 72 students from 1st professional, 110 from 2nd professional, 121 from final professional (part 1&2) and 82 from intern batch have given their verbal consent to participate in the study. By using ran-

dom number 35 students from 1st professional, 54 students from 2nd professional, 60 students from final professional and 41 students from intern batch were selected for the study.

Ethical consideration: There was no intervention tried in the study; however, verbal consent was sought from each and every participant of study.

Data collection: Data was collected with the use of pretested semi structured Performa. This was including questionnaires regarding sociodemographic profile, preference for the specialty, factors responsible for the selection of particular branch. Data was collected with the help of medical students and other staff members of Department.

Data processing and analysis: Data was collected and put in to spread sheet of MS Excel. Later on it was analyzed manually

and with the use of suitable statistical software. Statistical test which was used for the analysis of data was chi square test at 95 % confidence level. P-value was taken as significant when found less than 0.05.

Results:

In the present study out of total 190 medical students 97(51.05 %) were male and 93 (48.94%) were female. Majority of medical students (48.95%) were belonging to age group of 20 to 23 yrs followed by 17 to 20 and above 23 yrs (31.05% & 20 %). Around half of medical students (46.84%) were having any or both of their parents as a Doctor by profession (p>0.05). Study also tried to find out the level of Advise given to medical students by anyone and it was found that a total of 183 (96.31%) medical students have got advice from anyone in any form (p>0.05). (Table - 1)

Table 1: Distribution of Participants on the Basis of Socio Demography, Parent Employment & Advise given to Students.

	1 st Professional. (N=35) n (%)	2 nd Professional. (N=54) n (%)	Final Professional. (N=60) n (%)	Internship (N=41) n (%)	Total (N= 190) n (%)	Chi-Sq. (X ²) & P value
Sex wise						
Male	18 (51.4)	24 (44.44)	34 (56.66)	21 (51.21)	97 (51.05)	X ² -1.70 P-0.636
Female	17 (48.57)	30 (55.55)	26(43.33)	20 (48.78)	93 (48.94)	
Age wise						
17-20 yrs	23 (65.71)	35 (64.81)	01 (1.66)	00 (0.00)	59 (31.05)	X ² -142.86 P- 0.000001*
20-23 yrs	11(31.42)	17(31.48)	51 (85.00)	14(34.15)	93(48.95)	
Above 23 yrs	01(2.85)	02 (3.70)	08 (13.33)	27 (65.85)	38(20.00)	
Any or Both of Parent Doctor						
Yes	12 (34.28)	33(61.11)	26(43.33)	18(43.90)	89(46.84)	X ² -7.07 P-0.0696
No	23(65.71)	21(38.88)	34(56.66)	23(56.09)	101(53.15)	
Given Advise by anyone						
Yes	33(94.28)	53(98.14)	59(98.33)	38(92.68)	183(96.31)	X ² -3.13 P-0.371
No	02(5.71)	01(1.85)	01(1.66)	03(7.31)	07(3.68)	

* Statistically significant.

Out of total 190 medical students more or less everyone (97.89%) wanted to pursue specialization and majority of them (96.84%) wanted to pursue the same in Medical Field (p>0.05). On contrary very few of them (1.05%) have shown their desire to pursue specialization in non medical field. More or less same

was found when they were asked what they actually want to pursue in medical specialization degree or diploma. A total of 181(95.26%) students said they only want to pursue degree instead of diploma (p>0.05). Very few were seemed interested in diploma. (Table-2)

Table 2: Distribution of Participants on the Basis of Selection of Specialty

	1 st Professional. (N=35) n (%)	2 nd Professional. (N=54) n (%)	Final Profession- al. (N=60) n (%)	Internship (N=41) n (%)	Total (N= 190) n (%)	Chi-Sq. (X ²) & P value
Want to pursue specialization?						
Yes	35(100)	54(100)	58(96.66)	39(95.12)	186(97.89)	X ² -3.88 P-0.274
No	0(0.00)	0(0.00)	2(3.33)	2(48.78)	04(2.10)	
Which Field?						
Medical	35(100)	54(100)	57(95.00)	38(92.68)	184(96.84)	X ² -2.01 P-0.570
Non Medical	0(0.00)	0(0.00)	1(1.66)	1(2.43)	2(1.05)	
Degree or Diploma?						
Degree	35(100)	53(98.14)	56(93.33)	37(90.24)	181(95.26)	X ² -0.84 P-0.839
Diploma	0(0.00)					

As far as preference of medical specialty among medical students is concerned it was found that majority of male students were interested to pursue their specialization in the field of Medicine (37.63%), Surgery (23.65%) and Pediatrics (13.97%). On the other hand female students were more

interested in Medicine (24.17%), Pediatrics (32.96%) and Obstetrics & Gynecology (24.17%).(p<0.05) Very few students (both male and female) have shown their interest in other clinical, paraclinical and preclinical branches. (Table-3)

Table 3: Gender Wise Distribution of Participants on the Basis of Preference of Medical Specialty

Medical Specialty	Male (N=93) n (%)	Female (N=91) n (%)	Total (N=184) n (%)	P value of Chi-Sq. (X ²)
Medicine	35(37.63)	22(24.17)	57(30.97)	0.0483*
Pediatrics	13(13.97)	30(32.96)	43(23.36)	0.0023*
Surgery	22(23.65)	4(4.39)	26(14.13)	0.00017*
Obs & Gyne	0(0.00)	22(24.17)	22(11.95)	0.000001*
Radiology	7(7.52)	4(4.39)	11(5.97)	0.370
Ophthalmology	3(3.22)	1(1.09)	4(2.17)	0.321
Orthopedics	6(6.45)	0(0.00)	6(3.26)	0.0137*
Psychiatry	4(4.3)	1(1.09)	5(2.71)	0.180
Dermatology	0(0.00)	3(3.29)	3(1.63)	0.077
Microbiology	1(1.07)	2(2.19)	3(1.63)	0.547
ENT	0(0.00)	1(1.09)	1(0.54)	0.312
PSM/Community Medicine	1(1.07)	0(0.00)	1(0.54)	0.322
Others (Anatomy, Pathology, Physiology etc)	02(2.15)	01(1.09)	3(1.63)	0.569

* Statistically significant

Interest, by far was found to be the most common factor (76.63%) responsible for the preference of particular medical specialty among all four groups of students (1stprofessional-25.27%, 2nd professional-75.92%, final professional-89.47%,

interns-68.42%). Some other substantial factors were also found to be responsible apart from interest like more income (45.10%), specialty reputation (30.43%), more scope (30.43%) etc. (Table-4)

Table 4: Professional wise Distribution of Participants on the basis of factor Responsible for Selection of particular Medical Specialty

Factor Responsible**	1st Professional (N=35) n (%)	2nd Professional (N=54) n (%)	Final Professional (N=57) n (%)	Internship (N=38) n (%)	Total (N=184) n (%)	P value of Chi-Sq. (X ²)
More income	15(42.85)	32(59.25)	19(33.33)	17(44.73)	83(45.10)	0.0543
Job security	9(25.71)	22(40.74)	14(24.56)	3(7.89)	48(26.08)	0.0055*
Early settlement	3(8.57)	9(16.66)	6(10.52)	6(15.78)	24(13.04)	0.612
Interest	23(25.27)	41(75.92)	51(89.47)	26(68.42)	141(76.63)	0.000001*
Less investment	0(0.00)	0(0.00)	4(7.01)	8(21.05)	12(6.52)	0.00022*
Specialty reputation	9(25.71)	19(35.18)	16(28.07)	12(31.57)	56(30.43)	0.772
Less competition	0(0.00)	3(5.55)	0(0.00)	4(10.52)	7(3.80)	0.0352*
Less hours of practice	1(2.85)	0(0.00)	6(10.52)	5(13.15)	12(6.52)	0.0323*
For teaching as hobby	0(0.00)	2(3.70)	3(5.26)	1(2.63)	6(3.26)	0.575
Afraid of operative procedures/blood	0(0.00)	0(0.00)	4(7.01)	2(5.26)	6(3.26)	0.110
More scope	10(28.57)	17(31.48)	16(28.07)	13(34.21)	56(30.43)	0.920
Preference of terminal branch	4(11.42)	7(12.96)	8(14.03)	5(13.15)	24(13.04)	0.987
Relationship with patients	3(8.57)	5(9.25)	2(3.50)	3(7.89)	13(7.06)	0.646
Intellectual content of specialty	2(5.71)	5(9.25)	5(8.77)	3(7.89)	15(8.15)	0.940
No on call/emergency schedule	4(11.42)	6(11.11)	7(12.28)	3(7.89)	20(10.86)	0.923
Influenced by friends	0(0.00)	8(14.81)	1(1.75)	0(0.00)	9(4.89)	0.00141*
Advice from teachers	0(0.00)	0(0.00)	3(5.26)	0(0.00)	3(1.63)	0.0788
Family pressure	0(0.00)	4(7.40)	2(3.50)	0(0.00)	6(3.26)	0.144
Family background	1(2.85)	5(9.25)	5(8.77)	3(7.89)	14(7.60)	0.694
Others	3(8.57)	0(0.00)	3(5.26)	2(5.26)	8(4.34)	0.246

* Statistically significant; **Multiple response questions

Discussion:

The career preferences made by medical students and doctors and factors influencing these preferences are of importance to medical workforce planners especially in times of oversupply or undersupply of doctors.⁵

Present study has revealed that majority of medical students (97.98%) right from first professional to internship students wants to pursue specialization especially in medical field where as very few of them were interested in non medical field specialization. This may be attributed to students want to nurture their under graduation in post graduation so that they can make their hard work productive and fruitful which they did during their under graduation. Medical students, especially undergraduates, place great emphasis on specialization for several reasons including better career opportunities, the perception that MBBS doctors have less status in society and the belief that an MBBS degree does not sufficiently qualify them to practice medicine. This drives most undergraduates to pursue a postgraduate degree.⁶ Meager interest in non medical branch specialization may be attributed to fear among students for their wastage of hard work during under graduation by doing so. But one very good example of nonmedical specialty is Hospital administration and we always need some very good hospital administrators cum doctors for our hospitals.

Of total students, 95.26% said that they would like to pursue only degree course instead of diploma. This may be attributed to early settlement, more pride and progress in degree courses as diploma candidate cant apply for the faculty positions in medical colleges and if they want so then they have to first pursue DNB in same specialty then they may become eligible as per the notification of Union Health Ministry of India that DNB holders can also be allowed to teach in medical colleges.⁷ But this trend among medical students can produce a vacuum diploma holders who are also the important part of health system of country; moreover everyone can't get degree every time in their specialty of interest. Medicine (37.63%), Pediatrics (13.97%) and Surgery (23.65%) were most favorite branches among males where as Medicine (24.17%), Pediatrics

(32.96%) and Obs. & Gyne. (24.17%) were among females. Yousef K et al have also found the same things in their study. They found most preferred specialty expressed by male students was surgery, followed by Internal Medicine and Orthopaedics, while the specialty most preferred by female students was obstetrics and Gynaecology, followed by pediatrics and surgery.⁵ Same was also notices in some other studies.⁸⁻¹² This may be because of interest in specialty (76.63%), more income generation (45.10%), specialty reputation (30.43%), job security (26.08%) etc among both male and female students. Yousef K et al found 84% of medical students rated "intellectual content of the specialty", 64% rated "individual's competencies" as influential on their preference of specialty. Other important factors rated as influential were "reputation of the specialty" (59%), "anticipated income"(58%) and "focus on urgent care" (55%).⁵ These findings were different from our study. Further longitudinal research is needed to explore it more. Apart from hike in number of postgraduate seats in medical colleges these above found factors should also be looked in to. Many aspects of class and family background shape a child's education. Fathers with high-status occupations also provide substantial educational advantages.¹³ Interestingly though around half of students (46.84%) have both or any parent as doctor but very few of them (7.6%) have sat their preference of specialty because of this reason. More or less same was noticed in level of advice as 96.31% of total students have got advice in any form but very few of them (1.63%) considered it as a major factor for specialty selection. This questions the quality of advise provided and demands proper carrier counseling of medical students during their under graduation. Undergraduate students often don't have deep knowledge of any subject so they just take their decision without thinking substantially on the basis of few factors. Several studies have cited clinical role models as being important influences on students' residency preferences.¹⁴⁻¹⁸ This included negative role models, who drove students away from some specialties.¹⁷ In addition to faculty, resident role models have been occasionally cited as influential.^{15,16}

For the MBBS course alone, over 2000 teachers are required for Community Medicine, General Medicine and General Surgery, 1600–2000 for Anatomy, Physiology, Pathology and Anaesthesiology and 1000–1500 for Pharmacology, Paediatrics, Orthopaedics, Obstetrics and Gynaecology and Radiodiagnosis.¹⁹ This shows that our country is being suffered by dearth of doctors especially in some notifiable branches like Preclinical branches like Anatomy, Physiology, Biochemistry paraclinical & clinical branches like Pathology, Pharmacology, Forensic medicine, Community Medicine, Psychiatry etc. this situation is also diluting quality of medical education in our medical colleges. So some immediate steps need to be worked out to solve this cropping problem.

Small scale, uni centric study was some of the limitations of this study. More research is demanded on this topic as a multi centric survey on large sample to come out findings with more precision and externally validated.

Conclusion:

It is thus concluded there are many factors playing role in the specialty selection and preference among the medical students. These all substantial factors should be equally justified and addressed for all specialties of medical science so that this quantitative and qualitative inequality of doctors and specialists can be nullified.

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