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Speciality Preferences of Indian Medical Graduates and Factors Influencing Them

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ABSTRACT

Postgraduate medical education is being acknowledged as a compulsory qualification to practice speciality medicine in India. This study was conducted to know the current specialty preferences of Indian medical graduates and determine the factors influencing them. A pre-tested questionnaire was administered to doctors graduated during the last 5 years. Medical students and post graduates were not included. The questionnaire included characteristics such as age, sex, number of years since graduation, place of graduation (government or private medical school), preferred speciality and degree. The responses from 168 graduates were collected and analyzed. Statistical analysis was done using Student's t test and Chi-square test. A total of 124 graduates returned the completed questionnaire. Of the respondents, 107 (86.3%) students preferred one of the clinical subjects, while 8 (6.5%) wanted Para-clinical subjects. Pre-clinical subjects and full-time research was favored by 4 each (3.2%). Age, sex and type of medical school had significantly influenced their pattern of preferred branches. Majority of them preferred Master degree, while some chose foreign degrees, diploma and diplomate of national board. Pediatrics and Radio diagnosis were the two subjects preferred by most medical graduates. Majority of the students preferred only the clinical subjects. Preference for branches among graduates is influenced by age-group, sex and the type of medical school they graduate from.

Keywords: Post graduation, medical graduates, Speciality preference

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INTRODUCTION

Post graduate medical education is increasingly being recognized as a necessary qualification needed to practice speciality medicine in India. The understanding about the necessity to pursue post graduation is gaining importance among doctors. This awareness has also spread to the general public who are becoming more inclined to consult a specialist for their ailments.

In India, fifty percent of the total post graduate seats are filled by a national level entrance examination and the remaining by state wise entrance examinations for government medical schools. Private medical schools fill the post graduate seats on their own, often after accepting a large amount of money known as 'capitation fees'.[1,2] Post graduate entrance exams are getting extremely competitive every year.[2] This may partly be due to the recent mushrooming of private medical schools in India in the last 2 decades leading to a disproportionate increase in undergraduate medical seats compared to the number of available postgraduate vacancies.[3] The number of undergraduate seats has increased enormously compared to post graduate seats leading to greater competition for getting into post graduation. The options available for a fresh medical graduate intending to pursue post graduation in the preferred specialty are Masters degree, diploma, Diplomate of National Board examinations (DNB) and foreign degrees. Today's medical graduates are under greater pressure, facing stiff competition at the level of post graduate entrance examinations. In countries like the United States, Japan and Iraq, the medical graduate's attitude towards higher education have been well documented. [4-7] However, in India, apart from a few assumptions based on individual and personal experiences, there is no significant data available regarding the perspective of medical graduates towards post-graduation. [8] Hence this study was conducted to know the speciality preferences of Indian medical graduates and to determine the factors influencing them.

METHODS

Participants and procedures

This cross sectional descriptive study was conducted on medical graduates who had graduated within the last 5 years from various government and private medical schools. Medical students and students pursuing post graduation were not included in the study. A self-administered questionnaire was circulated among all medical graduates who satisfied the inclusion criteria and the response sheets were collected.

The information collected was on a well structured questionnaire adapted after a local peer review. The questionnaire was then pre-tested on a group of doctors who were expected to identify the most valid questions in determining our objectives. After certain modifications, a final questionnaire was prepared and used in the study.

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The questionnaire covered demographic characteristics such as age, sex, number of years since graduation, place of graduation (government or private medical school), preferences for speciality and degree. All the items included in the questionnaire were open-ended type. The anonymity of the participating doctors was preserved. A reference number was allotted to each participant to ensure anonymity and confidentiality. The study was approved by the institute research and ethical committee.

Statistical analysis

Data entry and analysis were done using SPSS for Windows Version SPSS 16.0 (SPSS Inc, Chicago, IL, USA). Percentages were calculated for categorical variables. Means and standard deviations (SD) were calculated as required for numerical variables. Continuous variables were compared using Student's t test for normally distributed variables. The Chi-square test or Fisher's exact test was used to compare the two groups. Comparisons were unpaired and all tests of significance were two-tailed. All P values < 0.05 were considered statistically significant.

RESULTS

A total of 168 graduates were enrolled in the study, out of which only 124 returned the completed questionnaire, resulting in a response rate of 73.8%. The demographic data of these 124 students who were included in the study are summarized in Table 1. Of these 124 students, 80 (64.5%) of them were less than 25 years of age while the remaining 44 (35.5%) were above 25 years. After completion of their graduation, 107 (86.3%) students preferred one of the clinical subjects, while 8 (6.5%) desired Para-clinical subjects. Pre-clinical subjects and full-time research were favored by only 4 (3.2%) graduates. One graduate wanted to do post-graduation in a non-medical subject.

Table 1: Demographic data of the students

Parameter	Value
Age (years), mean ± SD (range)	24.36 ± 1.63 (22 to 30)
Sex	
Male	77 (62.1%)
Female	47 (37.9%)
School	
Government	62 (50%)
Private	62 (50%)
Years since passing MBBS, median (25^{th} and 75^{th} percentile)	1 (1 and 2)

Majority of the students preferred Pediatrics and Radio-diagnosis for their post-graduation studies (Figure 1). The students' preference for various subjects based on their age, sex and the school they graduated from, is summarized in Table 2. Eight graduates (10.0%) below the age of 25 years preferred Obstetrics and Gynaecology, while none of the 44 graduates in the age-group of 25 years and above preferred this subject (P value 0.0495). Similarly, 9 (20.5%) students in the age group of 25 years-and-above preferred Dermatology, while only 5 (6.3%) of the students below 25 years preferred it (P value 0.0341). Thirteen

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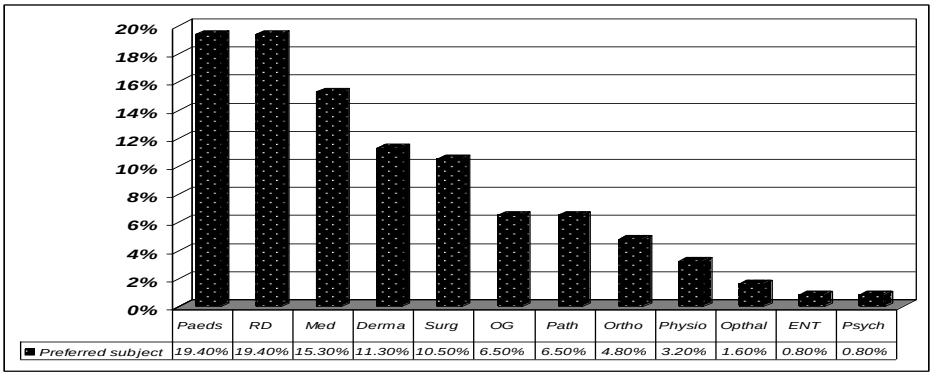
(16.9%) of the male graduates opted for General surgery, while none of the 47 female graduates enrolled in our study preferred this subject (P value 0.0017). Likewise, 8 (17.0%) female graduates opted for Obstetrics and Gynecology, while none of the 77 male students preferred it (P value 0.0003). Dermatology was opted by 11 (17.7%) of the students from government schools, while only 3 (4.8%) private school students preferred it (P value 0.0470). In contrast, General Medicine was preferred by 16 (25.8%) medical graduates from private schools, while only 3 (4.8%) graduates from government schools opted for it (P value 0.0028).

Figure 1: Subjects preferred by graduates for post graduation courses



Paeds – paediatrics, RD –Radiodiagnosis, Med – General Medicine, Derma –Dermatology, Surg –General Surgery, OG –Obstetrics and Gynaecology, Path – pathology, Ortho – orthopaedics, Physio –Physiology, Ophthal – Ophthalmology, ENT – Oto-rhino-laryngology, Psych – Psychiatry

Table 2: Students' preference for various specialities based on their age, sex and school

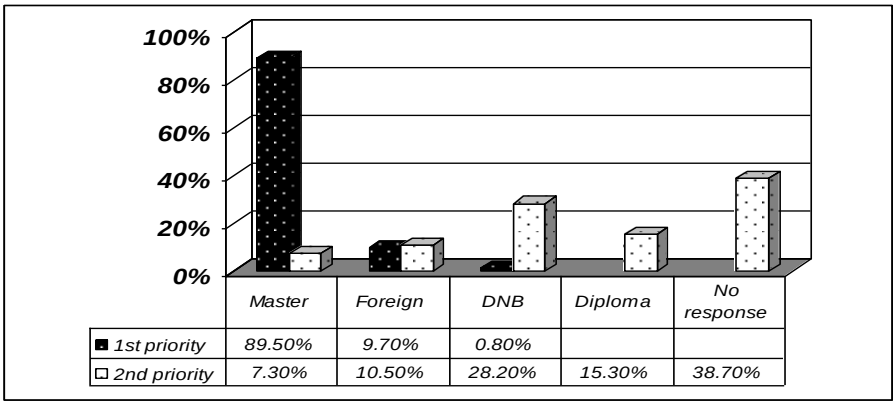
Subject	Age			Sex			School		
	< 25 yrs (n=80)	> 25 yrs (n=44)	P value	Male (n=77)	Female (n=47)	P value	Govt. (n=62)	Private (n=62)	P value
General Medicine	13 (16.3%)	6 (13.6%)	**0.8997#**	15 (19.5%)	4 (8.5%)	**0.1650#**	3 (4.8%)	16 (25.8%)	**0.0028#**
General Surgery	6 (7.5%)	7 (15.9%)	**0.2187***	13 (16.9%)	0	**0.0017***	4 (6.5%)	9 (14.5%)	**0.2410#**
Pediatrics	18 (22.5%)	6 (13.6%)	**0.3382#**	14 (18.2%)	10 (21.3%)	**0.8502#**	16 (25.8%)	8(12.9%)	**0.1116#**
Obstetrics and Gynecology	8 (10.0%)	0	**0.0495***	0	8 (17.0%)	**0.0003***	0	8(12.9%)	**0.0061***
Radio-diagnosis	13 (16.3%)	11 (25.0%)	**0.3460#**	15 (19.5%)	9 (19.1%)	**0.8502#**	16 (25.8%)	8(12.9%)	**0.1116#**
Dermatology	5 (6.3%)	9 (20.5%)	**0.0341***	8 (10.4%)	6 (12.8%)	**0.9099#**	11 (17.7%)	3 (4.8%)	**0.0470#**
ENT	1 (1.3%)	0	**1.0000***	1 (1.3%)	0	**1.0000***	1 (1.6%)	0	**1.0000***
Ophthalmology	2 (2.5%)	0	**0.5384***	0	2 (4.3%)	**0.1418***	1 (1.6%)	1 (1.6%)	**1.0000***
Orthopedics	6 (7.5%)	0	**0.0883***	4 (5.2%)	2 (4.3%)	**1.0000***	3 (4.8%)	3 (4.8%)	**1.0000***
Pathology	6 (7.5%)	2 (4.5%)	**0.7108***	6 (7.8%)	2 (4.3%)	**0.7090***	4 (6.5%)	4 (6.5%)	**1.0000***
Physiology	1 (1.3%)	3 (6.8%)	**0.1274***	1 (1.3%)	3 (6.4%)	**0.1521***	3 (4.8%)	1 (1.6%)	**0.6188***
Psychiatry	1 (1.3%)	0	**1.0000***	0	1 (2.1%)	**0.3790***	0	1 (1.6%)	**1.0000***

Chi square test, * Fisher exact test

The mean ± SD years the students preferred to wait for getting their desired branch was 1.80 ± 1.14 (range 0 to 4). There was no statistically significant difference between male and

female graduates or government and private graduates in the mean number of years they preferred to wait for post graduation. Of the 119 graduates who responded, 82 (68.9%) graduates considered getting their desired branch more important, while 37 (31.1%) were more particular about the waiting years before they join a post graduation course.

Figure 2: Post-graduate degrees preferred by graduates



The post graduation degrees preferred by the graduates as their first and second choice are shown in Figure 2. Majority of the graduates preferred a Masters degree. Of the 124 graduates, government schools, private schools and foreign schools were preferred by 109 (87.9%), 2 (1.6%) and 13 (10.5%) graduates respectively. Out of the 124 students, 91 (73.4%) wanted to join a post-graduation course only on merit basis, while the remaining 33 (26.6%) graduates were ready to take "payment seats" in private schools by paying Capitation fee after waiting for a mean period of 2.55 ± 1.0 years (range 1 to 5 yrs).

DISCUSSION

The medical education system in India is one of the largest in the world. Every year about 30,408 students are admitted to undergraduate medical course (MBBS) and proportionately a large number of undergraduates pass out ever year.[2] However, only about 12,000 post-graduates seats in all disciplines are available in the country. [9] This leads to a tough competition amongst the graduates in getting into these postgraduate courses.

We conducted this study to know the students perceptions about the various postgraduate courses and whether they were prepared enough to face the challenges ahead of them. Majority of the students enrolled in our study preferred only the clinical subjects, while only a few wanted to take up the Para-clinical, Pre-clinical and Research-oriented courses. This suggested that the students were not fully aware of the scope of the non-clinical subjects and research-oriented courses. It is necessary to emphasize the importance of these subjects during their under graduation. Only few students were interested in pursuing research as their career. Limited time, poor research infrastructure and inadequate research funding opportunities are major hurdles faced by graduates in pursuing research during their career. [10] Development of

adequate research infrastructure and facilities for research funding is vital for nurturing research attitude among graduates.

Pediatrics and Radio-diagnosis were the two subjects preferred by most medical graduates. Graduates often prefer to complete their studies earlier by opting for one of these end-specialties, rather than waiting for a long time to complete their super-speciality courses. They have to go through the same hurdles all over again to get into super-speciality courses. The preference for Radio-diagnosis by most medical graduates shows that students prefer to take up well-paid 'white collar' branches rather than toiling hard to become a clinician.[2] General Medicine and General surgery are less preferred these days, which may be due to the pressure of getting into a super specialization after completion of these courses.[2] In this study, very few students have opted for Ophthalmology, Orthopaedics, Pathology, Physiology, Psychiatry and Oto-laryngology which could be due to the relatively small sample size, rather than the actual of lack of interest for these specialties.

We divided the study population into two groups based on age to find out whether increasing age changes their perspective about post-graduation specialities. We observed that the age-group of these graduates has got some influence on their preference for certain branches. A significant number of graduates above 25 years preferred Dermatology to graduates below 25 years of age. Similarly, male graduates preferred General Surgery, while female graduates preferred Obstetrics and Gynaecology. This is in agreement with other studies.[5,11,12] Men prefer General Surgery due to the prestige and career opportunities associated with it, while female graduates show lower preference for it due to the heavy workload and uncontrollable lifestyle. [11, 12] On the other hand, female graduates prefer Obstetrics and Gynaecology due to the perceived better quality of patient-physician relationship. [5,13,14] Majority of the graduates from private schools still prefer only General Medicine and General Surgery, while the government school graduates give preference to other subjects like Radio-diagnosis, Pediatrics, Dermatology, General surgery and Pathology. This may be due to lack of exposure of the private school graduates to other specialities. In India, there is a rapid growth of private medical schools, most of which lack quality and infrastructure. [1] Moreover, in the hospitals attached to these private schools, the services to patients are linked to their capacity to pay. [2] Consequently, the private hospital beds are often left unoccupied, thereby leading to lesser clinical learning opportunities. [2, 3] There is a need to improve awareness about other subjects among these private medical graduates.

Most of the graduates were not willing to wait for more than 2 years for getting their desired branch; instead they were ready to compromise on the subject of interest and opt for other branches. [8] Majority of the students preferred government schools for their post graduation studies. Though the number of private medical schools has rapidly increased from 47 in 1995 to 137 in 2007, the students still prefer the government schools for post graduation.[2] This could be a reflection of the awareness amongst students regarding learning opportunities, cost of education and the lower standard of education in these private schools.[2] Regulatory bodies such as Medical Council of India and University Grants

Commission exist to ensure quality education in the Private medical schools. But the credibility of these bodies has been repeatedly questioned in view of dubious functioning and corruption charges. [15, 16]

Most of the students preferred only a Masters degree (MD or MS) as their first choice to pursue post graduation. Only a few were willing to take up a diploma degree or the Diplomate of the National Board (DNB) as a second choice. DNB is being widely criticized as an inefficient parallel education compared to the Masters degree approved by the MCI. [16, 17] Moreover, practical issues do exist in accepting DNB degrees for teaching posts in medical schools. These could be the reasons for lack of interest among graduates in pursuing DNB. It is imperative to re-examine and revamp the DNB system to improve its credibility. A good number of the students preferred to pursue their higher education in one of the foreign schools. India is one of the leading contributors of medical graduates to various developed countries such as the United States and the United Kingdom. [3] Medical graduates from institutions with better quality medical training have a greater likelihood of immigrating to these countries. [18] A major drawback of this growing trend is that despite a large number of doctors graduating every year, there is an apparent shortage of doctors in India at the primary care level. [2]

Approximately 25% of the graduates were willing to take the “payment seats” in private schools in the event of not getting a ‘merit seat’ within 3 years. With the steady rise in economy and expanding middle class society, Indians are ready to pay for a good education. Rita Sood rightly points out that there is a paradigm shift—medical education being viewed from altruism to pragmatism. [2] However, majority of the graduates preferred to join post graduation courses solely based on their merit. It could be a reflection of the importance given for merit or their unaffordability to pay the exorbitant fees charged for the “payment seats” by private medical schools. The fact that private medical schools favor the affluent by charging exorbitant fees and bypassing merit-based selection is still detested by many lower middle class Indians. [1]

CONCLUSION

Pediatrics and Radio diagnosis were the two subjects preferred by most medical graduates. Majority of the students preferred only the clinical subjects. It is necessary to emphasize the importance of the non-clinical subjects during under graduation. Development of adequate research infrastructure and facilities for research funding is vital for nurturing research attitude among graduates. Preference for branches among graduates is influenced by age-group, sex and the type of medical school they graduate from. Most of the graduates were not willing to wait for more than 2 years for getting their desired branch. Majority of the graduates wanted to do a Masters degree in their desired speciality and only a few were willing to take up diploma and DNB. Approximately 25% of the graduates were willing to take the “payment seats” in private schools if not getting a merit seat within 3 years.

Key points

- Majority of the students prefer clinical subjects for pursuing post graduation.
- Pediatrics and Radio diagnosis were the two subjects preferred by most medical graduates.
- Preference for branches among graduates is influenced by age-group, sex and the type of medical school they graduate from.

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