

Factors Influencing the Career Choices of Medical Graduates

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ABSTRACT

Objectives: To find subjects preferred by medical graduates for post-graduate specialization; And to find what factors determine these preferences.

Methods: The study was a cross sectional observational analytic study of 250 interns from 5 medical colleges in Mangalore, Karnataka. Participants were chosen randomly from the intern's registers of these colleges after obtaining IEC approval and permission from the administration of the respective colleges. Questionnaires were administered by interviewers and the data was collected and later analyzed by SPSS 13.

Results: 130 males and 120 female interns responded to the questionnaire. 78.2% (n = 250) felt post-graduation was essential. 95.3% (n = 250) wanted to pursue a clinical specialty with the most preferred specialty being Medicine, Surgery, OBG and Paediatrics.

Gender significantly influenced specialty choice with males choosing medicine and surgery (p value <0.005) and females choosing obstetrics and paediatrics (p value <0.005)

Factors which influenced specialty choice included job satisfaction (p value <0.005), income, lifestyle friendliness and career prospects.

Conclusion: Post-graduation is an important part of a doctor's career path. Our study showed that interns predominantly chose clinical specialties like medicine, surgery and paediatrics, while very few chose to specialize in pre-clinical and para-clinical subjects. Research and general practiced were among the less preferred options too. Choice of specialty was influenced by factors such as income and future career prospects. Knowing these factors may help in modifying policy in a way that would encourage junior doctors to pursue fields that are under representation, yet essential for medical colleges and for the community.

Key Words: Interns, Specialization, Post graduation

INTRODUCTION

The number of undergraduate medical seats is increasing in many countries, thus increasing the demand for specialty training, and for training and supervision at both graduate and undergraduate levels. Trends in selection of particular specialties have implications in terms of arranging training and supervising positions and information on these trends is necessary to guide policy [1].

The ratio of the post-graduate to undergraduate medical seats in India is 29:100, with the number of medical graduate seats in India are approximately 32,000. Undergraduate medical training in India lasts for 4.5 years, followed by a year of compulsory internship. Internship is within the hospitals attached to the medical college where the student graduates. The intern is posted to all the major specialties. The period of internship also includes working in primary health centres in rural areas.

Post-graduate specialization is perceived as essential for success, and there is high competition for post graduate seats, especially in clinical specialties [2]. Factors influencing choice of subject for specialization includes factors like what made the students decide to be a doctor, at what age student chose to study medicine and problems faced during medical school [3]. Mangalore is a port city in the state of Karnataka in India. It has an urban population of 619, 664. [4] It is an educational hub with 5 medical colleges. The literacy rate of 94.03% is higher than the national average of 59.5%.

MATERIALS AND METHODS

The study protocol and questionnaire were presented to the Institutional Ethics Committee and approval was obtained to conduct the study.

The questionnaire was designed in three parts. The first part dealt with characteristics such as age, sex, and at what age specialty was decided. The next part inquired about possible future career directions like general practise, post-graduation, research and emigration. The third part consisted of questions was about choice of post-graduate specialization, and factors influencing these choices.

The questionnaire was based on focus group discussions with undergraduate students, medical college faculty, interns and post graduates. The content was also based on literature search for similar studies done in India and other countries.

Permission was obtained from the principals of the 5 medical colleges in Mangalore to administer the questionnaire to the interns of the respective colleges.

An interview administered questionnaire was given to 250 interns out of the total of 600 interns in Mangalore at the time the study was conducted. 50 interns were selected from each from the five medical colleges of Mangalore. Respondents were selected randomly from the interns register. Informed consent was obtained to participate in the study and the questionnaire was administered to the interns. The response rate was 100%.

The data was collated and analysed by SPSS 13.

RESULTS

The questionnaire was administered to 250 interns, 50 from each of five medical colleges in Mangalore. There were 130 male respondents and 120 females. The majority (153) of respondents had a family income less than 10 lakhs per annum ($p < 0.05$). 205 respondents were single, and 25 were either married or in a relationship (p value < 0.005)

Of the respondents, 78.2% felt that post-graduation was essential, and were willing to wait for 1-3 years till they got their field of choice. 213 had decided is what post- graduate specialty they would pursue.

When they were asked about what their options would be in the event of not getting a place in a post-graduate program of their choice, 146 said that they would compromise on their choice of subject and opt for an available post-graduate specialization. 44 said they would pay high fees for a management seat. 29 said they would start general practice without further studies.

95.26% of respondents wanted to pursue a clinical specialty. The four most preferred specialties were internal medicine (48), surgery (46), Obstetrics and Gynaecology (ObG) [24] and paediatrics [28]. Out Of our 250 respondents, only 10 interns wanted to specialise in a preclinical or paraclinical subject.

38 interns were planning to write for foreign placement exams, and out of all of them 23 of these were male.

It was found that out of the 145 interns who said that the working hours in a particular specialty did not affect their decision, 36 wanted to specialise in surgery, 35 in medicine and 22 in paediatrics. 67% of interns in a relationship considered fixed working hours a major factor while choosing a specialty, whereas only 35% of single interns thought this was an important factor ($p < 0.05$).

113 (45.2%) of the respondents cited job satisfaction as the major reason for choosing a particular specialty ($p < 0.005$). 8 said that they were inspired by a teacher in the field, and 9 said that they chose a particular field as the working hours in that field would be more friendly lifestyle.

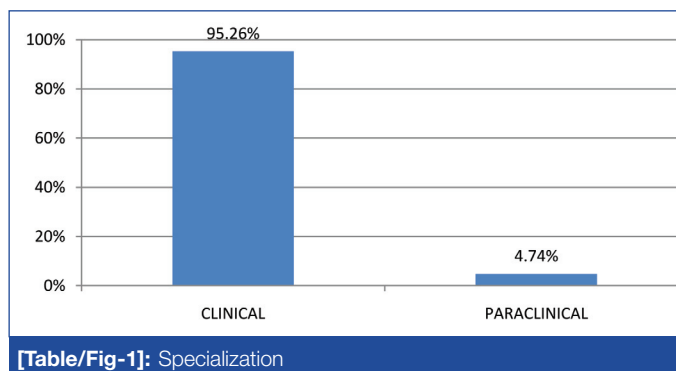
99 interns said that the prestige associated with a particular field influenced their decision, and 113 said it did not.

120 respondents (48%) said that the prospective income associated with a career in a particular discipline made them choose the specialty. Out of these 23 were interns who would opt for postgraduation in medicine, 19 would take surgery, 15 obstetrics and 11 paediatrics (p -value < 0.005).

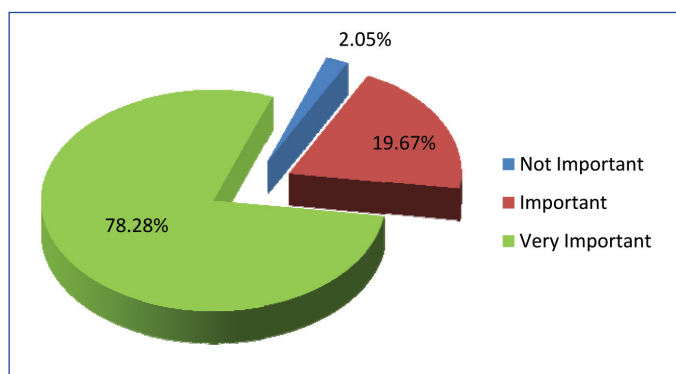
DISCUSSION

Though choices of post graduate specialisation and the factors affecting these have been studied, most of the prior work has been done a little later in the course of the doctors career, i.e. either while pursuing post graduate residency or after completing the post graduate course. The career choices of medical undergraduate students have also been studied [5], but there has so far been very little published work on the career choices of interns from India.

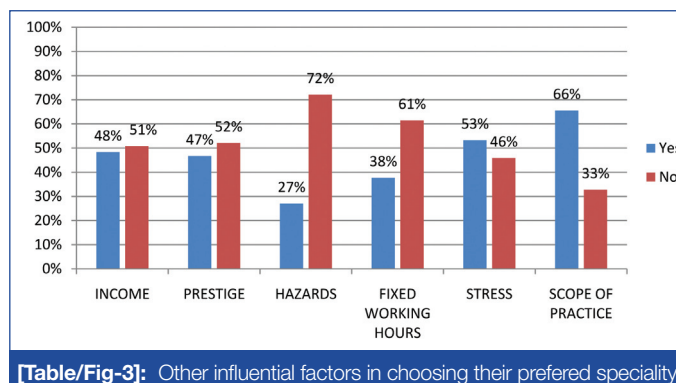
Internship in India is an important stage in the junior doctor's career, as specialty preferences tentatively chosen during the undergraduate years are consolidated during the job training year of internship. Additionally, it is after this year that the graduate doctor can attempt forentrance exams for entry to post graduate residency programs. Our study is an attempt to find the preferred



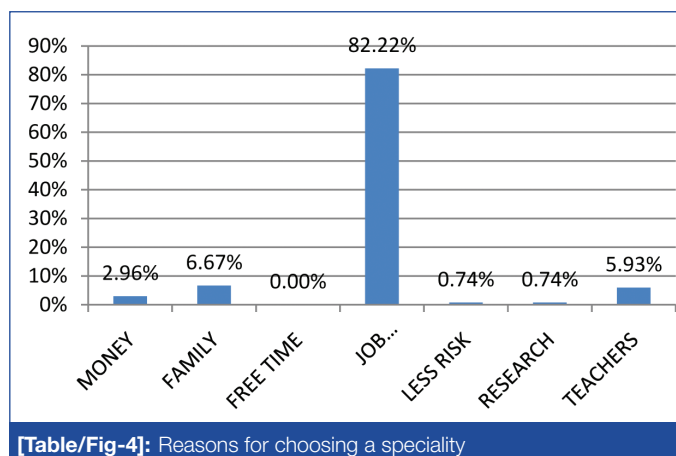
[Table/Fig-1]: Specialization



[Table/Fig-2]: Importance of postgraduation



[Table/Fig-3]: Other influential factors in choosing their preferred speciality



[Table/Fig-4]: Reasons for choosing a speciality

post graduate specialties among interns from 5 medical colleges in Mangalore, Karnataka India, and the factors affecting these choices.

The majority of our respondents felt that post graduation was essential, and only 29 said that they would do general practice if they could not get a post graduate residency seat even after 3 years of completing their MBBS degree. This trend away from general practice is disturbing, as primary care can best be provided at the community level by general practitioners, especially in rural

areas. This may be because it is perceived that income and status are lower in general practice than specialties [6]. This trend has been observed in other studies too [7,8], with too many specialists and too few general practitioners in many developed countries. A report from Australia suggests that increasing the salary of general practitioners, and increasing the practitioners opportunities for procedural and academic work would help to address this imbalance between generalists and specialists [9]. This approach would be valid in India too, where there is a shortage of doctors in staff Primary Health Centres and community hospitals [10].

In our study 14.4% interns are planning to write foreign placement exams; all of them are male. Graduates from many medical schools in India aim to immigrate them to countries such as Australia, New Zealand, United States and United Kingdom. In these countries, international medical graduates constitute 23 – 28% of the workforce, and India is one of the countries that contributed the maximum number of graduates [11]. Though the immigrating doctors and their host countries benefit, this loss of human resources may reduce the number of qualified health care professionals in lower income countries. Steps to make more transparent the process of recruitment of health care professionals from low income nations have been proposed, however the fact remains that many highly qualified professionals migrate to the countries that pay the most and offer the greatest scope for professional growth, and a permanent solution to this problem is not curtailing migration, but rather investing the measures that would educate and retain health care professionals in the low income countries [12].

In our study only 10 interns preferred preclinical and paraclinical subjects. The comparatively low number of graduates choosing preclinical and paraclinical specialties are worried, as it may result in a serious deficit of teachers in these fields in the future. Though the Medical Council of India (MCI) permits non-medical teachers to be employed in these fields, the number is limited to 30% of the total posts in the departments of anatomy, physiology, microbiology, pathology and pharmacology and 50% in biochemistry [13]. These departments face a shortage of teachers in many colleges, and the situation can only worsen further with superannuation of staff, especially if the resulting vacancies cannot be filled, since so few doctors opt for the preclinical and paraclinical fields. Other studies also show an existing or prospective shortage of basic science faculty due to fewer graduate doctors choosing these fields [14, 15]. Measures by the government to make these foundation specialties of preclinical and paraclinical subjects more attractive as future career options may help to address this problem.

The low number of doctors (just one of the 250) who would like to pursue research in the future is also a cause for concern. A study done in Ireland also shows that students are poorly motivated to do research, perceiving it to be isolated from patients and clinical medicine [16]. However, it has been shown that having research as an undergraduate elective course resulted in an increase in the number of students who would consider research as a career option [17]. It has been proposed to integrate basic training in research methodology in the undergraduate curriculum, with additional training for those inclined to pursue research as a full time career [18]. Integration of research training in to the Indian medical curriculum may also be considered.

95.26% of our respondents plan to pursue a clinical specialty. This is in contrast to a study of career paths of United States medical graduates which showed a decrease in the number of graduates planning full time clinical practice [19]. The four most

common specialties chosen were medicine, surgery, obstetrics and gynaecology and paediatrics. This is similar to a study in New Zealand; however in the study of New Zealand many respondents also opted for general practice [20]. It is encouraging to note that the four most common specialties in our sample population are the primary specialties of medicine, surgery, ObG and paediatrics, which can be practised effectively at the secondary care level (district hospitals), thus taking the delivery of health care closer to the community level. In contrast, a study on specialty choices of medical graduates in the United States found a general trend away from generalist primary care specialties such as general medicine, general paediatrics and family medicine and a trend towards internal medicine sub specialties. Graduates who planned a career in academic medicine, those who had at least one physician parent and those with higher debt at the end of the course are less likely to choose general medicine, paediatrics and family medicine [8].

58% of our respondents said that the prospective working hours of a particular specialty does not affect their decision on whether to pursue that field. Most of these are planning to do medicine, surgery and paediatrics. This result is in contrast with a study on US medical students from 1998–2004, which showed that apart from income, lifestyle is increasingly found to be a determinant of graduate doctors career choices, with specialties such as radiology (perceived to be lifestyle friendly) being preferred over specialties like ObG which were considered to be lifestyle unfriendly [21,22,1].

Of those who responded to the question on when the specialty was chosen, many had decided during final year of medical school and during internship. 130 had decided by the age of 23 ($p < 0.005$). This contrasts with studies from other countries where 37% chose their future specialty in the first year following graduation, and 43% decided by the 2nd or 3rd year following graduation [23].

Gender played a role in choosing specialty in our study, with male interns opting for medicine and surgery, and female interns preferring obstetrics, paediatrics and surgery. Gender has influenced choice of specialty in other studies too, with a clear gender predilection for certain specialties [24]. Studies show that females prefer ObG and paediatrics [25,26], but anaesthesia is also a common choice in contrast to our study where anaesthesia is one of the least chosen options for female interns. It is interesting to note that though a career in obstetrics and gynaecology involves unpredictable schedules, and long hours, it is one of the most common specialties chosen by women worldwide. This may be because of the perception that women would prefer to be treated by female doctors, thus increasing the demand for female obstetricians.

The gender demographic of applicants to medical school is changing with women already outnumbering men in some countries [27]. In the future as the number of graduate doctors becomes predominantly female, there may be a skewed distribution of the specialties chosen and the number of qualified personnel in different fields.

45.2% of our respondents said that job satisfaction was a particular influence for choosing their specialty. Most of these respondents were those who had chosen fields like medicine, surgery and paediatrics. It is a point worth reflecting upon why these fields are more satisfying than high income fields like orthopaedics and radiology. A study on physician career satisfaction has shown a higher level of satisfaction in paediatrics and internal medicine and significantly lower satisfaction in ObG, neurosurgery and critical care medicine. This study also shows that satisfaction was positively

related to income and working in a medical school and negatively associated with more than 50 work hours per week [28]. 48% of our respondents said that the income associated with a specialty influenced their decision to choose it, and 164 said that future career prospects played a role in their choice. This is similar to a survey of German medical students which showed that the prime factors affecting specialty choice were a safe income and future prospects. It is worth noting that that income and future career prospects are a major determinant of choice of the post MBBS pathway. Junior doctors may thus take underrepresented but necessary subjects if the pay and career prospects are improved .

CONCLUSION

Various factors, both intrinsic and extrinsic, influence the future career pathways of newly qualified doctors. The extrinsic factors may be modified by framing policy, so more doctors are encouraged to take underrepresented fields. Additionally, intrinsic factors such as gender play a role. Considering the increasing number of female doctors qualifying in India and worldwide, steps to make it more feasible for female doctors to work in all specialties regardless of their 'lifestyle friendliness' would ensure that graduate doctors consider all fields while making their decision about future career pathways. Research , general practice and preclinical and paraclinical specialties are areas that doctors must be encouraged to pursue, and this can be done by framing policy to make these field professionally and financially more viable.

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