

Original Research Article

Career preferences and influencing factors among students entering medical school

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ABSTRACT

Background: Little information is available on the prospective career choices of students entering medical school. So, this study was designed to assess career preferences of fresh medical undergraduates in the Indian setting and evaluate factors influencing their career choices.

Methods: A cross-sectional assessment was carried out on 144 freshman year medical students within 2 weeks of joining the course. All participants completed a self-administered study questionnaire. Five specialties – Internal Medicine, Surgery, Psychiatry, Pediatrics, and Gynecology were chosen for comparison. Responses were rated on a 5 point Likert scale. Data was analysed using SPSS version 18.0.

Results: Over one third of the undergraduates reported that they have not made any opinion on their specialty yet. The most popular specialties were Internal medicine, General Surgery and Paediatrics. The least popular specialty was Obstetrics & Gynecology. “Ability to help people” and “challenging nature of work” was chosen by most of the respondents as a very important factor while making a choice of specialization while financial reward was not perceived to be that important.

Conclusions: Freshman medical students have several criteria in choosing their specialty and they are modifiable. Medical educators and administrators should think about curricular or teaching reforms to further enhance career counseling and medical education curricula which could potentially motivate more students to take up career in fields lesser chosen.

Keywords: Career choices, Specialization, Medical student, Medical education, Medical curriculum

INTRODUCTION

Fresh medical students are an attractive group to study specialty career preferences as their views are possibly reflective of the community at large and are to an extent unbiased. Most of the previous studies done on career preferences in medical students have been conducted on prefinal or final year students which are probably biased. This is probably because any changes brought about in their attitude through intervention are likely to have a cascading effect on the society. They are also committed

to the period of study which offers ample scope to intervene through changes in curriculum and teaching patterns. It has been shown that many of the students carry strong career preferences even prior to entering medical training. Hence, we undertook the present study among a group of freshman medical students with the twin objectives of assessing their current career preferences and also to identify factors that influence their choice of specialization.

During their medical schooling, undergraduate students are exposed and trained in various specialties- minor and

major. This leaves them with many options for their specialisation in future. Each student will choose their subject for higher studies based on several criteria mostly based on their ability to cope with the particular subject and based on his needs and needs of the society around him. Even though the medical undergraduate curriculum in India has been undergoing several changes, the exact reason how a student chooses his specialisation is still not clearly understood. Hence, career counselling for medical students to choose the subject for higher studies is not well established or successful compared to other professions.

Globally, there are concerns about the dwindling number of students entering several residency programs like preclinical and para clinical subjects, psychiatry, radiotherapy, physical medicine and rehabilitation.¹⁻³ The limited emphasis and time given on training such subjects during the undergraduate training has often been pointed out as a major lacunae contributing to the human resource shortage in these areas.^{4,5} Some changes aimed at correcting this obvious drawback have been already implemented in subjects like anaesthesia and psychiatry, such as introduction of a compulsory posting during medical internship. An important determinant of success of such curricular modifications would be the attitudes and perceptions of undergraduate students to such specialties.

The extant literature clearly suggest widespread prevalence of negative attitudes to such subjects among medical students most of whom have had little exposure to these during their training period.⁶⁻⁸ Lesser research has been carried out, mostly from the West, among freshers at medical schools but have also largely echoed similar findings.⁹⁻¹¹

It is debatable whether attitudes can be considered a proxy for career choices and this question has not been satisfactorily answered so far. Sparse data is available from India on the prospective career choices of students entering medical school. Results from elsewhere show a variable and fluctuating trend on this issue.¹² There are no national statistics in India for the trends and preferences of specialties among undergraduate medical students. Local studies in the last two decades have provided encouraging trends but these studies were largely conducted among practicing doctors and postgraduate residents.¹⁵⁻¹⁷

Hence, the objectives of the current study are to assess specialty career choices and factors influencing them among medical students who have freshly enrolled into the medical course.

METHODS

This was a cross-sectional study performed at Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER), a central government funded Medical College

in Puducherry, South India between July 2013 and September 2013. Currently, the college has an intake of 150 students annually at the undergraduate level and students are introduced to basic pre-clinical subjects right from day 1 of training. Clearance to undertake the study was obtained from the Institute Human Ethics Committee.

The assessment was carried out within 2 weeks of the official opening day of the course. All students who had registered for the course were explained the purpose of the study and informed consent was taken. All participants completed a self-administered questionnaire that has been used earlier for similar surveys.¹⁰ The original questionnaire contained 24 items. This was vetted for face and content validity by 3 subject experts and accordingly, wording changes were made for cultural relevance. Subsequently, the questionnaire was pre-tested on 20 participants to check the cultural relevance and applicability in our setting. Three items were removed from the original questionnaire due to overlapping answers after analysing their responses. The final version therefore contained 21 items. This was again administered to the same participants in order to confirm veracity of responses. The test-retest reliability was found to be high (Spearman correlation coefficient 0.77). The modified instrument was, thus, found to be applicable in our setting.

The first page of the questionnaire covered basic demographic details. Next, the students were asked to rank the specialties – Internal Medicine, Surgery, Psychiatry, Paediatrics and Obstetrics and Gynaecology in order of their preference for specialization. Subsequent questions dealt with their perception of these subjects individually on various domains and the level of prestige and respect attached to each specialty. Lastly, they were asked to rate the relative importance of 6 factors while deciding their career choices namely lifestyle, prestige, skill, financial reward, challenging work and ability to help people. Most of the questions were objective in nature and the responses were rated on 5 point Likert scale ranging from 1 (very significant) to 5 (not significant). The ranking system was explained below each question to make the direction of response clear and simple to the students. Two subjective questions were allowed for listing any additional reasons for the most and least preferred specialty. The questions were framed so that the students were blinded to the specialty focus of the study. Data was collected from 144 students.

Data was analysed using SPSS version 18.0. The ratings of attractiveness of different specialties and the role of influencing factors was treated as descriptive data and expressed in terms of frequencies and percentages. Gender differences between responses was analysed using the Chi-square test. Responses to subjective questions were treated as qualitative data and analysed by their respective themes. All statistical analysis was

carried out for two-tailed significance and $p < 0.05$ was taken as significant.

RESULTS

A total of 144 medical students participated in the study. The mean age of the sample was 18.11 ± 1.74 . The age range varied from 16 to 29 years. 74 (51.4%) were females and the mean age of respondents were comparable ($p > 0.05$) between males (18.4 ± 2.3) and females (17.8 ± 0.86). The distribution of other baseline characteristics is shown in Table 1. Notably, 64.2% ($n=93$) had urban backgrounds perhaps reflecting the changing socio-demographic trend in the country. About two-third of the sample (67.4%, $n=97$) did not seriously consider a career in any other field while the remaining one-third had considered a career in biological sciences (11.8%, $n=17$), commerce (10.4%, $n=15$), mathematics (5.6%, $n=8$)/arts (2.8%, $n=4$) and humanities (2.1%, $n=3$) if not for medicine. The distribution of specialty career choices of the students and their affinity related to different disciplines is given in Table 2. Notably, 32 (22.3%) were favourably predisposed to Psychiatry while 58 (40.3%) were disinterested and the remaining 49 (35.3%) were neutral. Internal medicine ($n=92$, 65.7%) and Surgery ($n=84$, 60%) were the popular career choices for students in that order. Our results suggested that gender played a significant role in the selection of certain career disciplines. More males preferred Internal Medicine ($\chi^2=15.48$, $p=0.004$) while more female students chose Pediatrics ($\chi^2=18.40$, $p=0.001$) and Gynaecology ($\chi^2=33.24$, $p<0.001$) over other choices. Gender did not seem to exert any influence over the choice of surgery ($\chi^2=3.69$, $p=0.450$) and psychiatry ($\chi^2=8.01$, $p=0.091$).

When we analysed the reasons for preferring or declining each subject, a few common themes emerged. Internal Medicine was preferred owing to its 'broad based specialty' nature and as it was perceived to be the 'base for all other fields'. Surgery was the chosen calling for many as it was thought to be a very 'rewarding area' due to the hope of a concrete 'cure' for the afflicted and due to the exposure to 'surgical procedures shown in the movies and media' which left them with a lasting impression. Psychiatry was perceived to be an 'interesting and humane subject' among the few who

chose it. 'Love for children' and the desire to serve them were the reasons listed behind the choice of Paediatrics. Obstetrics & Gynaecology was preferred as the 'act of bringing a new life into the world' was considered divine and rewarding by those who chose it. No specific reasons were given for declining Internal Medicine while Surgery was felt to be a 'taxing field' that required long and odd working hours by those who indicated their displeasure for the discipline. The practice of Psychiatry was 'too complicated' and requiring 'immense patience' which many felt was not their cup of tea and hence were indisposed to the subject. The 'extremely challenging' task of handling children made about a third of the respondents unenthusiastic about Paediatrics. Gynaecology was declined by a sizeable majority owing to 'gender and cultural barriers' which they felt would hamper their chances of a successful practice in the area.

Table 1: Demographic data of participants.

Variable	N (%)
Family type	
Nuclear	127 (88)
Joint	17 (12)
Domicile	
Rural	93 (63.2)
Urban	51 (36.8)
Religion	
Hindu	120 (83.3)
Muslim	15 (10.4)
Christian	7 (4.9)
Sikh	2 (1.4)

Next, the students were asked to rate the significance of 6 factors in choosing a particular specialty as a career option. The results are shown in Figure 1. Ability to help people was chosen by all students ($n=144$, 100%) as extremely important to them while considering a choice of career. Skill or ability required to excel in the field was also perceived to be a very important influencing factor in choosing a career ($n=140$, 97.2%) as was the challenging nature of work ($n=131$, 91%). Interestingly, financial reward or lucrativeness was regarded the least important of all the factors surveyed with only 52.8% ($n=76$) rating it as very important. No gender differences were observed in the stated importance of these factors.

Table 2: Distribution of specialty career choices.

Affinity to the career choice	Internal Medicine N (%)	Surgery N (%)	Psychiatry N (%)	Paediatrics N (%)	Gynaecology N (%)
Categorical Choice	21 (15)	44 (31.4)	5 (3.6)	15 (10.6)	7 (5.0)
Strong possibility	71 (50.7)	40 (28.6)	27 (19.4)	37 (26.2)	8 (6.4)
Neutral/No opinion	34 (24.3)	32 (22.9)	49 (35.3)	48 (34.8)	34 (24.3)
Unlikely	12 (8.6)	19 (13.6)	36 (25.9)	24 (17.1)	46 (32.9)
Never	2 (1.4)	5 (3.6)	22 (15.8)	16 (11.3)	44 (31.4)

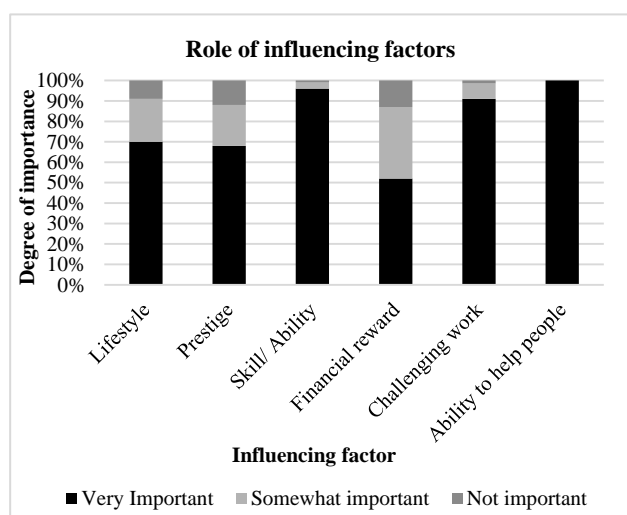


Figure 1: Factors influencing choice of career.

DISCUSSION

A very high response rate was noted in the present study (96%). The institute does not follow any gender based reservation policy and hence the gender ratio was nearly equal (M:F = 70:74). The mean age of males were marginally higher than females as also observed in other studies from geographically proximate regions.^{13,19}

Majority of the sample had chosen the medical stream decisively and also had clear ideas on their choice of further specialization. Prior studies have shown that many of the students carry strong career preferences even prior to entering medical training.¹⁸ In our study, Internal Medicine and Surgery enjoyed a high popularity among the students as a career choice while other specialties drew more varied responses. These findings are broadly congruent with those from similar studies conducted in Europe, USA and the Middle East though there were methodological differences among these papers which may make comparison difficult.^{13,14,20-22} Notably, in our study, 22.3% of respondents were favourably disposed to Psychiatry which is larger than what any study on freshman year medical students have reported so far.⁹⁻¹¹ This is in contrast with the literature which seems to indicate the polarizing nature of Psychiatry among student responses. Additionally, over a third (35.3%) reported having not made any opinion yet on the specialty. Although our findings need replication across settings, they seem to preliminarily suggest that it may be time to revisit the “admissions hypothesis” postulated to explain the decline in undergraduates entering psychiatric residency programmes worldwide and perhaps look at factors intrinsic to the medical training process and curriculum which may explain the persisting manpower shortage in this area despite resurgence in interest and better attitudes towards Psychiatry among students entering medical school.⁶ Concerted efforts by successive governments in educating and transforming public opinion on issues concerning mental health as well as the

urban preponderance of our sample, which may indicate a better understanding and appreciation of skill sets required to be successful in Psychiatry, may be other reasons for a renewed interest in this field.

We found that idealistic aspects like the ability to help people, challenging nature of work and skill levels were more important to students in choosing their vocation than materialistic considerations like financial lucrativeness or lifestyle. Broadly similar findings have been noted by previous researchers.^{10,13} While this is certainly commendable, it will be interesting to see if such altruistic dispositions change with the medical school experience or stay the same. These questions can only be conclusively answered by studying the same group when they are exiting the course and aiming for residencies. Such a study is on the anvil.

Based on the above findings, we would like to draw certain conclusions and make some recommendations. The high response rate observed is a major strength of the present study. The objective of assessing student’s career choices and influencing factors was met by direct questioning rather than seeking to assess attitudes to a subject which may not always correlate with choice of career. However, the study does have some limitations. The findings, being from a single centre, need to be replicated for confirmation. As the present study was cross-sectional in nature, it is not possible to draw conclusions about whether the career preferences change with years spent in medical school. Nevertheless, it appears that more students are inclined and open-minded about taking up a rare specialty like Psychiatry in this study, for a career than noted in the past. This offers us an excellent window of opportunity to motivate those who are ambivalent through a better and scientifically valid presentation of the specialty. It has been shown that such an approach can indeed make a positive difference to existing negative views about a field.^{6,22} Many shortcomings of the present curriculum that adversely impact their ability to change attitudes and opinions to has been pointed out earlier.²³⁻²⁵ Though not in our setting, increasing evidence suggests that recruitment into a particular specialisation correlates well with the quality and quantity of exposure to the subject during the formative undergraduate years.²⁶⁻²⁹ Based on all this evidence, we opine that early and increased clinical exposure to various medical specialties especially ones which are less opted for specialisation, may be introduced in the first year itself just like community medicine to rectify manpower shortage in these areas. This will give more time for students to digest, evaluate and develop a better-informed view than the conventional elective postings like the 15-day Psychiatry rotation in pre-final year where typically, the focus is on covering as many disorders as possible due to lack of bedside time. Modular teaching with integration of medical and surgical teaching modules would help students to understand and appreciate the roles and responsibility of a psychiatrist better. We also recommend changes in

training pattern including adoption of student-centred approaches (project work, small group discussions, seminars, etc.) and problem-based learning to help sustain student interest in the field. Such approaches have been positively received by learners in our setting but remains underutilized.³⁰

Freshman medical students have several criteria in choosing their specialty and they are modifiable. Surprisingly, in this study, more respondents were favorably disposed to Psychiatry as a profession which is larger than what any comparable study on first year medical students have reported so far. The popularity of other specialties is comparable with previous studies. Education and proper training of students can go a long way in addressing some of their ambivalence about the practice of some subjects. The factors influencing career choices, identified by students in this study, should logically reflect in increasing number of students opting rarer specialties provided medical educators and career counsellors make the right moves to present some specialties better. Administrators should think about curricular or teaching reforms to further enhance career counseling and medical education curricula which could potentially motivate more students to take up career in fields lesser chosen.

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