

Original Research Article

Assessment of specialization preference among undergraduate medical students and its influencing factors

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Abstract

Background: Understanding the future career interests of medical graduates is important, as they are the future workforce of the healthcare profession.

Aim: The aim of this study was to determine the career choices and the factors that influence undergraduate medical students to choose a particular medical specialty.

Materials and methods: A cross sectional observational study was conducted among '300' undergraduate medical students of Sardar Patel Medical College, Bikaner, Rajasthan between January to March 2014. A self-administered questionnaire was used to collect data and the association between different variables was tested using Chi-square test.

Results: Out of total '300' respondents, 84% (n=252) considered post-graduation very important for future career and majority of them (99%) wanted to pursue the same in clinical subject. The most preferred specialty expressed by male students was Medicine, followed by Surgery and Orthopedic, while the female students were more interested in Radiology, Paediatrics and Obstetrics and Gynecology. Little interest was shown in other specialities. Personal interest was found to be the most common factor that influenced the choice of specialization.

Conclusion: A variety of factors appeared to inspire medical graduates to opt for a particular specialty. All the substantial factors that influence the medical graduates' decision should be equally justified and addressed, so that the quantitative and qualitative inequality of specialists can be nullified.

Key words

Medical students, Future career, Medical specialty.

Introduction

Medical education requires undergraduate students to study a wide range of medical specialities. Choosing a medical specialty can be either a daunting and confusing experience for some medical students or a foregone conclusion to others. The medical specialty chosen by the medical students has important implications for both the practitioner as well as the national community.

The availability of medical professionals in each specialty could be projected on the basis of medical graduates' interest in choosing a particular specialty. A medical specialization encompasses transition from an undifferentiated medical graduate to the fully differentiated professional who is usually restricted to one specialized medical field [1].

Globally, the distribution of physician specialization is a growing concern, as these choices may not meet community needs. Due to lack of certain specialties, especially preclinical and para-clinical specialties, our country's medical colleges are facing the grave situation of faculty deficiency [2, 3].

Many factors contribute to one's decision while choosing a specific medical specialty. To maintain the balance in medical doctors among various specialties, there is need to find out what motivates the students to take up certain specialties [4].

There is paucity of studies on future specialization interest among medical students in India. Hence, we have conducted this study with the aim to find out the preference order for different medical specialties and the factors which influence the students for selection of particular specialty.

Material and methods

Study design and setting

An observational cross sectional study was carried out among '300' undergraduate medical students from January to March 2014 in Sardar Patel Medical College, Bikaner, Rajasthan, India.

Study sample and data collection

The students of three semesters i.e. 3rd, 5th and 7th semester were included in the present study. The selection of the students from each semester was done by the simple random method and all students who were present for the lecture on the day of data collection were included in the study. The data was collected in a self-administered, semi-structured and pre-tested questionnaire. The questionnaire contained questions regarding socio-demographic variables, choice of specialty and reasons for preference of particular specialty.

Ethical consideration

The study was approved by the Institutional Ethics committee of Sardar Patel Medical College, Bikaner. Verbal informed consent was sought from each participant.

Statistical analysis

The collected data was statistically analysed using the Microsoft Excel program. The association between the different variables was tested using the Chi-square test. A p value less than 0.05 was considered statistically significant.

Results

In the present study, out of total 300 students, 145 (48%) were male and 155 (52%) were female. Majority of the participants (53%) were belonging to 18 to 20 years age group. Of the respondents, 84% considered postgraduate specialization very important for future career.

More or less every participant (100%) wanted to pursue postgraduate specialization and majority of them (99%) wanted to pursue the same in

clinical branches. Very few of them had shown the most preferred specialties were medicine, their interest in non-clinical branches. Overall, surgery, paediatrics and radiology. (**Table - 1**)

Table - 1: Semester wise distribution of participants on the basis of selection of specialty.

Specialty	III Semester (N=124)	V Semester (N=106)	VII Semester (N=70)	Total (N=300)	p value
Radiology	20 (16.13)	12 (11.32)	10 (14.29)	42 (14)	0.576
Orthopedics	05 (4.03)	20 (18.87)	12 (17.14)	37 (12.34)	0.001*
Dermatology	06 (4.84)	08 (7.55)	08 (11.43)	22 (7.33)	0.238
Medicine	34 (27.42)	18 (16.98)	08 (11.43)	60 (20)	0.018*
Surgery	30 (24.19)	16 (15.09)	05 (7.14)	51 (17)	0.008*
Obstetrics and Gynecology	10 (8.06)	09 (8.49)	05 (7.14)	24 (8)	0.949
Pediatrics	12 (9.68)	17 (16.04)	17 (24.29)	46 (15.33)	0.025*
Others	07 (5.65)	06 (5.66)	05 (7.14)	18 (6)	0.900

*Statistically significant

Majority of the male students showed interest in the field of medicine, orthopedics and surgery, while the female students were more interested in radiology, pediatrics and obstetrics and gynaecology. Very few students showed interest in other clinical and para-clinical branches. (**Table - 2**)

Table - 2: Gender wise distribution of participants on the basis of preference of specialty.

Medical specialty	Male (N=145)	Female (N=155)	Total (N=300)
Radiology	13 (8.97)	32 (20.65)	45 (15)
Orthopedics	38 (26.21)	00 (0.00)	38 (12.68)
Dermatology	08 (5.52)	14 (9.03)	22 (7.33)
Medicine	40 (27.59)	21 (13.55)	61 (20.33)
Surgery	31 (21.38)	15 (9.68)	46 (15.33)
Obstetrics and Gynecology	01 (0.69)	33 (21.29)	34 (11.33)
Pediatrics	10 (6.89)	35 (22.57)	45 (15)
Others	04 (2.75)	05 (3.23)	09 (3)

Personal interest was found to be the most common factor (44.3%) that influenced the students' decision to opt for a particular specialty. Some other substantial factors also found to be responsible included focus on community service, anticipated income and status and reputation of the specialty. (**Table - 3**)

Discussion

The career preferences of undergraduate medical students and factors influencing these preferences are of importance as it has an effect on the availability of healthcare manpower.

Understanding the factors that influence students' decision regarding their choice of specialty may help in taking corrective measures [3].

The present study is an attempt to find the preferred specialties among medical graduates and the factors affecting their choices. In our study, majority of the respondents wanted to pursue specialization in clinical branches.

The five most common specialties chosen by the respondents were medicine, surgery, pediatrics,

radiology and orthopedics. These findings are similar to the observations of the studies done in Pakistan and New Zealand [5, 6]. In another study in Swiss, the most popular specialties were internal medicine and surgery [7].

Table - 3: Distribution of participants on the basis of factors influencing specialty preferences.

Factors	Male (N=145)	Female (N=155)	Total (N=300)	P value
Personal interest	60 (41.38)	73 (47.09)	133 (44.33)	0.379
Anticipated income	33 (22.76)	20 (12.90)	53 (17.66)	0.037*
Family background	06 (4.14)	05 (3.23)	11 (3.67)	0.910
Contact with patients	10 (6.89)	05 (3.23)	15 (5)	0.233
Status & reputation	09 (6.21)	08 (5.16)	17 (5.67)	0.887
Helpful to community	27 (18.62)	44 (28.39)	71 (23.67)	0.064
<i>*Statistically significant</i>				

In present study, only 1% of the respondents preferred preclinical and para-clinical subjects. This could be due to the lack of opportunities for people trained in these subjects. This also suggests that the lack of interest in pre and para-clinical specialties among undergraduates may result in shortage of teachers in these fields in the future. Other studies also revealed an existing shortage of basic science faculty due to the lack of interest of undergraduate medical students in these fields [8, 9].

Measures by the government to make these foundation specialties of pre and para-clinical subjects professionally and financially more viable may help to address this problem. Gender played a role in the preference of certain specialties in our study, with male students preferring medicine, surgery and orthopaedics while female students opting for radiology, pediatrics and obstetrics and gynecology. This finding is in agreement with other studies where a clear gender predilection for certain specialties was found [7, 10, 11].

In present study, the factor that had most influence on the specialty selection is personal interest followed by focus on community service. This is in contrast to the observations of other studies where prestige, intellectual content and work hours are the common factors that

influence the selection of specialty. 17.66% of our respondents said that the anticipated income influenced their decision. This finding is similar to a survey of German medical students which showed that a safe income and future prospects are the prime factors affecting specialty choice.

Conclusion

To conclude, there are various factors, both intrinsic and extrinsic, playing role in the specialty selection among the medical graduates. There is a need to enhance the attractiveness of medical specialties facing considerable manpower shortages to address the current and future healthcare needs of the nation. Introduction of mentoring programs and formal career counselling during undergraduate training can positively influence student's interest in basic medical specialties.

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