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ORIGINAL ARTICLE

FUTURE SPECIALIZATION INTERESTS AMONG INTERNS OF UP RURAL INSTITUTE OF MEDICAL SCIENCES AND RESEARCH IN SAIFAI

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Abstract:

Background: *The exploration of specialty choices by medical students is a hot debate as it affects several important determinants of health care delivery. This study was carried out to determine variation in specialty preferences at the end of internship training and the perceptions that affect students' specialty choice.*
Methods: *A cross-sectional questionnaire-based study was performed on 80 interns. It covered queries on specialty choices, and perceptions influencing specialty choices. Gender wise analysis of specialty choices was also carried out.*
Results: *The most preferred specialty expressed by male students was radiodiagnosis, followed by orthopedics and paediatrics, while most preferred by female students were obstretics and gynaecology, followed by radiodiagnosis and paediatrics. Medical students emphasized factors like personal interest, advice from parents, anticipated income and job security, for making a choice in speciality.*
Conclusions: *Radiodiagnosis, obstretics and gynaecology, pediatrics, orthopedics, internal medicine and pathology were the most preferred specialty choices. Gender preference was observed to affect choices of few specialties such as orthopedics and obstetrics and gynaecology. Personal interest, advice from parents and anticipated income, are important factors in career decision making in medical students at UP Rural Institute of Medical Sciences and Research, Saifai. Perceptions which have an impact on specialty selection of male and female students may reflect a different tempo of growing up in males and females. This study may be helpful to medical educators and advisors who work with students on specialty decision-making.*

KEY WORDS:

specialization interest, medical, specialty, preferences.

.INTRODUCTION

During preclinical and clinical experiences medical students construct their professional identity through a process of medical socialization [1]. Within this socialization context focused on acquisition of new knowledge and skills, interactions with other medical students, health professionals, and patients, students construct their professional identity grounded in principles of the biomedical model [2]. Cultural and societal values also influence future physicians, particularly through student interactions with family, friends, and physicians [3]. The process of resolving conflicting views from societal constructs and self-realizations shape student views on the type of specialist they want to become.

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Undergraduate medical education in India lasts five and a half years including intership. Medical college graduates may choose either to work in a primary health care setting without specialization or to specialize in some specialty, after finishing their residency/ postgraduation. There are many physicians without postgraduate professional training, working in the Provincial Medical Services(PMS). These physicians are called "medical officers". Undergraduates who choose to specialize have to pass a standard examination, which allocates them to a postgraduate / residency program of three years. Only 1 in 10 undergraduates a year passes this examination. The undergraduates who do not pass the examination may join the PMS in the National Primary Health Care System offered by the Ministry of Health and Family Welfare.

Although most of the students will have to work in primary health care in the future, but it does not seem to be an attractive area. The most important reason for this is the lack of prestige and money [4]. Beside, students generally believe that primary health care is not an effective area for personal development [4,5,6,7]. There are ongoing efforts to improve such a situation [8]. 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. Little 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. Therefore, the priorities and perceptions of future undergraduates have to be determined to maximize the efficacy of a standard core curriculum.

The career interests of medical students are important, as they are the future workforce of the healthcare profession. Their interests will determine the availability of manpower in each specialty. In India, there are deficiencies of certain specialists such as ophthalmologists and psychiatrists as well as of nonspecialist graduate doctors to manage primary healthcare centres (PHCs)[9,10,11,12]. Few studies have been done to ascertain the career preferences of medical students. A study from Delhi showed that 83.5% students wanted to pursue postgraduation [13]. The choice of specialty was limited to a few subjects such as surgery, internal medicine and obstetrics and gynaecology. Globally, the choice of subject seems to be surgery for men and obstetrics and gynaecology and internal medicine for women [13,14,15]. What motivates students to choose certain specialties over others can also provide an insight into what may be required to bring about a balance in manpower availability among various specialties.

While a body of literature from around the world including countries such as the United States (U.S.) [3], Australia [16], New Zealand [17], Canada [18], and China [19], address factors affecting medical student specialty choice, there is little data on influences on Indian medical students. Studies in developed countries have also shown that student education loans and lifestyle factors also play an important role in choosing some specialties [20,21]. There is a dearth of such studies among medical students in North India and hence we did this study.

MATERIAL METHODS AND TECHNIQUE

We did a cross-sectional survey of 2007-08 batch medical students who had just finished their internship at UP Rural Institute Of Medical Sciences and Research, Saifai, India, during the last week of March, 2013. At this point of time when their internship was over, the students were having exposure to all the specialties, and thus they were having a liking towards a particular specialty and mindset to opt for that specialty for doing their postgraduation. Verbal informed consent was taken and data were collected in a self-administered, pre-tested questionnaire. The questionnaire was administered to them when they came to Anatomy department for taking no dues certificate. A total of 80 students answered the questionnaire. There were no dropouts. The students were instructed not to write their names and registration numbers. The questionnaire contained three sections: sociodemographic variables like age and sex, choice of specialty and reasons for preference. Students were asked to consider 21 specialty options and select, any one, the most preferred career preference. Possible reasons for preference were selected on the basis of a literature review and discussions with groups of medical students and physicians. The reasons for preference were than scored on a 5-point Likert scale with 1, indicating that the factor had the least influence and 5, the strongest influence on their choice.

RESULTS

The results from the present study are summarized in Table-1 and Table- 2. Of the 80 interns who filled the questionnaire, 49 were males and 31 were females. Overall, the most preferred specialties were radiodiagnosis, orthopaedics, obstetrics and gynaecology, and paediatrics. There was a preponderance of

males choosing some specialties such as radiodiagnosis, orthopaedics and paediatrics, while there was a preponderance of females for obstetrics and gynaecology, radiodiagnosis followed by paediatrics (Table-1).

Table-1. Specialty preferences of Interns in UP Rural Institute of medical Sciences and Research, Saifai.

S.No	Name of Specialty	Males n (%)	Females n (%)	Total n (%)
1.	Anaesthesiology	1 (2.0)	1 (3.2)	2 (2.5)
2.	Dermatology	2 (4.1)	1 (3.2)	3 (3.8)
3.	Radiodiagnosis and Imaging	9 (18.4)	6 (19.4)	15 (18.8)
4.	Radiotherapy	1 (2.0)	1 (3.2)	2 (2.5)
5.	Surgery	3 (6.1)	1 (3.2)	4 (5.0)
6.	Internal Medicine	4 (8.2)	3 (9.7)	7 (8.8)
7.	Paediatrics	5 (10.2)	5 (16.1)	10 (12.5)
8.	Psychiatry	2 (4.1)	0 (0.0)	2 (2.5)
9.	Obstetrics and Gynaecology	3 (6.1)	8 (25.9)	11 (13.8)
10.	Orthopaedics	7 (14.3)	0 (0.0)	7 (8.8)
11.	Hospital Administration	2 (4.1)	1 (3.2)	3 (3.8)
12.	Ophthalmology	3 (6.1)	1 (3.2)	4 (5.0)
13.	ENT (Otorhinolaryngology)	1 (2.0)	0 (0.0)	1 (1.3)
14.	Community Medicine	1 (2.0)	0 (0.0)	1 (1.3)
15.	Forensic Medicine	0 (0.0)	0 (0.0)	0 (0.0)
16.	Pharmacology	2 (4.1)	1 (3.2)	3 (3.8)
17.	Pathology	3 (6.1)	2 (6.5)	5 (6.3)
18.	Microbiology	0 (0.0)	0 (0.0)	0 (0.0)
19.	Anatomy	0 (0.0)	0 (0.0)	0 (0.0)
20.	Physiology	0 (0.0)	0 (0.0)	0 (0.0)
21.	Biochemistry	0 (0.0)	0 (0.0)	0 (0.0)
	Total	49 (100)	31 (100)	80 (100)

It was also seen that neither males nor females had any liking towards the preclinical specialties. Among the second year subjects, forensic medicine and microbiology were not opted even by a single candidate, but at the same time pathology was liked by 5 (6.3 %) . Surprisingly, orthopaedics which was so much liked by males 7 (14.3 %), was not opted as a choice even by a single female. Psychiatry and community medicine were too, not liked by females.

The factors that influenced the students' decisions to opt for a particular specialty included personal interest (average Likert's scale 4.6), anticipated income (4.6), advice from parents (4.3) and wish to work in urban area (4.0). The other factors included job security, prestige of the specialty, and intellectual content of the specialty (Table-2).

Table-2. Factors influencing specialty preferences.

S.No.	Factors influencing	Likert scale					Average
		5	4	3	2	1	
1.	Personal interest	60	16	1	1	2	**4.6**
2.	Advice from faculty	20	19	21	8	12	**3.3**
3.	Advice from parents	51	17	5	4	3	**4.3**
4.	Advice from friends	7	5	18	23	27	**2.3**
5.	Advice from practicing physicians	3	4	21	27	25	**2.2**
6.	Role model in the specialty	8	10	30	13	19	**2.7**
7.	Anticipated income	55	21	2	1	1	**4.6**
8.	Prestige of the specialty	31	17	19	7	6	**3.8**
9.	Intellectual content of the speciality	27	21	13	10	9	**3.6**
10.	On-call schedule	11	14	29	17	9	**3.0**
11.	Work pressure	15	16	21	18	10	**3.1**
12.	Flexibility of specialty	17	23	25	7	8	**3.4**
13.	Ease of raising a family	29	21	17	6	7	**3.7**
14.	Benefits for the patient	20	21	20	10	9	**3.4**
15.	Diversity of patients	23	27	22	3	5	**3.8**
16.	Wish to work in urban area	39	29	3	4	11	**4.0**
17.	Job security	33	29	3	4	11	**3.9**
18.	Ease of entering in superspeciality after completing MD/MS in that specilaity	12	11	15	27	15	**2.7**
19.	Research opportunities	24	21	12	11	12	**3.4**
20.	Focus on non-urgent care	27	22	16	8	7	**3.7**

Less common variables influencing career preference were - advice from friends, role model in the specialty, on-call schedule, work pressure, flexibility of specialty, benefits for the patient, diversity of patients, ease of entering in superspeciality after completing postgraduation in that specialty, research opportunities, and focus on non-urgent care.

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. Radiodiagnosis, orthopaedics, obstetrics and gynaecology, and paediatrics were

the most specialty preferred preferences among medical students at UP Rural Institute of Medical Sciences and Research, Saifai.. The findings of this study were similar to those reported in other studies [22,23].
Gender differences were noted in the preference of certain specialties. Female students preferred obstetrics and gynaecology, and paediatrics, but were less likely to choose forensic and community medicine. This finding is in agreement with others [24,25,26].

Role models especially of the same gender have been reported as a key factor in career choice [27,28]. Female students are discouraged from specialties such as surgery as there are few female surgeons to look up to as role models [29,30]. Consequently these students turn to other specialties that have more female representation such as
obstetrics and gynaecology, and pediatrics [31]. This explains the observed high preference of obstetrics and gynaecology , and pediatrics among female students in the current study. These students significantly considered specialty's gender distribution. Studies have also shown that women suffer more gender discrimination than males in male dominated specialties, and this has been reported to deter their choice of these specialties [32,33].

Surprisingly, it was noticed that none of the students planned for a career in forensic medicine, and preclinical subjects. The cause for not opting forensic medicine perhaps may be related to an increase in the number of cases of human immunodeficiency virus (HIV) infected bodies coming for postmortem, and thereby preventing accidental exposure from such cases. To overcome this, awareness programmes about the risk factors for transmission of the virus can be designed during their undergraduate curriculum. Not only this, improvements in the work environment, latest facilities, and adherence to universal precautions to reduce the risk of transmission of HIV and other infections to surgeons practicing in the region are highly recommended [34]. Where as for preclinical subjects, the possible cause may be the lack of exposure to patients in preclinical specialties and advice from practicing physicians, suggesting that career opportunities might be diminished. Studies by previous authors have also 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 [35]. 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.

In Pakistan [6] and Taiwan [19], personal interest was found to be the most important factor influencing the choice of specialty. This is similar to findings in our study. The other important factors influencing the specialty preferences in our study were anticipated income, advice from parents, and a wish to work in urban area. Specialty choices of students suggest that anticipated income (average Likert's scale 4.6) may be an important factor in career decision-making because students preferred greater financial rewards and higher social status [4].

Students wish to work in urban area (average Likert's scale 4.0) is a cause for concern as the majority of our population lives in rural areas, and there is already a maldistribution of doctors. Better pay scales, residential and recreational facilities, schools for their children, extra allowances like rural medical education allowance, and well connected transportation facilities with nearby cities, are some of the factors which can help in reviving the interest for working in rural areas.

Many researchers have tried to determine factors that influence students' specialty preferences [37,38,39]. Some have postulated that the primary influences were students' personal characteristics, such as advice from parents whereas others have suggested other factors relating to medical college characteristics such as orientation toward research. Medical educators, however, have focused on educational influences such as curriculum, undergraduate experiences, and faculty role models. These influences are more readily modifiable than are such factors such as institution's relative research intensity or students' long-held values.

For the MBBS course alone, over 2000 teachers are required for community medicine, internal medicine and surgery, 1600–2000 for anatomy, physiology, pathology and anaesthesiology and 1000–1500 for pharmacology, paediatrics, orthopaedics, obstetrics and gynaecology and radiodiagnosis [40]. This shows that our country is being suffered by lack of doctors especially in some notifiable branches like preclinical branches like anatomy, physiology, biochemistry, paraclinical and 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 measures need to be worked out to solve this cropping problem.

It is likely that a balance of factors operating before, during, and after medical college, are involved in any individual's career decision. Future studies, should consider the influences on the specialty preference of students from many institutions, across several states, and over many years. Further studies are clearly needed to identify which unidentified factors impact on graduates' career preferences and which of these can be manipulated to influence career preferences in a particular direction, bearing in mind that

influencing career preference in one direction may have unpredictable and unwanted effects on preferences in another direction, with strategies to cope with the consequences.

The results of this study should be viewed in the context of a limitation. Since the study was only conducted in one medical college. Thus, the results may not be generalized to the entire country. However this study serves as a pilot for future, more comprehensive cohort studies following up the students from the early years in medical college to the actual time they choose the specialties.

CONCLUSION

The most preferred specialty preferences of medical students at UP Rural Institute of Medical Sciences and Research, Saifai were radiodiagnosis, orthopaedics, obstetrics and gynaecology, and paediatrics. Future studies should consider the influences on the specialty preference of students from other institutions, across other states in India, and over the early years of clinical practice. Innovativeness and dedication on the part of teachers can arouse the interest of students during posting, so that specialty choice can be more evenly spread to meet national health manpower needs.

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REFERENCES

[1]. Linzer M, Slavin T, Mutha S, et al. Admission, recruitment, and retention: finding and keeping the generalist-oriented student. SGIM Task Force on Career Choice in Primary Care and Internal Medicine. J Gen Intern Med 1994; 9(4 Suppl 1): S14-23.
[2]. Apker J, Eggly S. Communicating professional identity in medical socialization: considering the ideological discourse of morning report. Qualitative Health Research 2004; 14(3): 411-429.
[3]. Gorenflo DW, Ruffin M, Sheets KJ. A multivariate model for specialty preference by medical students. Journal of Family Practice 1994; 39(6): 570-576.
[4]. Aydin S, Yaris F, Sahin ME, et al. Students' perceptions of their undergraduate medical education. Saudi Med J. 2005; 26:1484-6.
[5]. Buddeberg-Fischer B, Klaghofer R, Stamm M, et al. Primary care in Switzerland – no longer attractive for young physicians? Swiss Med Wkly. 2006;136: 416-24.
[6]. Huda N, Yousuf S. Career preference of final year medical students of Ziauddin Medical University. Educ Health (Abingdon). 2006;19: 345-53.
[7]. Haq CL, Albanese MA, Linzer M, et al. Factors distinguishing medical students' career interests during a period of declining interest in generalist careers. Fam Med. 2002; 34: 640-1.
[8]. Howe A, Ives G. Does community-based experience alter career preference? New evidence from a prospective longitudinal cohort study of undergraduate medical students.
Med Educ. 2001; 35: 391-7.
[9].Kumar R. Ophthalmic manpower in India—need for a serious review. Int Ophthalmol 1993;17: 269–75.
[10]. Hospitals sans psychiatrists. The Tribune—Chandigarh online edition, 2 Mar 2000. Available at http://www.tribuneindia.com/2000/20000302/haryana.htm #14.
[11]. India—Support to people with schizophrenia. Available at http://www.who.int/ mental_health/policy/en/India_support_schizophrenia.pdf .
[12]. Dussault G, Franceschini MC. Not enough there, too many here: Understanding geographical imbalances in the distribution of the health workforce. Hum Resour
Health 2006; 4:12. Available at http://www.human-resources-health.com/ content/4/1/12.
[13]. Lal P, Malhotra C, Nath A, et al. Career aspirationas and apprehensions regarding medical education among first year medical students in Delhi. Indian J Community Med 2007; 32: 217–18.
[14]. Buddeberg-Fischer B, Klaghofer R, Abel T, et al. Swiss residents' speciality choices—Impact of gender, personality traits, career motivation and life goals. BMC Health Serv Res 2006; 6: 137. Available at http://www.biomedcentral. com/1472-6963/6/137.
[15].Khader Y, Al-Zoubi D, Amarin Z, et al. Factors affecting medical students in formulating their specialty preferences in Jordan. BMC Med Educ 2008; 8: 32. Available at http://www.biomedcentral.com/

1472- 6920/8/32.
[16]. Harris MG, Gavel PH, Young JR. Factors influencing the choice of specialty of Australian medical graduates. Med J Aust 2005; 183(6): 295-300.
[17]. Zarkovic A, Child S, Naden G. Career choices of New Zealand junior doctors. N Z Med J 2006; 119(1229): U1851.
[18]. Wright B, Scott I, Woloschuk W, et al. Career choice of new medical students at three Canadian universities: family medicine versus specialty medicine. Cmaj 2004; 170(13): 1920-1924.
[19]. Chang PY, Hung CY, Wang KI, et al. Factors influencing medical students' choice of specialty. J Formos Med Assoc 2006; 105(6): 489-496.
[20]. Ohtaki J, Fujisaki K, Terasaki H, et al. Specialty choice and understanding of primary care among Japanese medical students. Med Educ 1996; 30(5): 378-384.
[21]. Japanese Academy of Family Medicine [http://jafm.org/].
[22]. Mariolis A, Mihas C, Alevizos A, et al. General Practice as a career choice among undergraduate medical students in Greece. BMC Medical Education 2007; 7: 15.
[23]. Avgerinos ED, Msaouel P, Koussidis GA, et al. Greek medical students' career choices indicate strong tendency towards specialization and training abroad. Health Policy 2006; 79: 101-06.
[24]. Dorsey ER, Jarjoura D, Rutecki GW. The influence of controllable lifestyle and sex on the specialty choices of graduating U.S. medical students, 1996–2003. Acad Med 2005; 80: 791-6.
[25]. Egerton EA. Career preferences enquiry among Queen's University Medical undergraduates and graduates: a follow-up. Medical Education 1983; 17: 105-11.
[26]. McCord JH, McDonald R, Leverson G, et al. Motivation to pursue surgical subspecialty training: is there a gender difference? J Am Coll Surg 2007; 205: 698-703.
[27]. Salter A. Gender and choosing a specialty. Student BMJ. 2007; 15: 313-314.
[28]. Sanfey H, Saalwachter S, Nyhof-Young, et al. Influence on medical student career choice: Gender or generation? Arch Surg. 2006; 141: 1086-1094.
[29]. Wendel TM, Godellas CV, Prinz RA. Are there gender differences in choosing a surgical career? Surgery. 2003; 134: 591-596.
[30]. Gargiulo DA, Hyman NH, Hebert JC. Women in surgery: do we really understand the deterrents. Arch Surg. 2006; 141: 405-407.
[31]. Barker DP, Buss PW. A career in paediatrics? A survey of paediatric senior house officers in England and Wales. Arch Dis Child. 1993; 68(6): 752-753.
[32]. Hostler SL, Gressard RP. Perceptions of the gender fairness of the medical education environment. J Am Med Wom Assoc. 1993; 48: 51.
[33]. Carr PL, Szalacha L, Barnett R, et al. A "ton of feathers": gender discrimination in academic medical careers and how to manage it. J Womens Health (Larchmt). 2003 Dec; 12(10): 1009-18.
[34]. Ocheke AN, Ocheke ON, Musa J, et al. The impact of HIV/AIDS epidemic on the choice of specialties among medical students and house officers in Jos, Nigeria. Nigerian Journal of Medicine : Journal of the National Association of Resident Doctors of Nigeria .2008; 17(2): 201-204.
[35]. Yousef K, Dema AZ, Zouhair A, et al. Factors affecting medical students in formulating their specialty preferences in Jordan. BMC Medical Education. 2008; 8:32.
[36]. Newton DA, Grayson MS, Thompson LF. The variable influence of lifestyle and income on medical students' career specialty choices: data from two U.S. medical schools, 1998-2004. Acad Med. 2005; 80: 809-14.
[37]. Saigal P, Takemura Y, Nishiue T, et al. Factors considered by medical students when formulating their specialty preferences in Japan: findings from a qualitative study. BMC Med Educ 2007; 11: 7-31.
[38]. Pawełczyk A, Pawełczyk T, Bielecki J. The effect of some factors on medical student specialty choice of non-primary care–a synthesis of the literature. Pol Merkur Lekarski. 2007; 22: 575-9.
[39]. Millan LR, Azevedo RS, Rossi E, et al. What is behind a student's choice for becoming a doctor? Clinics 2005; 60: 143-50.
[40]. Ananthakrishnan N. Acute shortage of teachers in medical colleges: Existing problems and possible solutions. NMJI 2007; 20(1): 25.

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