Original Article

Career Related Choices of Medical Students from an International Medical College of Karachi, Pakistan

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ABSTRACT

OBJECTIVES: To determine the attitudes of international undergraduate medical students in a medical college from Pakistan towards different specialties as career choices and to determine the reasons in making a career choice.

MATERIAL AND METHODS: A cross sectional study, conducted by distributing a questionnaire to semester 1, 3 and semester 7, 9 students studying at Dow International Medical College, Karachi in January 2012. Questionnaire consist of questions regarding demographic characteristics, specialty choices and reasons that influenced career choice was distributed to 338 students in selected study semesters, however 148 students answered the questionnaire. Students were asked to choose the most preferred career from a list of 14 specialty options that were listed after literature review and faculty feedback. Reasons for specialty preference were also asked from the students.

RESULTS: A total of 148 students, (including 54% males and 46% females) responded to the questionnaire. Surgical (31%) and Medical (23%) specialties were the two most frequently selected specialties. Pediatrics was chosen by 18% of the students. Gender also had an influence for the choice of the specialty. Most preferred reasons for choosing a particular specialty were high income potential (37%), influence of a role model in the specialty (32%), inclination for specialty before medical school (30%) and others.

CONCLUSIONS: Surgery, Internal Medicine, Pediatrics, and Dermatology were the most preferred specialty preferences of medical students at Dow International Medical College Karachi. Medical students' career choices regarding various specialties are affected by several factors.

KEY WORDS: Career Choice, Specialty Choice, International Medical Students.

INTRODUCTION

Medical students career preferences has remained an area of interest for medical educators and state departments concerned with health manpower planning.[1,2] Career related inclinations have been found among medical school entrants and even among applicants.[3,4]

The choices made by medical students regarding their career specialty is not only an important decision for their future but it also affect the availability and supply of medical personnel and the quality of service the country's health system is able to provide.[5,6] Research so far done has identified several factors that affect students' career selection such as demographics, academic performance, income, social status and personality attributes, duty hour requirement and expected income from practicing the selected specialty.[7,8,9] Experiences and views during the undergraduate years may contribute to a doctor's perception of future career choice.[10] Career preference at the time of entering medical school may also be a significant predictor of students' eventual career choice.[11,12,13,14]

Several classifications for studying career choices of medical students are found in the literature including selecting of primary care verses non primary care specialties, family medicine verses specialty medicine, career choices at the beginning and end of medical studentship, specialties demanding more interaction with people and those involving more technical expertise.[13,15,16]

The aim of this study was to determine the attitudes of undergraduate medical students with international background in a medical college from Pakistan towards different specialties as career choices and to determine the factors important to them in making a career choice.

MATERIALS AND METHODS

Questionnaire: A questionnaire was designed by the study team after thorough review of literature and feedback from colleagues. It contained information related to demographics, prior education level and country of receiving the high school degree, study semester, specialty choice questions and reasons for

choosing specialty.

Study Setting: All students enter for a 5 year course (comprise of 10 study semesters) at the Dow University of Health Sciences, Karachi. There are three medical colleges affiliated with the university and the study was carried out at Dow International Medical College, Karachi. This college is similar to other medical colleges affiliated with the university in terms of duration of study, curriculum and examination pattern but differs in that its most students have foreign nationality as they are off springs of Pakistani nationals working and settled abroad since long time.

Study Participants: Semester 1 and 3 (pre-clinical), and 7 and 9 (clinical) students were contacted at the end of their lectures and the purpose of study was explained. The total number of students enrolled in semester 1 and 3, and 7 and 9 are 192 and 154 respectively. A verbal informed consent was taken from the students. A total of 148 students (84 from preclinical semesters and the rest from clinical semesters) returned the filled questionnaire. The sample was demographically similar to the overall student population. This study was conducted in January 2012.
Each questionnaire took approximately 10 minutes to complete. The same study semesters were contacted twice for inclusion of those who missed the first contact.

Analysis: The data were entered and analyzed using SPSS 16.0. Mean and standard deviation were calculated for continuous variables such as age and proportion were calculated for the categorical variables including gender, study semester, nationality, country of high school etc. Difference between categorical variable for statistical significance was assessed by chi square test at a significance level of <0.05.

RESULTS

Of the 338 students enrolled in the selected study semesters, 148 (43.7%) filled out the questionnaire. The mean (± SD) age of the respondents was 20.5 ± 2.2 and 54% of them were males. A significant number (43.5%) of the respondents was having nationality of USA, 42% were Pakistani nationals and 8.7% were Canadian nationals. The country of high school completion was USA (46.5%), Canada (14.1%), Pakistan and Middle East (16.1%) each.
The educational background of the parents of international medical students in our survey is depicted in **Table I**. A total of 82 (61.1%) of the students had a father with either a bachelor or master degree in science including MBBS degree. About twenty five percent students had father working in a health related filed and 52 (39%) students' mothers were also having a bachelor or master degree in science. The specialty preferences of medical students are shown in **Table II**. Various reasons given by students for the choosing medical career are detailed in **Table III**. High income potential (36.4%), influence of a role model in the specialty (32.4%), inclination for specialty before medical college, Physician-patient interaction involved with specialty practice, and interest in research (29.7% each) were the most influential factors on their preference of specialty. Other persuasive factors were reputation of the specialty (27.0%), intellectual challenge (22.9%), and acceptable hours of practice (21.6%).

TABLE I: THE EDUCATIONAL PROFILE OF THE PARENTS OF THE STUDENTS AT A MEDICAL COLLEGE IN KARACHI, PAKISTAN (n=134)

Father's Education	Number (percent)
College	8 (5.9)
MBBS (including BSc)	54 (40.2)
BA	12 (8.9)
MSc	28 (20.8)
MA	14 (10.4)
Others (FCPS, PhD, CA)	18 (13.4)
Father's Occupation	
Business	20 (14.9)
Accounting	12 (8.9)
Health related field	34 (25.3)
Engineering	24 (17.9)
Others	44 (32.8)
Mother's Education	
College	10 (7.5)
MBBS (including BSc)	48 (35.8)
BA	32 (23.8)
MSc	4 (3.0)
MA	18 (13.4)
Other (Accountancy, PhD, BEd)	10 (7.5)
Less than College level	12 (8.9)

TABLE II: SPECIALTY PREFERENCES EXPRESSED BY INTERNATIONAL MEDICAL STUDENTS AT A MEDICAL COLLEGE IN KARACHI, PAKISTAN (n=148)

Career Specialty Choice	Gender		Total
	Males n (%)	Females n (%)	n (%)
Surgery*	28 (60.9)	18 (39.1)	46 (31.1)
Internal Medicine**	26 (76.5)	8 (23.5)	34 (23.0)
Paediatrics	10 (38.5)	16 (61.5)	26 (17.6)
Dermatology	2 (20.0)	8 (80.0)	10 (6.8)
Obstetrics and Gynaecology	4 (66.7)	2 (33.3)	6 (4.1)
Anesthesia	4 (66.7)	2 (33.3)	6 (4.1)
Basic Medical Sciences	2 (33.3)	4 (66.7)	6 (4.1)
Others***	0 (0.0)	10 (100.0)	10 (6.8)
Undecided Career Specialty	4 (66.7)	0 (0.0)	4 (2.7)

*The Surgical Specialties include General Surgery and sub-specialties like Orthopedics, ENT and Ophthalmology
**The Medical Specialties include Internal Medicine and sub-specialties like Cardiology and Gastroenterology.
***Others include Family Medicine, Community Medicine, Radiology and Psychiatry

TABLE III: REASONS FOR PREFERRING A SPECIFIC MEDICAL SPECIALTY BY THE STUDY PARTICIPANTS

Reasons for Preference	n (%)
High income potential	54 (36.4)
Influence of a role model in the specialty	28 (32.4)
Inclination for specialty before medical school	44 (29.7)
Physician-patient interaction	44 (29.7)
Interest in research	44 (29.7)
Specialty reputation	40 (27.0)
Intellectual challenge	34 (22.9)
Acceptable hours of practice	32 (21.6)
Advice from parents	26 (17.5)
Easily compatible with having a family	26 (17.5)
Involves close interaction with other specialties	24 (16.2)
Focus on urgent care	22 (14.8)
Diversity of patients	22 (14.8)
Interest in long term relations with patients	20 (13.5)
Acceptable on-call schedule	20 (13.5)
Advice from practicing physicians	16 (10.8)
Easier to get into residency program	14 (9.4)
Advice from friends	14 (9.4)
Focus on community health	12 (8.1)
Duration of residency program	10 (6.7)
Results of interventions immediately available	10 (6.7)
Focus on non-urgent care	8 (5.4)
Gender distribution in the specialty	8 (5.4)
Others	10 (6.7)

*Multiple options were allowed
Others include personal interest, unknown reasons and advice from faculty members.

DISCUSSION

This study focused on career preferences of international students at a medical college in Karachi, Pakistan as well as upon the factors that lead to such preferences. The results of this study regarding career preferences for Surgery, Medicine and Paediatrics are consistent with others national and international studies on the subject.[17-19] Dermatology was the 4th most commonly chosen speciality in this series which is in contrast to other studies where Obstetrics and Gynaecology was the 4th commonest speciality [17-19]. It is also interesting to note that this preference for Dermatology is shown by female students of this study. The probable reason may be that our students having foreign nationality are more aware of the increasing scope and popularity of Dermatology both in curative and cosmetic domains. Study conducted by Rehman A et all from Pakistan, though showed high inclination for Dermatology but that also depicts the same proportion of interest for Obstetrics and Gynaecology.[20] It is possible that female students having foreign background are different from Pakistani and other developing country female students and hence do not find the

same reasons for choosing Obstetrics and Gynaecology as a preferred specialty. Although it has been shown that changes in career choices occur with students' progression through medical school probably due to the influence of curriculum and academic environment.[21] However, Carline and Greer when compared the early career choices with the actual practice specialty of medical graduates found 70% stability rate.[12] The result of this study, that the basic medical sciences and family medicines were less preferred as career, is consistent with other studies[17, 22, 23]. The probable explanation may be the fact that while choosing a particular speciality financial reward is a major motivating factor, basic medical sciences and family medicines generally having least financial reward, are therefore not favourite among medical students. This finding is thought provoking, for those concerned with planning and organization of medical education in Pakistan, to restructure the system in a way that basic medical sciences should also become equally preferred speciality if we have to strengthen our medical education. The second most popular reason for a particular specialty selection by our student respondents was influence of a role model. Role models were found to influence students both in positive as well as in negative manner. Research has found that demonstration of enthusiasm and a sincere love for their work were the characteristics that inspired the students to follow their role models. It is also important to note that negative role models can drive the students away from some specialties[24]. Perhaps it is in this connection that faculty members from basic sciences, by changing their teaching methodology and style, become role model urging medical students to prefer basic sciences as future career. Role of parents' education on their children career selection is also important.[25] Ninety four percent of fathers and 83% of mothers of our survey respondents had a bachelor or higher degree. The majority of the fathers belonged to medical and engineering and other science fields. This shows that the science graduates still prefer medical field as a favourite choice for their children.

CONCLUSION

High income potential, influence of a role model in the specialty, inclination for specialty before medical school, more opportunities for physician-patient interaction and interest in research are major motivating factors for the preferring a particular specialty. Health planners should take appropriate steps to make less preferred specialties like basic medical sciences and family medicines more attractive, so that system become homogenous.

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