

FACTORS AFFECTING MEDICAL SPECIALTY PREFERENCES AND ASSOCIATED GENDER DIFFERENCES IN FOURTH YEAR MBBS STUDENTS

Noreen Rahat Hashmi, Seema Daud, Iram Manzoor
Saleha Maqsood, Sana Aizaz, Danish Siddiqui, Samiullah Baig

Department of Community Medicine
Lahore Medical and Dental College, Lahore - Pakistan

ABSTRACT

Objective: To identify factors affecting medical specialty preferences and associated gender differences in Fourth Year MBBS students.

Material and Methods: This was a Cross-sectional survey conducted on fourth year MBBS students of Lahore Medical and Dental College through a Preformed Structured questionnaire by non probability sampling technique. The student were told that the survey was voluntary and were given a choice of refusal but fortunately all the students in the class participated in the survey (n=120). Data was collected during January 2009. Data was analyzed using SPSS v. 16.0. Descriptive statistics were computed, and the relationship between specialty preference and categorical variables (gender, reasons for choosing a particular specialty) were evaluated using Pearson Chi square test. A calculated p value of ≤ 0.05 was considered statistically significant.

Results: Our study revealed that students selected surgery [40(33%)] as the most preferred post graduate specialty followed by medicine [17(14%)] and Obstetrics/Gynecology [16(13%)] respectively. Female medical students picked Obstetrics /Gynecology [16(24%)] while male medical students opted for Surgery as their most preferred specialty [28 (51%)]. This gender difference in specialty preference was statistically significant with a p value of < 0.00 .

The most common reasons for choosing a particular specialty were reputation (general perception among people) of the specialty [46(38%)] and anticipated income [22(18%)].

Conclusion: The most common reasons cited by students for choosing a particular specialty was reputation of the specialty followed by anticipated income and advice from parents. Gender differences were found in career preferences.

Key words: Medical students, Post graduate medical specialty, Gender, Family income.

INTRODUCTION

Career choice of medical students and young doctors is a topic that continues to attract the interest of medical educators and health service providers¹. Changing population demographics and alterations in the practice of medicine has resulted in relative shortages of various medical specialty groups². The career preferences of medical students play an important role in determining the number of health care specialists in the future. Studying career preferences can help provide important health information to aid in planning educational programs, setting priorities, and planning for the provision of adequate health care to general public³. Research about the student's attitudes in

selecting a particular medical specialty could serve as a key to understanding the dynamics of distribution of doctors among various medical specialties. This insight would be very valuable in understanding and hopefully recruiting doctors in specialties where there is especially shortage of manpower⁴.

A medical student can be easily influenced while choosing any specialty⁵. There are however a number of factors that influence his final career choice. A lot of work concerning the factors related to medical careers has been done around the world²⁻¹⁰ but relatively little data is available on factors influencing Pakistani medical graduates on choosing a particular specialty. According to

international studies, a variation is seen in the factors that drive students to make specific career choices. These factors are changing in the last decades¹¹. Students enter into medical profession with certain mindsets, but the knowledge acquired, pre-clinical and clinical experiences during the course of medical studies may influence their final specialty preference^{6, 8, 12}. It has been noted that currently medical students tend to opt for specialties with controllable lifestyles^{9,10,13,14}. Personal interest, intellectual challenge, financial rewards, reputation and prestige of specialty also are strong determinants of specialty preference^{2,4,8,13-15}. Gender and role models also affect career choice of medical specialty^{7,11,13,16}.

According to a research conducted in Pakistan at Ziauddin Medical University, the most preferred specialties were internal medicine, general surgery and pediatrics. Personal interest, role models, clinical rotation, intellectual challenge, professional independence, fixed working hours and specialty prestige and financial rewards were the most important factors influencing the students in selecting a particular specialty¹⁷.

This study was conducted at Lahore Medical and Dental College (LMD&C), a private medical college, affiliated with University of Health Sciences (UHS), Lahore. The purpose of the study was to identify factors affecting the specialty preferences and associated gender differences in Fourth Year MBBS medical students.

MATERIAL AND METHODS

The study design was a Cross-sectional survey conducted on fourth year MBBS students of Lahore Medical and Dental College. All the students participated in the survey (n=120). A Preformed Structured questionnaire was used for data collection. The variables checked in the questionnaire were respondent's age, sex, premedical education, marital status, parent's occupation, total monthly income of the family, student's choice of postgraduate medical specialty and the factors that influenced their choice. Sampling technique was non probability technique and all the students in the class participated in the survey (n=120). Data was collected during January 2009. Inclusion criteria all the fourth year MBBS students who agreed to participate in the survey. Exclusion criteria used was those students who refused to participate in the study.

Percentages were calculated for various variables the studies. Data was presented in the form of tables and graphs. Data was analyzed using the Statistical Package for Social Sciences (SPSS version 16.0). Descriptive statistics were

computed, and the relationship between specialty preference and categorical variables (gender, reasons for choosing a particular specialty) were evaluated using Pearson Chi square test. A calculated p value of ≤ 0.05 was considered statistically significant.

RESULTS

The demographic characteristics and the family income of the respondents are shown in Table 1 and 2.

Table 1: Demographic characteristics of the study population (n=120)

Variables	n(Percentages)
Males	55(46%)
Females	65(54%)
Single	116(97%)
Age group 21-25 years	120(100%)

Table 2: Family income of the respondents (n=120)

Family income per month	n(Percentages)
>90,000	66(55%)
70,000 -89,000	23(19%)
50,000 -69,000	20(17%)
<50,000	11(9%)
Total	120(100%)

Table 2 shows that the majority of medical students 66(55%) had a family income greater than 90,000 rupees per month.

Most of the students 59% had no family member among the students who did have a family member in their specialty of choice it was mostly their father (9%), uncle (8%), or mother (8%) (Table 3).

Table 3: Family member in the chosen specialty (n=120)

Family member in the Chosen specialty	Numbers / Percentages (%)
No family member in the chosen specialty	72(59%)
Father	11(9%)
Uncle	9(8%)
Mother	9(8%)
Brother	7(6%)
Sister	6(5%)
Aunt	4(3%)
Other	2(2%)
Total	120(100%)

Most of the students n=40(33%) preferred surgery as their career choice followed by General Medicine n=17 (14%), Obstetrics and Gynecology n=16(13%) and Pediatrics n= 8(11%) respectively (Figure 1).

Gender differences were noted in selection of specialty by the medical students and as is shown in figure 2, out of 65 females students, n=16 (24%) selected Obstetrics /Gynecology while out of 55 male medical students, n=28 (51%) selected Surgery as the most preferred specialty with a p value of <0.05 using chi-square test showing that this gender difference in medical specialty preference was statistically significant.

The most common reasons for choosing a particular specialty were reputation of the specialty n=46 (38%) anticipated income n=22 (18%) and advice from parents n=18 (15%). The responses

marked as others, n=14(12%) were: love of children; personal interest in the field; challenging; artistic skill required; nobility of profession; easy; and not decided (Figure 3).

In terms of gender differences in specialty choice preferences, in 55 male medical students, the most common reason was the reputation of the training program n=22 (40%) followed by anticipated income n=14 (25%). In 65 female medical students, the most common reason was reputation of the training program n= 24(37%) too followed by advice from the parents n=11(17%) instead of anticipated income (Figure 4).

Figure1: Specialty chosen by the all respondents

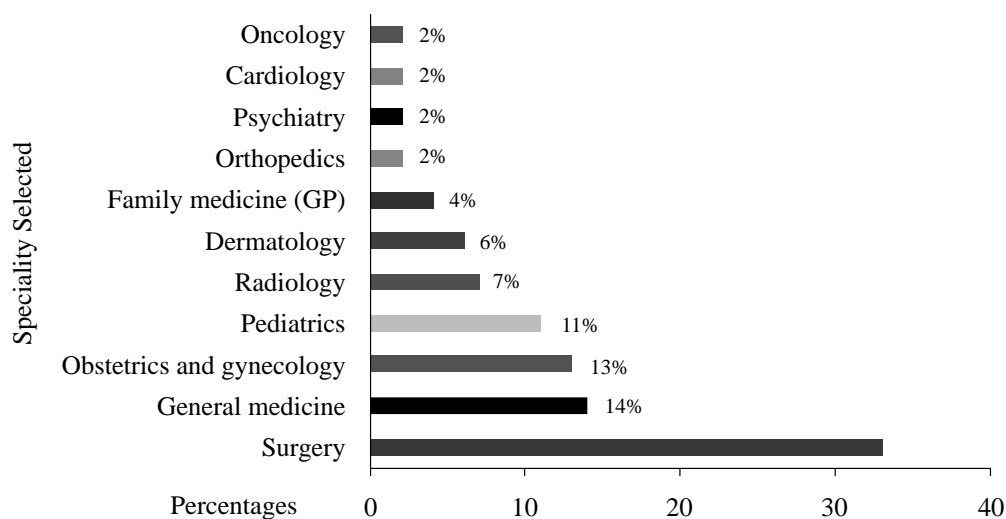


Figure2: Gender differences in Specialty chosen by the respondents

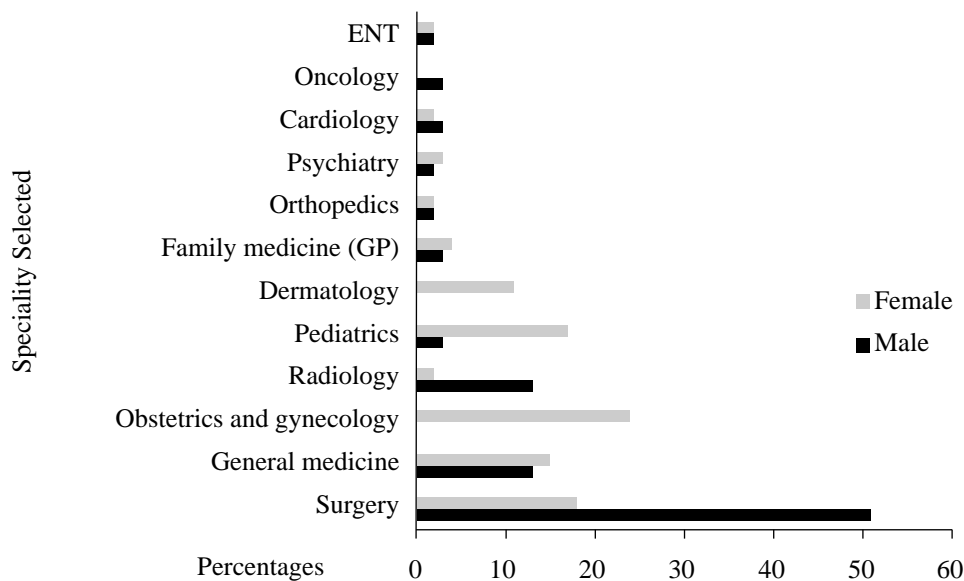
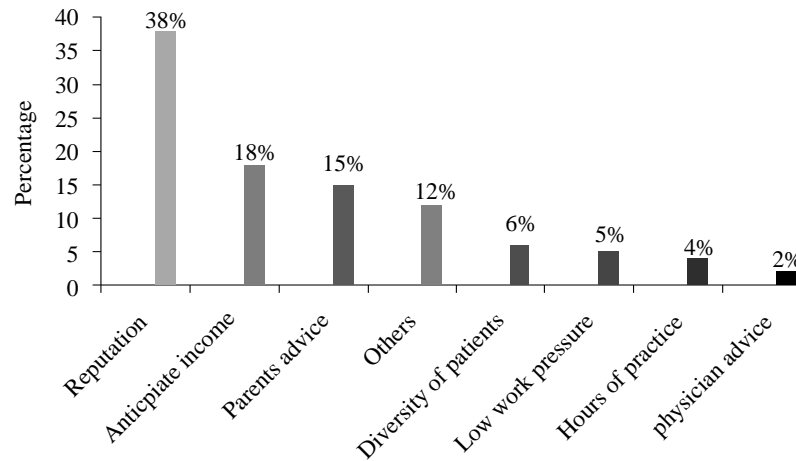
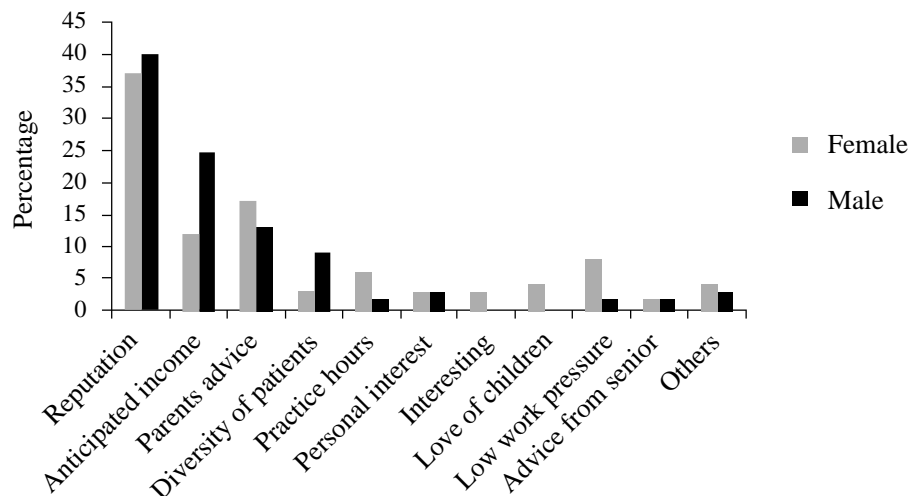


Figure 3: Reasons for choosing a specialty**Figure 4: Gender differences among specialty preference**

DISCUSSION

In our study we noted that all of our respondents were in the age range 21-25 years. It has been shown in studies that age of the medical student influences the choice of medical specialty. In a similar study done in Canada it was noted that students with an average age of 23 years selected surgery as their preferred choice of medical specialty compared to those medical students with an average age of 25 years who selected Family medicine as their most preferred choice of medical specialty¹⁴. In our study females (54%) outnumbered male medical students (46%). This is consistent with data from USA where it was noted in that the number of females entering into the medical profession had been increasing for the past 3-4 decades and according to most recent U.S. statistics almost 50% of students getting into medical schools were females¹⁸. There is a dearth

of statistical data available regarding this aspect in Pakistan but one study quoted similar pattern of more females entering into medical school compared to male medical students¹³.

Our study revealed that a majority of respondents (59%) did not have a family member working in the specialty of their choice. Among the students who did have a family member in their specialty of choice it was noted that it was mostly their father (9%) or mother (8%). Majority (55%) of the medical students in our study had family income greater than 90,000 rupees/month and maybe had more flexibility in making their individual choices rather than being influenced by family economic pressures. Another study noted that majority of family members who did play a role in career preference of medical students were either surgeons or anesthetists themselves¹⁹. Similar studies in Ireland and Britain also noted that the

advice from family and friends was an important influencing factor for medical interns in choosing a particular medical specialty we have noted this in the beginning of the paragraph²⁰.

Most of the students in our study preferred surgery (33%) as their career choice followed by General medicine (14%) and Obstetrics and Gynecology (13%). This is similar to a study done in Canada which showed that 80% students of medical students opted for Surgery as their most preferred career¹⁴. In Turkey however cardiology was the most preferred medical specialty (25%) followed by pediatrics¹⁵. Our study results are however were not consistent with another similar study done in Pakistan, where it was noted that most students selected Internal medicine (37%) as their most preferred medical specialty followed by Surgery (21%)¹⁷.

Gender differences were noted in selection of specialty by the medical students. In our study majority of female medical students selected Obstetrics /Gynecology (24%) while male medical students selected surgery as their most preferred specialty (51%). Our results are consistent with another study in Poland where it was noted that men favored surgery whereas women preferred gynecology and internal medicine²¹. In similar studies done in Turkey similarly it was again seen that female students preferred obstetrics and gynecology while male students preferred cardiology and ophthalmology¹⁵. In Jordan the most preferred specialty among male students was Surgery (52%), followed by internal medicine (15%). The most preferred specialty among female students was gynecology (31%), followed by surgery (15%)³. In similar studies in Swiss and Norwegian medical students it was similarly noted that male residents more often chose surgical specialties, whereas females selected pediatrics, gynecology & obstetrics, and anesthesiology^{7,22}.

In our study the most common reasons for choosing a particular specialty were reputation of the specialty (38%) anticipated income (18%) and advice from parents (15%).

In similar studies in Europe, human interest (72%), and enthusiasm (68%) were the most important factors contributing to a particular career choice. Among job characteristics, promotion prospects (58%) working conditions (48%) were important reasons influencing medical specialty choice¹¹. In Australia 79% of respondents rated appraisal of their own skills and aptitudes as the most influential factors in their choice of selecting a particular medical specialty⁸. In two USA based studies it was noted that lifestyle choice was a strong determinant factor in medical specialty selection and students opted for

specialties with controllable lifestyles^{9,10}. In similar studies in Jordan it was noted that interest in the field (44%) and the challenges offered by the field (31%) were the most important factors in determining a particular specialty³. In studies elsewhere it has also been shown economic factors and amount of future income were very important considerations for medical students in selecting a specialty^{20, 23}.

According to a survey conducted at Ziauddin Medical University in Karachi Pakistan the factors that influenced the medical students in choosing a particular medical specialty were personal interest (87%), influence of role models in medical college (68%), clinical rotation experience (67%) and intellectual challenge (63%)¹⁷. A similar study conducted at Aga Khan University, Karachi, Pakistan showed that personal skills and abilities, opportunity for growth, high income prospects and presumed prestige were the major determinants for selecting a particular specialty by medical students¹³.

When we look at the gender differences of specialty choice preferences we see that in males the most common reason for choosing a specialty were the reputation of the training program (40%) followed by anticipated income (25%). In Females however we see that the most common reason were reputation of the training program (37%) followed by advice from the parents (17%). In a similar study by Kao et al it was noted that female students cared more about personal intelligence /ability preference than male students in selecting a specialty²⁴. Our study results are different from another study done in USA where it was noted that both male and female medical students expressed similar and significant rates of declining interest in specialties with uncontrollable lifestyles²⁵.

LIMITATIONS OF THE STUDY

The study was conducted in a private medical college and only in one class. This could limit generalization of the results to all the medical students. This study was a cross-sectional survey so time trends could not be checked. We did the study on fourth year MBBS students whose choices may change once they go into final year MBBS or start House job.

CONCLUSION

Students in our study selected surgery as the most preferred post graduate specialty followed by medicine and Obstetrics /Gynecology. The most common reasons cited by students for choosing a particular specialty was reputation of the specialty followed by anticipated income and advice from parents. Gender differences were found in career

preferences as male students preferred surgery and female medical students preferred Obstetrics/Gynaecology for their future careers.

RECOMMENDATIONS

Future studies could be done on a larger sample of medical students and repeat surveys of the cohort of students could be valuable for checking the time trends.

REFERENCES

- Dambisya YM. Career Intention of UNITRA Medical Student and their perception about the future. *Educ Health* 2003;16:286-97.
- Zarkovic A, Child S, Naden G. Career choice of New Zealand junior doctors. *N Z Med J* 2006;119:U1851.
- KhaderY, Al-Zoubi D, Amarin Z, Alkafagei A, Khasawneh M, Bargar S, et al. Factor affecting medical students in formulating their specialty preference in Jordan. *BMC Med Educ* 2008;8:32.
- Chang PY, Hung CY, Wang KI, HuangYH, Chang KJ. Factors influencing medical students' choice of specialty. *J Formos Med Assoc* 2006;105:489-96.
- Petrides KU, McMances IC. Mapping medical careers: questionnaire assessment of career preferences in medical school applicant and final year students. *BMC Educ* 2004;4:18-22.
- Saigal P, Taleenura Y, Nishuie T, Fetter MD. Factors considered by medical students in formulating their specialty preference in Japan: findings from qualitative study. *BMC Med Educ* 2007;11:7-31.
- Buddeberg FB, Klagohar JR, Abel T, Buddeberg C. Swiss resident's specialty choice-- impact of gender, personality traits, career motivation, and life goals. *BMC Health Serv Res* 2006;23:137.
- Harris MG, Gavel PH, Young JR. Factors influencing the choice of specialty of Australian Medical graduates. *Med J Australia* 2005;183:295-300.
- Newton DA, Grayson MS, Thompson LF. The variable influencing of life style and income on medical students career specialty choice: data from two US medical schools (1998-2004). *JAMA* 2005;80:809-14.
- Dorsey ER, Jarjoura D, Rutecki GW. The influence of controllable life style and sex on the specialty choice of graduating US medical students 1996-2003. *Acad Med* 2005;80:791-6.
- Soethout MBM, Ten Cate TJ, Ven der wal G. Factors associated with the nature timing and stability of specialty career choices of recently graduated doctors in European countries, a literature Review. *Med Educ* 2004;9:24.
- Morrison JM, Murray TS. Career preference of medical students: influence of a four-week attachment in general practice. *Br J Gen Pract* 1996;46:721-5.
- Avan BI, Raza SA, Hamza H, Khokhar S, Awan F. Factor influencing the selection of surgical specialty among Pakistani medical graduates. *J Postgrad Med* 2003;49:197-200.
- Scott IM, Adela NM, Gowans MC, Wright BJ, Brenvels FR. Choosing a career in surgery: factors that influence Canadian medical students interest in picking a surgical career. *Can J Surg*;51:371-7.
- Dikici M, Yaris F, Topsever P, Filiz T, Gurel F, Cubukcu M, et al. Factors affecting choice of specialty among first year medical student of Four universities in different regions of Turkey. *Croat Med J* 2008;49:415-20.
- Shelf MK, Mutha S. Role models guiding the future of Medicine. *N Eng Med* 1998;339:2015-7.
- Huda N, Yousaf S. Career preference of final year medical students of Ziauddin Medical University. *Educ Health (Abingdon)* 2006;19:345-53.
- Tagsi R, Guancial EA, Worobey CC. The gender gap in authorship of academic and medical literature-a 35 year perspective. *N Engl J Med* 2006;355:281-7.
- Khan FA, Hamdani GA. Factors Influencing Choice of anesthesia as a career in developing countries. *Middle East J Anesthesiol* 2007;19:149-57.
- Corrigan MA, Shields CJ, Redmond HP. Factors influencing surgical career choices and advancement in Ireland and Britain. *World J Surg* 2007;31:1921-9.
- Pawełczyk A, Pawełczyk T, Bielecki J. Differences in medical specialty choice and in personality factors among female and male medical students. *Pol Merkur Lekarski* 2007;23:363-6.
- Azizzadeh A, McCollum CH, Miller CC, Holliday KM, Shilstone HC, Lucci A Jr. Factors influencing career choice among medical students interested in surgery. *Curr Surg* 2003;60:210-3.
- DeWitt DE, Curtis JR, Burke W. What

- influences career choices among graduates of a primary care training program? *J Gen Intern Med* 1998;13:257-61.
24. Kao MY, Lu PH, Li MP. Medical student's specialty preferences and exploration of relevant factors. *Med Educ* 2000;4:23-37.
25. Lambert EM, Holmboe ES. The relationship between specialty choice and gender of US medical students, 1990-2003. *Acad Med* 2005;80:797-802.

Address for Correspondence:
Dr. Noreen Rahat Hashmi
Department of Community Medicine
Lahore Medical and Dental College, Lahore - Pakistan