

CAREER CHOICES AMONG MEDICAL STUDENTS; DOES GENDER INFLUENCE?

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ABSTRACT

Objective: To identify choices of medical specialties as career and to study how gender changes perception and choice of selection?

Study Design: Prospective mixed method sequential exploratory study.

Place and Duration of Study: Study was conducted on final year MBBS students of Allama Iqbal Medical College, from Apr 2014 to Apr 2016.

Material and Methods: Quantitative data and qualitative data were collected by a questionnaire and focused group discussion, respectively. Statistical analysis comprised of frequency and percentages for nominal variables, means and standard deviations for numerical variables respectively. For qualitative data, themes were compared between both sexes. Gender specific differences in specialty choice were tested by chi square-test using Pearson chi-square test. SPSS 21.0 was used

Results; Total 108 students participated in the research. Students selected internal medicine (31.5%) general surgery (19.4%) and family medicine (18.5%) in descending order. Preference for pediatrics was equal among males and females (21.3%). Significantly higher percentage of male students opted for internal medicine (males 46.2%, female 23.2%) and general surgery (males 33.3%, females 15.9%) as compared to female students (p -values of 0.01 and 0.03 respectively). More female opted for obstetrics and gynecology (30.4% females, males 5%) as compared to male students (p -value=0.002). The most common reason for choice among males and females differed significantly ($p=0.039$) in two areas only: one; "experience at medical school". two; "comfortable atmosphere at the specialty department" ($p=0.01$) with females feeling more strongly about it.

Conclusion: Males prefer internal medicine and general surgery whereas females choose gynecology and obstetrics preferentially. The reason for choice in both sexes differs with respect to two factors: "experience at medical school" and "comfortable atmosphere at the specialty department" especially for females.

Keywords: Career, Gender, Income, Interest, Lifestyle, Role model, Specialty.

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INTRODUCTION

Career is the backbone of professional life. This is one of the most important decisions one has to make towards the end medical school. In recent years there has been a growing awareness of the importance of career preference in medicine as it directly affects student learning and academic performance. Logically speaking, knowledge about these factors is important both for individual as well as policy makers¹.

Many factors influence the specialty choices of medical students. These factors range from individual characteristics such as age, gender,

influence of role models, characteristics of the specialty itself and the continuing development of new technologies²⁻⁵. Thus choice of career is a blend of personal interest, aptitude, socio-economic, cultural aspects and cognitive factors.

Role of gender in making a selection of career needs special consideration. Males and females have different aptitudes, social roles and preferences which dictate their choices in selection of career. Now more females are entering medical profession so this aspect has acquired more importance. International studies show that males prefer technical and instrument-oriented specialties and are motivated by salary and status. On the contrary, females prefer specialties which give comprehensive care to patients where relationship is the essence of

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medical treatment. Prime mover of this choice is humanistic and altruistic approach towards patients. Life-style is another factor, for instance, one recent study found that females preferred pediatrics and gynecology as it gives controllable life style⁶.

Gender affects student’s intended choice of career during their clinical attachment. Gender based role modeling during clinical placement

have negative experience about surgery while males have same feelings about gynecolog⁹. Paradigmatic trajectory highlights gender based mindset shaping up one's perception of specialty choice with surgery having a strong appeal for males and gynecology for females¹⁰.

The attitudes of students and the reasons for choosing a particular career are of great importance for policy makers around the world

Table-I: Female intended career.

Themes	Sub-themes	Comments Verbatim
Advice from Others	Parents	My parents wanted me to choose Gynecology. My friends went to gynea so I preferred Gynea.
Future Work Conditions	Job security	There is more job security in gynea
	Life style	I like to work for limited times that I can give more time to family Anesthesia in more relaxing, it is financially rewarding I can plan my time for me and my family. It is controllable.
Interest In Specialty	Mastering specialty	Medicine is more organized. It has broad canvass. There is better prognosis in surgery in; (on the contrary) in medicine you have to go for longer (duration) of treatment and at the end you have only maintenance therapy and you are not (in fact) treating patient. I like medicine because medical specialists have idea about many diseases and they are more knowledgeable.
	Interest in procedures	I like doing procedures in medicine like LP, endoscopy
	Reward	Anesthesia it is relaxing and financially rewarding.
	Learning	There is lot of learning in this field (surgery). There are procedures (in surgery) instead of reading medicines and concept from books.
Role Model	Encounter with role model/ teacher or junior doctor	My father is tabeeb. He serves lot of orphans. I am inspired by him. I was taught surgery by Dr. BC. He was really good at surgery. He is my inspiration My friends chose gynea so I decided to opt for gynea
Inpiration	Movies	My inspiration is from movies
Work Load of Specialty	Lifestyle	It is difficult for me (to do surgery), because I am a female and when I grow up. I won't have much time to spare; obviously I would have a family. It is hectic.
		I want to live a peaceful life with no hectic routines and (specialty in which there are) no deaths. My aim is a peaceful life as a doctor.
Social Perception/ Cultural Role		People won't want to get surgery (from) a woman. They prefer a male, to operate upon them(so I opt for medicine)

has been shown to have a strong influence in selection of career⁷. Thus if female surgeons dominate in a unit, female students are likely to pursue it as career⁸. Enjoyable experiences of a specialty also increases the likelihood that he will pursue it in future and here again gender makes a difference in choosing career. Females

since in last few years more female medical students are entering medical profession. Unfortunately almost 50% females quit medical profession practice¹¹. Which is a big loss for human talent. Thus in spite of training, shortage of doctors persists. Many international studies have also been conducted on the important of

selection of career based on gender among medical students¹².

Current study was done to identify which specialties students choose and which factors help in making for such choices.

MATERIAL AND METHODS

This study was conducted at Allama Iqbal Medical College Lahore among students of final year MBBS from April 2014 to April 2016 after approval from the ethics review committee. A mixed method approach with sequential

through thick description and repeated reading until the categories that emerge are saturated¹³. These themes were incorporated into theme priori which are identified in the literature¹⁴. Final questionnaire was prepared for quantitative survey. In the second phase, a cross-sectional survey was pilot tested with 10 students, using a close-ended questionnaire, developed on the basis of the themes generated in content analysis of interviews. The purpose of this survey was to validate the responses received in the qualitative phase. The data thus generated was verified for

Table-II: Males intended career.

Themes	Sub-themes	Comments Verbatim
Interest in specialty	Target population	I am interested in kids I have so many kids in my family
	It is rewarding	(Pediatrics) is rewarding field .Parents contact doctor if their baby is sick as soon as possible. It is rewarding emotionally
	Primary interest	I want to be a neurologist because I want to do some original work in the field of neurology, about thinking and brain.
Role model	Parents/ teachers	My father was a doctor. Our professor Prof XYZ of medicine was big motivation to opt for MEDICINE.
	Doctors	Patients are very thankful (to my father who was a doctor) and their gesture inspired me to become a doctor.
Work conditions	Job availability	Government is giving more importance to child health. This means more job opportunities in pediatrics
	Income	As a pediatrician I can earn more.
	Life style	There is controllable time and less stress in pediatrics as compared to other specialties.
Advice from others	Parents	My father wants me be a cardiologist
	Friends	My friend suggested pediatrics as a possibility which appeals to me.

Table-III: Students’ motivation to be a doctor.

	Mean	Std. deviation
Movies and dramas	1.66	0.919
Parents/Family	3.02	1.050
Friends	2.02	1.032
Society	2.35	1.179
Having no other option	1.88	1.100
Any other	1.35	0.781

exploratory design was employed. The study was conducted in three phases. The first phase was qualitative. Semi-structured, face-to-face interview was done after taking written informed consent. These interviews were audio recorded and supplemented by field notes. The recorded interviews were interpreted with the help of field notes and later analyzed for identifying themes

content validity. Final questionnaire was delivered to all 108 students present in class room on that day. Non-probability purposive sampling was used.

Statistical analysis was done in terms of frequency and percentages for nominal variables, means and standard deviations for numerical variables respectively. Proportions of themes and

categories were compared between male and female medical students, gender-difference specialty choice was tested by chi square-test $p < 0.05$ considered significant.

RESULTS

Out of 108 participants, 39 (36.1%) were males and 69 (63.9%) were females. Table-I & II show themes generated from qualitative data. Table-III shows different motivational factors (none of them is statistically significant). Table-IV displays frequency and percentage of dichotomous responses regarding future adoption of

opted for internal medicine and general surgery as compared to female students (p -values of 0.01 and 0.03 respectively). Contrary to this, a higher number of female students opted for obstetrics and gynecology as compared to male students and the difference was highly significant (p -value = 0.002). There were no gender differences for the selection of other clinical specialties (p -value > 0.05).

Thematic Analysis

Table-VII shows most common reason for choice among males and females differed

Table-IV: Intended career.

	Male (%)	Female (%)	Total
Clinician	18	54	72
Government Officer (see below)	11.65	19.4	31.06
Private Practitioner	1	3.88	4.88
Public Health	2.91	0.9	3.81
Basic medicines	3.88	5.82	9.7
Undecided	2.91	6.79	9.7
Total	100		

Table-V: Frequencies and percentages of interested clinical specialty.

Specialty	Yes Frequency (%)	No Frequency (%)
Internal Medicine	34 (31.5)	74 (68.5)
General surgery	21 (19.4)	87 (80.6)
Pediatrics	23 (21.3)	85 (78.7)
Obstetrics and Genecology	23 (21.3)	85 (78.7)
Family Medicine	20 (18.5)	88 (81.5)
Psychiatry	4 (3.7)	104 (96.3)
Anesthesia	4 (3.7)	104 (96.3)
Emergency Medicine	3 (2.8)	105 (97.2)
Dermatology	12 (11.1)	96 (88.9)
Ophthalmology	6 (5.6)	102 (94.4)
Otorhinolaryngology	12 (11.1)	96 (88.9)
Orthopedics Surgery	1 (0.9)	107 (99.1)
Urology	1 (.9)	107 (99.1)
Radiology	7 (6.5)	101 (93.5)

career out of five major categories. (Many students gave more than one option). None of the career options was associated with gender ($p > 0.05$). Table-V shows frequency and percentage of different clinical specialties in which students were interested. Table-VI shows frequency comparison of male and female students opting for various clinical specialties. A significantly higher percentage of male students

significantly in two areas only ($p = 0.039$). One; “experience at medical school”: two; “comfortable atmosphere at the specialty department” ($p = 0.01$) with females feeling strongly about it.

DISCUSSION

Our study aimed to compare influence of gender for preferences of specialties and motivational factors among final year medical

students. This issue needs urgent attention for health planners to ensure adequate supply of doctors as more females are entering medical profession.

Results show polarized perception in choice of specialty. Majority of male students opted for internal medicine and general surgery while

orthopedics, neurosurgery, and emergency medicine; while obstetrics and gynecology, pediatrics, and dermatology were highly preferred field for women.

Another study¹⁶ found that the specialties chosen most often in the fifth year were general surgery (13.0%), pediatrics (11.0%), internal

Table-VI: Intended Clinical specialties.

	Male (n)	Female (n)	Total (%)
Internal medicine specialty	18	16	33
Obstetrics/ gynecology	02	21	22.33
Pediatrics	6	17	22.33
Surgery	10	11	20.38
General medicine	6	14	19.41
Dermatology	3	9	11.65
ENT	2	10	11.65
Radiology	1	6	6.79
Ophthalmology	2	4	5.8
Psychiatry	2	2	3.88
Anesthesia	0	4	3.88
Emergency medicine	1	2	2.91
Urology	1	0	0.9
Orthopedic surgery	1	0	0.9
Other	2	5	6.7

Table-VII: Reasons for selection of career.

Scores	Gender	Mean	SD	p-value (t-test)
Characteristics of Specialty*	Male	28.87	4.45	0.61
	Female	29.34	4.71	
Personal Experience	Male	6.10	2.07	0.26
	Female	5.62	2.15	
Experience at medical school*	Male	12.43	3.23	0.039*
	Female	13.67	2.75	
Advice from others	Male	10.10	3.05	0.26
	Female	9.84	3.21	
Future work condition*	Male	21.51	4.58	0.49
	Female	22.17	4.94	
Overall score*	Male	79.02	10.01	0.46
	Female	80.65	11.46	

majority of female chose obstetrics and gynecology. World literature provides a robust data on impact of gender and selection of specialty as career. One international study addressed this issue and stated that in their study, internal medicine followed by general surgery, pediatrics, and emergency medicine were preferred choices in descending order¹⁵. Males significantly preferred general surgery,

medicine (10.3%) and obstetrics/gynecology (9.0%). For women, the top choices were pediatrics (15.8%), obstetrics/gynecology (11.0%), cardiology (8.7%), general surgery (8.6%), and oncology (6.4%). In the adjusted analysis, the female gender was associated with the choice of obstetrics/gynecology (RP: 2.75; IC95%: 2.24-3.39); pediatric surgery (RP: 2.19; IC95%: 1.19-4.00), dermatology (RP: 1.91; IC95%: 1.24-2.93),

pediatrics (RP: 1.83; IC95%: 1.56-2.17), and oncology (RP: 1.37; IC95%: 1.10-1.71). Similar pattern with some difference is reflected in one local study¹⁷ where it was 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 opted for obstetrics/ gynecology [16 (24%)] while male medical students showed preference for surgery as their specialty of choice (51%). This gender difference was statistically significant (p -value of <0.00). Most decisive reason for choice of specialty were societal perception about specialty [46 (38%)] and anticipated income [22 (18%)].

In our study gender difference in preference was noted significantly only in two areas. "experience at medical school" and special concern for "comfortable atmosphere at the specialty department" with females feeling more strongly about later.

Socio economic factors guide selection of career reflect personal perception and cultural needs. For example, one study found out that for males, aptitude for the specialty, income and scope of research were reasons for choosing a specialty; gender difference was statistically significant here¹⁸. Another study identified four factors for applying for medical training: "indispensability, helping people, respect and "science" (being able to keep updated and to evaluate scientific evidence)¹⁹. Swedish medical students held "doctorship" to be a profession of commitment, authority, and duty as prime motivation²⁰.

Previous research has highlighted the importance of work-life balance in the decision-making process regarding career choices. Schwartz and colleagues have classified specialties based on work hours - what they called "controllable lifestyle"²¹. Controllable lifestyle career means those specialties which offer more personal time free of practice, leisure time, time for family and controllable total weekly hours spent on professional responsi-

bilities. Current research has investigated the importance of lifestyle factors on career choice. Majority of these studies demonstrated that expected work-life balance has emerged as an important factor in career selection²²⁻²⁴. In one study from Israel family medicine was selected as specialty that provides students a controllable lifestyle, allowing them to work for limited hours, time for family and having a reasonable income to lifestyle ratio²⁵.

Implications of Study

Implication of this study is significant for future planning. If students prefer certain specialties more and ignore other ones, there will be a mismatch between demand and supply. Our study will help in designing counseling and mentoring sessions as a guide for future planning.

LIMITATION OF STUDY

This study has a few limitations Firstly; the study was done in one government medical college, so it does not represent private sector. Secondly: this study included only MBBS students so it does not represent dentistry aspects.

CONCLUSION

Current study clearly shows that gender does not effect choice of major disciplines (clinical or basic sciences) but does have impact when choosing clinical specialties. Here, males show predilaction for internal medicine and females have liking for obstetrics and gyneacology. The most common reason for choice among both sexes differ significantly with regard to "experience at medical school" and "comfortable atmosphere at the specialty department" later especially for females.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any authors.

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