

# Factors Affecting Career Choices of Newly Admitted and Graduating Medical Students

Naushaba Malik<sup>1</sup>, Ghias ud Din Jan<sup>2</sup>, Manal Niazi<sup>1</sup>, Noor Aftab<sup>2</sup>, Shah Bakhat<sup>3</sup>, Tariq Rashid<sup>1</sup>

1. Department of Radiology, Punjab Employees Social Security Institute Hospital, Islamabad; 2. Department of Orthopedic Surgery, Pakistan Institute of Medical Sciences, Islamabad; 3. Medical Student 2<sup>nd</sup> year, Army Medical College, Rawalpindi;

## Abstract

**Background:** To assess factors affecting career choices of newly admitted and graduating medical students.

**Methods:** A cross sectional study was carried out in four private medical colleges of Islamabad. Two hundred students of first and final year were selected for this study. Data was collected by using self-developed questionnaire after extensive literature review by the researchers. Questionnaire was pilot tested. Data was analyzed by using SPSS v. 16.0.

**Results:** Study results indicated mean age 21.13 years ( $\pm$  2.48), 101 (53.72%) males and 87 (46.28%) female. Majority (96.80%) were unmarried., 51.10% (96) MBBS first year and 48.90% (92) in final year students. Although medical specialties remain of overall highest preference of all medical students but male students preferred surgical specialty as first choice as compared to female students. Study results revealed that interest and motivation to help others were main factors to affect choice of a particular specialty. Students of both gender and years agreed with the influence from a mentor/teacher, however male students thought expected income (51) and good working atmosphere (74) are main factors affecting careers. Among social factors parent's choice or wish, having doctor in the family and personal interest were highly associated with career choice (p-value less than 0.05).

**Conclusion:** Factors affecting on career choice should be identified and managed timely.

**Key words:** Career Choice, Students, Medical

## Introduction

Career choices of medical students have great influence on availability of doctors in various specialties. Shortage of doctors in one specialty and excess in other can be consequences of these choices.<sup>1</sup> The choices of graduates have impact on planning of higher educational programs and workforce for

healthcare delivery system.<sup>2</sup> During their study period medical students are exposed to variety of specialties and by the time of their graduation they have at least set the mind to select the particular specialty.

It is important to know career choices of medical students to maintain the equity of specialist in all discipline.<sup>3</sup> Evidence suggested that career choices are greatly influenced by variety of factors, ranging from individuals' characteristics to the perceived benefits and attractiveness of particular specialties to factors associated with medical school curricula, such as experience of the chosen speciality. Some studies have specified these factors as personal preferences, remuneration, prestige of specialty, length of training and controllable lifestyle.<sup>4-9</sup> Life style factor is on top as compared to other factors. Few studies indicated that current medical students do not want to compromise family and social life by adopting certain specialties like surgery.<sup>10,11</sup>

Gender is another strongly influencing factor of career choices.<sup>8,11</sup> Specialties requiring more technical and instrumental characteristics are mostly preferred by male students, for example surgery.<sup>8</sup> Others having more social and interpersonal relational aspects are preferred by female students.<sup>12</sup> Another study explained the role models, internship experiences and senior electives as factors affecting career choices of medical students.<sup>13,14</sup> Personal circumstances and gender also play a role.<sup>15</sup> More than 60% medical graduates had preference for a hospital specialty. This percentage was higher for male graduates as compared to female graduates.<sup>16,17</sup> Male graduates choose surgery and internal medicine as future career and female opted for obstetrics, gynecology and pediatrics.<sup>16,18</sup>

Quality of life has become a major determinant in why doctors choose a particular specialty; this has been found to be more influential than more traditional specialty-linked motivators, such as remuneration.<sup>6,19,20</sup> A study on medicine as career choice described that helping humanity, interest in science and intelligent contest of the profession were

vital intention to study medicine.<sup>21</sup> In Canada, only one-third<sup>22</sup> and in Turkey 5 to 10% of the medical students are interested in family medicine, but in a study in France, 20% of medical student want to become general practitioner. Different studies showed varied preferences , depending upon country, environment and mentorship. <sup>22-25</sup> While few studies found age, type of personality, the moment of choice, to the characteristics of the specialty itself such as the types of problems and people encountered and served in the practice, the continuing development of new technologies, and the anticipation of specialty-related income are factors influencing career choices of medical students.<sup>26-29</sup>

These factors are changing in the last decades.<sup>30</sup> At the same time doctors are working less hours and there is a changing gender distribution amongst young doctors with more female students entering medical schools.<sup>30</sup> Medical college entrants have strong career preferences which might keep changing until they graduate.

### Subjects and Methods

This cross sectional survey was carried out from August 2016 to December, 2016. First and final year medical students from four private medical colleges of Islamabad were study participants. Universal sampling method was used to determine the sample size of 200 medical students. All the students of first and final year from each medical college were selected purposively to participate in this study. There were 100 students from final year and 100 students from first year. Medical colleges were selected conveniently. A career choice questionnaire was developed after extensive literature review by researchers. This questionnaire was shared with research experts and feedback was incorporated. After modification in light of feedback pilot testing on 30 participants, who were not students of selected colleges, was done. Questionnaire consisted of three sections. Section one was demographic characteristics, section two elaborate career choices and section three covered wide range of factors affecting career choices. In section three, in personal factors students' were given list of nine factors to rank as the highest being 1 and the lowest being 9. It was ensured that each score must be used only once. Strict protocols were set to maintain the confidentiality of the participants. The information was coded.

### Results

Response rate of this study was 94% (188). Eight final year students and four first year students refused to participate in the study. Finally data of 188 medical students was analyzed. Study results indicated that mean age of medical students were 21.13 years with standard deviation of 2.48 years. There were 101 (53.72%) males and 87 (46.28%) female medical students in this study. Only 3.20% (6) students were married and 96.80 were unmarried. 51.10% (96) medical students were studying in MBBS first year and 48.90% (92) in final years of MBBS program. Punjabi students were 59.60% (112), Pathan 26.60% (50), 5.30% (10) Kashmiri and others (Sindhi and Balochi) 8.50% (16). Medical specialties remain of overall highest preference of medical students without discrimination of gender and year of study. Male students (35) chose surgical specialty as first choice as compared to female students (25). Surgical specialty was second highest preference but final year students had diagnostic specialty as a third highest favorite career (Table 1). Interest in particular specialty affected most the career choice as compared to other factors. Motivation to help others and life style preference was ranked at by first year and final year students respectively (Table 2). Students of both gender and years agreed with the influence from a mentor/ teacher as one of the main factor of career choice. Male students thought, expected income (51) and good working atmosphere (74) are main factors affecting careers. First year students were more concern with good working experience. Previous positive clerkship experience, avoid on call duties and working hours are significantly (p-value less than 0.05) associated with the choice of career as compared to other factors (Table 3).

**Table 1. Career preferences of medical students**

Specialty Name	First Preference		Second Preference		Third Preference	
	First Year	Final Year	First Year	Final Year	First Year	Final Year
Medical Specialties	43 (44.8)	37 (40.3)	42 (43.8)	26 (28.1)	44 (45.9)	29 (31.5)
Surgical Specialties	31 (32.3)	30 (32.6)	35 (36.5)	40 (43.5)	32 (33.4)	22 (24.0)
Obstetrics/Gynaecology	6 (6.2)	12 (13.0)	6 (6.2)	5 (5.4)	2 (2.1)	11 (12.0)
Diagnostics	0 (0.0)	4 (4.3)	8 (8.3)	11 (12.0)	5 (5.2)	23 (25.0)
Pediatrics	10 (10.5)	9 (9.8)	0 (0.0)	10 (10.9)	3 (3.2)	7 (7.5)
Others	6 (6.2)	0 (0.0)	5 (5.2)	0 (0.0)	10 (10.5)	0 (0.0)

**Table-2. Overall and class-wise ranking of personal factors**

Personal Factors	Overall	First Year	Final Year
Interest in particular specialty	1	1	1
I/Family/Friend suffer from illness of the specialty	2	2	2
Joy of working with people	3	5	5
Motivation to help others	4	4	7
Lifestyle preference	5	8	4
Joy of working with your hands	6	9	6
Personality type	7	3	3
Prestige of career	8	6	8
Enthusiasm	9	7	9

**Table-3. Association of demographic variables with work related factors**

Factors	Variable	Frequency			p-value
		Yes	No	Not Sure	
Job opportunities abroad	Male	39 (38.6)	51 (50.5)	11 (10.9)	0.551
	Female	39 (44.8)	37 (42.5)	11 (12.6)	
	First Year	35 (36.5)	47 (49.0)	14 (14.6)	0.249
	Final Year	43 (46.7)	41(44.6)	18 (19.6)	
Influence from mentor/teacher	Male	50 (49.5)	42 (41.6)	9 (8.9)	0.185
	Female	53 (60.9)	25 (28.7)	9 (10.3)	
	First Year	52 (54.2)	35 (36.5)	9 (9.4)	0.971
	Final Year	51 (55.4)	32 (34.8)	9 (9.8)	
Geographic location of working environment	Male	46 (45.5)	46 (45.5)	9 (8.9)	0.564
	Female	34 (39.1)	42 (48.3)	11 (12.6)	
	First Year	45 (46.9)	42 (43.8)	9 (9.4)	0.461
	Final Year	35 (38.0)	46 (50.0)	11 (12.0)	
Previous positive clerkship experience	Male	31 (30.7)	61(60.4)	9 (8.9)	0.364
	Female	35 (40.2)	44 (50.6)	8 (9.2)	
	First Year	26 (27.1)	57 (59.4)	13 (13.5)	0.015
	Final Year	40 (43.5)	48 (52.2)	4 (4.3)	
Avoid on call duties	Male	24 (23.8)	62 (61.4)	15 (14.9)	0.327
	Female	27 (31.0)	44 (50.6)	16 (18.4)	
	First Year	17 (17.7)	57 (59.4)	22 (22.9)	0.003
	Final Year	34 (37.0)	49 (53.3)	9 (9.8)	
Expected income	Male	51 (50.5)	37 (36.6)	13 (12.9)	0.349
	Female	39 (44.8)	30 (34.5)	18 (20.7)	
	First Year	49 (51.0)	35 (36.5)	12 (12.5)	0.310
	Final Year	41 (44.6)	32 (34.8)	19 (20.7)	
Working hours	Male	50 (49.5)	43 (42.6)	8 (7.9)	0.502
	Female	48 (55.2)	30 (34.5)	9 (10.3)	
	First Year	42 (43.8)	47 (49.0)	7 (7.3)	0.014
	Final Year	56 (60.9)	26 (28.3)	10 (10.9)	
Ease of opening own clinic	Male	54 (53.5)	35 (34.7)	12 (11.9)	0.665
	Female	50 (57.5)	30 (34.5)	7 (8.0)	
	First Year	50 (52.1)	34 (35.4)	12 (12.5)	0.467
	Final Year	54 (58.7)	31 (33.7)	7 (7.6)	
Influence of health care system reform	Male	51 (50.5)	33 (32.7)	17 (16.8)	0.245
	Female	34 (39.1)	32 (36.8)	21 (24.1)	
	First Year	40 (41.7)	32 (33.3)	24 (25.0)	0.240
	Final Year	45 (48.9)	33 (35.9)	14 (15.2)	
Final Year	67 (72.8)	16 (17.4)	9 (9.8)		

Among social factors parent’s choice or wish, having doctor in the family and personal interest were highly

associated with career choice (p-value less than 0.05). Students of both gender and years denied the influence of media and friends on career preference (Table 4).

**Table-4. Frequencies and association of demographic variables with social factors**

Social Factor	Variable	Frequency		p-value
		Yes	No	
Parents’ choice or wish	Male	59 (58.4)	42 (41.6)	0.318
	Female	57 (65.5)	30 (34.5)	
	First Year	50 (52.1)	46 (47.9)	0.006
	Final Year	66 (71.7)	26 (28.3)	
Having doctor in the family	Male	34 (33.7)	67 (66.3)	0.211
	Female	37 (42.5)	50 (57.5)	
	First Year	27 (28.1)	69 (71.9)	0.005
	Final Year	44 (47.8)	48 (52.2)	
Friends’ motivation and career	Male	20 (19.8)	81 (80.2)	0.653
	Female	15 (17.2)	72 (82.8)	
	First Year	18 (18.8)	78 (81.3)	0.962
	Final Year	17 (18.5)	75 (81.5)	
Media influence	Male	17 (16.8)	84 (83.2)	0.565
	Female	12 (13.8)	75 (86.2)	
	First Year	16 (16.7)	80 (83.3)	0.630
	Final Year	13 (14.1)	79 (85.9)	
Career of spouse	Male	8 (7.9)	92 (91.1)	0.832
	Female	7 (8.0)	80 (92.0)	
	First Year	11 (11.5)	85 (88.5)	0.139
	Final Year	5 (5.4)	87 (94.6)	
Personal interest	Male	72 (71.3)	29 (28.7)	0.395
	Female	57 (65.5)	30 (34.5)	
	First Year	73 (76.0)	23 (24.0)	0.025
	Final Year	56 (60.9)	36 (39.1)	

## Discussion

Positive clerkship experience might have more influence on career of final year students because they had spent more time in clinical areas as compared to first year students. Majority of the medical students were unmarried so that’s why high level of disagreement was found for career of spouse. A study by Swanson revealed that low percentage of first year students made up their mind to select any specialty but high percentage of final year students thought about career choice, virtually most of the students from both years made up their mind for future career.<sup>31</sup> This need to be study whether this choice might change as the academic years progress or remain same.

Final year students preferred easy life style career in medical field which is similar to the findings of studies from United Kingdom and Netherland.<sup>10,11</sup>In this study medical specialty remain first career choice, surgery second, diagnostics thirds and peadiatrics fourth choice which is in contrast to the study from Nigeria, where student preferred surgery at first,

medicine at second, pediatrics and obstetrics and gynecology at third career choice.<sup>32</sup> First choice this was similar to another Pakistani study where internal medicine was also first choice but next three choices were different which was as a paediatrics second, general surgery third, and obstetrics and gynaecology fourth in that study.<sup>33</sup>

Male students choose specialty like surgery as first choice of career while female students chose medical specialties. Choice of male is similar but female students is different to the choice of medical students from France, Kingdom of Saudi Arabia, United Kingdom and Norway.<sup>8,16-18</sup> This choice might be due to personal nature of both gender and some cultural barriers. This could be attributed to the attracting nature of these specialties to male students considering perceived prestige and financial reward. However, female students may find difficulty in having a balanced lifestyle when opting surgical careers.<sup>34</sup>

Very little number of students chose the basic medical sciences specialties as a career preference, which similar to a study from Saudi Arabia which presented that the category including anatomy, physiology, biochemistry, pathology, microbiology, and forensic medicine was representing only 5.21% of all students' preferences.<sup>35</sup> Male students were more concerned with high income career which is congruent with findings of American studies<sup>6,19</sup> but contrasts with Nigerian study where expected financial reward play no role in choice of career in medical field.<sup>32</sup> This factor might be of more concern that in Pakistani society male are mainly responsible for fulfilling the financial need of the family.

Personal interest, motivation to help others, mentor/teacher's influence and positive clerkship experience were the social factor of career choice which are coherent with the factors of Finland and Columbian studies<sup>21,26</sup> but unlike findings like humanitarian drive, quality teaching and family influence has no role in specialty choice among the studied medical undergraduates in Nigeria.<sup>32</sup> These career choices are of students of private medical colleges of a city so its findings cannot be generalized on medical students who are studying in public and other private medical colleges. Further study needs to be carried out on public and private medical college students to find out true picture of career choice. Institutions can improve medical career planning. This may help the health care planner and educators to design the strategies to maintain balance of health care professionals in all specialties.

### **Conclusion**

Male and female students have different choices. There should be career counselling services available

for undergraduate medical students to guide them about future plans.

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