

Medical Specialty Choice and Related Factors among Medical Students of Jazan University, Saudi Arabia

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ABSTRACT

Introduction: Studying career preference can help in planning educational programs, set priorities, and plan for the provision of adequate health care. Literature cites many factors that can shape the career preference of students, i.e., gender, age, academic year, and place of residence.

Objectives: To study career preference among medical students in Jazan University and to assess the factors that influencing their choices.

Materials and Methods: A cross-sectional study was conducted using self-administered questionnaires distributed to medical students from the first to sixth years in the Faculty of Medicine, Jazan University during the period from December 2011 to January 2012. A total of 225 students answered the questionnaire which covered demographic characteristics, specialty preferences and the factors influencing these preferences.

Results: Preferred specialties were surgery, pediatrics, and internal medicine, respectively. Psychiatry was a frequently chosen specialty while community medicine/public health and obstetrics, and gynecology were less frequently chosen by the students. Opportunity for helping people, possibility of a foreign scholarship, experience, and degree of the challenge were the main influencing factors with the majority of student preferring to work in Jazan Region in the future.

Conclusion: Surgery, pediatrics, and internal medicine are the preferred specialties, and helping people, possibility of foreign scholarship are the main influencing factors. Qualitative studies are recommended to explore in-depth reasons behind not/choosing career path. Longitudinal studies might help explore trends in preferences over time.

Key words: Medicine, Occupation, Specialty, Students

INTRODUCTION

Career preference of medical students is receiving increasing attention throughout the world. Studying career preference can help in planning educational programs, set priorities, and plan for the provision of adequate health care.¹⁻³

There are varieties of factors that may influence the students' choices of specialty. These factors include gender, age, academic year, place of residence, household location (rural/urban), working hours and schedule (controllable versus uncontrollable lifestyle), location of work, expected income, interesting (challenging) profession, guardian/family opinion,

clinical experience during studying, rareness of specialty (specialties less likely chosen by others), possibility of local or foreign scholarships, social status and prestige, workforce market needs, social principles and culture, colleagues respect to the skills of specialty, community appreciation, and role model.

An academic year seems to affect the preferences of students. Edward C (cited in Goldacre MJ *et al.* 2007) found that students' choices become more clear and stable in the late years.⁴ Interest in surgery decreased as students progressed through their medical education among both males and females while interest in pediatrics increased among males only, and

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interest in internal medicine was the lowest for 2nd year medical students and the highest for fourth year medical students.^{1,3}

Gender is an important factor in career preferences of students.⁵ Differences between men and women regarding specialty preferences are notable in general practice, obstetrics and gynecology and pediatrics as women prefer them over men and surgery as men prefer it.^{6,7}

Place of residence and household location (rural/urban) may contribute in career preference. Very few numbers of the students would like to practice in rural areas.⁸ Students with higher intrinsic motivation are more willing to work in rural areas while those from a more prosperous background prefer working in urban areas. Students from rural areas are willing to work in rural areas unlike those from urban areas.⁹

Most students think that working hours have an influence on career preference.^{10,11} Women prefer part-time jobs, unlike men who prefer full-time jobs.¹² Hours was rated as important factor much more commonly by those who chose general practice than by those who chose hospital specialties.^{12,13}

The degree of the challenge is found to have a strong influence on career choice.^{14,15} Men are more influenced by the degree of challenge in a specialty than women.¹⁶ One study suggested that the choice of surgery is the most influenced by interesting and challenging work.¹⁷

Experiences at medical school strongly affect students' attitudes, and curriculum content is a commonly mentioned, potential determinant of specialty choice.¹⁸ Exposure to clinical settings (experience) influences the students' career preferences in the corresponding specialty.⁶ According to Karen *et al.*, the majority of students agreed that experience influenced their career choices in regard to internal medicine.¹⁹

Prestige has emerged as significant factors for medical students when attempting to choose a specialty.^{5,20} Women are less influenced by prestige than men.¹ Another research revealed that prestige is not as influential as other factors such as challenging work and lifestyle factors.¹⁷ Cultural beliefs are determinants in the choice of a specialty.¹² Cultural beliefs can be held responsible for the decreased number of male students in Obstetrics and Gynecology.⁵

The faculty of Medicine of Jazan University in Saudi Arabia, Jazan region is a relatively new institution that has been established with the aim of improving the health status in Saudi Arabia, especially in Jazan region, by graduating highly qualified physicians who have skills for practice in the community preventive, curative, and promotive health services. It is the first of its kind in Saudi Arabia in using the integrated organ-system curriculum with the community orientation.

This study aims generally at knowing career preference among medical students in Jazan University and the factors influencing their choices. It has specific objectives of determining career preferences of medical students and the factors affecting career preference.

MATERIALS AND METHODS

Study Design

A cross-sectional study was conducted among medical students of Faculty of Medicine in Jazan University in December 2011.

Study Setting

Jazan University is a leading research institution based in Gizan city. The university was established in 2006 and now involves more than 25 faculties and research centers and populated with more than 50 thousands students. The University has a main central campus that rests by the Red Sea on the southwest coast of Saudi Arabia and also has satellite campuses located in distributed in all sub-regions of Jazan province.

Data Collection

A self-administered questionnaire was used for data collection. The questionnaire was constructed based on the relevant literature.^{1,5,8,16} Students were asked about their preferences and the factors affecting their choices. Filling questionnaire takes on average about 20 min. The questionnaire consisted 39 items, and factors included were demographic, personal, social, and occupational factors. Responses were Likert scales ranging from 1 to 5 to assess the influencing factors and the likelihood of choosing the specialties give. The questionnaire asked the students about the specialty they have chosen possibility of changing specialization, individuals with the greatest influence on career choice and an open-ended question regarding the reason for the choice.

Data Analysis

Data were analyzed using statistical package for social science version 17 (SPSS, Inc., Chicago, IL, USA). Students' answers were analyzed using a 5 - point Likert-type scale. Descriptive analysis was done using mean for continuous variables and percentage for qualitative variables. Independent One-way ANOVA test was used to evaluate differences between groups for continuous variables, $P < 0.05$ was considered statistically significant.

Ethical Considerations

The study protocol was approved by the university. Consent was granted from participating students during the distribution of the questionnaire. Students were informed that the information collected will be kept anonymous, and their participation is totally voluntary.

RESULTS

Table 1 shows the background characteristics of study participants. The vast majority of students are not singles 94.6% and most of them live in urban areas 60.7%. The distribution according to academic year shows a pattern usual academic institutions, where those of the first 3 years are slightly outnumbering those of last 3 years representatives.

Figure 1 demonstrates the specialty chosen by students. Surgery is chosen by a third of participants and being the most preferred specialty. Next comes pediatrics (13.9%) and internal medicine (11.6%). The least chosen are emergency medicine and family medicine, each attracting 4.6% of students.

Table 2 shows students' opinion about their likelihood of selecting any of the individual specialties mentioned. Surgical specialties are among the highest probability of being selected by more than half of students. The vast majority of students (80.1%) put less chance for a future selection of obstetrics/gynecology, and others see a high probability of not selecting pathology (56.8%), community medicine (49.1%), and family medicine 43.7%. However, the latter have 43.7% of students

who might choose it in the future. A significant difference ($P < 0.05$) was shown between students of preclinical years (2nd, 3rd years) and those of clinical years (4th-6th). For example, less preclinical students are willing to select surgical specialties (3.23 against 3.72, $P = 0.002$), community medicine (2.37 against 2.71 $P = 0.045$), and pathology (2.05 against 2.44 $P = 0.013$) while preclinical students are more willing to select

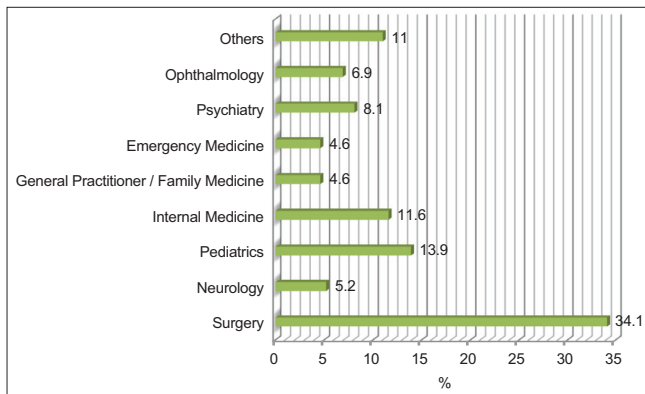


Figure 1: Specialty preferences of medical students

Table 1: Background characteristics of the student

Characteristics	No.	%
Academic year		
1 st	45	20.0
2 nd	51	22.7
3 rd	49	21.8
4 th	31	13.8
5 th	22	9.8
6 th	27	12.0
Marital status		
Married	11	4.9
Single	211	94.6
Divorced	1	0.4
Place of residence		
Rural	88	39.3
Urban	136	60.7
Total	225	100

Table 2: Specialty preferences of medical students

Specialty	No. (%)			Mean rating			
	Strong probability not to select	Might select	Strong probability of selection	Preclinical	Clinical	P value	All students
General practice/family medicine	93 (43.7)	93 (43.7)	27 (12.7)	2.45	2.56	0.505	2.52
Medical specialties	44 (20.4)	93 (43.1)	79 (36.5)	3.21	3.21	0.988	3.21
Surgical specialties	39 (17.7)	60 (27.3)	121 (55.0)	3.23	3.72	0.002	3.54
Emergency medicine	112 (50.9)	73 (33.2)	35 (15.9)	2.68	2.35	0.043	2.47
Pediatrics	55 (25.0)	88 (40.0)	77 (35.0)	3.40	2.99	0.012	3.14
Obstetrics and Gynecology	177 (80.1)	33 (14.9)	11 (5.0)	1.71	1.82	0.423	1.78
Psychiatry	121 (54.8)	51 (23.1)	49 (22.1)	2.68	2.42	0.149	2.51
Community Medicine and Public health	105 (49.1)	75 (35.0)	34 (15.9)	2.37	2.71	0.045	2.59
Pathology	125 (56.8)	71 (32.3)	24 (10.9)	2.05	2.44	0.013	2.30
Basic sciences	131 (60.6)	60 (27.8)	25 (11.6)	2.25	2.32	0.699	2.29

pediatrics (3.4 against 2.99, $P = 0.012$), and emergency medicine (2.68 against 2.35, $P = 0.043$).

Among the 17 factors cited in the literature, those that are found to have the greater influence are; opportunity of helping people 69.3%, possibility of foreign scholarship 61.6%, expected income 54.5%, interesting subject/challenging 53.4%, and workforce market needs 50.0%, while the least influencing was found the opinion of the family/guardian 22.2% (Table 3).

Students differ on how certain they are about the chosen specialty and whether they are likely to change it in the future. Table 4 shows that specialties chosen might be changed in the future and only 16.3% are certain now that they are not going to change the chosen specialty. Among the specialties listed for students, those who chose surgery are more likely than others to maintain their choice according to their opinion.

DISCUSSION

The possibility of foreign scholarship was found to be a highly influencing factor as the majority of students intend to earn a foreign degree which is in agreement with a study conducted in King Saud University, College of Medicine.⁸ Students experience is strongly influential in regard to career preference. This was evident from previous studies.^{6,18} Our students tend to prefer interesting and challenging specialties which agree with the much-published literature.^{14,16,17}

Interestingly, expected income was an important factor for the students when attempting to choose their career. This was in contradiction with studies found in the literature in which income has a minimal effect on specialty preference.^{7,8,14} This might be due to the fact that this study was conducted on male students only as income is more important factor for them than their females' counterparts.^{1,5,15,21}

The opinion of guardian/family scored very low. The study reported that parents' opinion is among the least influencing factors.⁵ Results show that parents are with the greatest influence (45.9%) on career preference and that 57.3% of students would not work in the teaching/academic field. It is interesting that results show that role model is one of the least factors affecting career choice. This is a contradiction with studies concluding that role model is an important factor.^{1,5} This could be due to the fact that the majority of the participants

Table 3: Factors influencing career choice of medical students

Factors	No. (%)			Mean rating
	No effect or may affect	Effect is not significant	Strong effect or decisive effect	
Working hours and schedule	70 (31.5)	64 (28.8)	88 (39.6)	3.09
The workplace	77 (34.2)	55 (24.4)	93 (41.4)	3.06
Expected Income	53 (23.9)	48 (21.6)	121 (54.5)	3.38
Interesting subject/challenging	49 (22.6)	52 (24.0)	116 (53.4)	3.45
Opinion of guardian/family	116 (52.5)	56 (25.3)	49 (22.2)	2.52
Experience during studying	49 (22.1)	35 (15.8)	138 (62.2)	3.55
Rareness of specialty	71 (32.0)	64 (28.8)	87 (39.2)	3.07
Possibility of studying in KSA	91 (41.7)	52 (23.9)	75 (34.4)	2.83
Social status/prestige	83 (36.9)	69 (30.7)	73 (32.4)	2.84
Workforce market needs	64 (28.6)	48 (21.4)	112 (50.0)	3.25
Social principles and culture	93 (41.3)	57 (25.3)	75 (33.3)	2.88
Colleagues respect of the skills of specialty	97 (43.7)	60 (27.0)	65 (29.3)	2.74
Community's appreciation	81 (36.1)	51 (22.8)	92 (41.1)	3
Possibility of foreign scholarship	42 (18.8)	44 (19.6)	138 (61.6)	3.56
Effect of gender	100 (44.4)	42 (18.7)	83 (36.9)	2.76
Role model	94 (41.8)	68 (30.2)	63 (28.0)	2.71
Opportunity of helping people	33 (14.7)	36 (16.0)	156 (69.3)	3.80

Table 4: Possibility of changing specialty in future

Specialty	No. (%)			Total
	Very probable	Might change	Final decision	
Surgery	23 (39.0)	24 (40.8)	12 (20.3)	59
Neurology	3 (33.3)	5 (55.6)	1 (11.1)	9
Pediatrics	13 (56.5)	7 (30.4)	3 (13.0)	23
Internal medicine	9 (45.0)	8 (40.0)	3 (15.0)	20
General practitioner/ family medicine	5 (62.5)	2 (25)	1 (12.5)	8
Emergency medicine	4 (50.0)	3 (37.5)	1 (12.5)	8
Psychiatry	7 (50.0)	5 (35.7)	2 (14.3)	14
Ophthalmology	4 (33.3)	7 (58.3)	1 (8.3)	12
Other	8 (42.1)	7 (36.8)	4 (21.1)	19
Total	76 (45.9)	68 (39.5)	28 (16.3)	172

were in their basic years (1st, 2nd, and 3rd years) as students tend to be affected by role models during clinical years.

Surgery specialties yielded the strongest probability to be the future specialty. It was the specialty of choice for 34.1% of students; this is consistent with the most literature.^{1,5,14} It was rated high but not the highest in other studies.^{11,22} Medical specialties scored a high probability of selection, and internal medicine was the specialty for the choice of 11.6% of students. The internal medicine as a choice of specialty is common in the literature.^{1,5,14} In some studies, it was the most specialty chosen.^{8,17}

Interestingly, pediatrics scored 13.9% as a specialty of choice exceeding internal medicine. This is consistent with a study conducted in King Saud University.⁸ Psychiatry was a relatively common choice with 8.1% as the preferred career. This finding is interesting and in contradiction with other studies.^{1,16,22} General practice/family medicine, community

medicine and public health, emergency medicine, pathology, and basic sciences were all scored low probability of selection.

Several study limitations deserve to be noted. First, we surveyed medical students in a single college, and the generalizability of these findings may be limited to Jazan University only; second, this cross-sectional study involved only male student; therefore, caution needs to be taken to generalize the study outcome. Finally, the measures used in this study constructed by authors and have limited validity evidence. However, they were developed by drawing from the literature and were pilot tested.

RECOMMENDATIONS

The chosen specialties and the influencing factors revealed by the study should be matched to the current situation, priorities, and needs in Jazan area to make informed decisions about meeting needs in priority specialties.

Prospective Cohort studies can be done to assess the student's preferences in the future and explore trends. Qualitative studies can be performed to answer some questions that arise in cross-sectional studies. Career counseling and education can be performed so as to solve the current workforce market needs.

CONCLUSION

Surgery, pediatrics, and internal medicine are the top three preferred specialties among medical students in the Faculty of Medicine, Jazan University. Helping people, the possibility of a foreign scholarship, experience, and degree of the challenge are the main influencing factors with the majority of student preferring to work in Jazan Region in the future.

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