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Research Article

Medicine as a career choice: a cross-sectional study on undergraduate medical students at King Abdulaziz University

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ABSTRACT

Background: During the last 15 years large number medical schools have been launched in Saudi Arabia in order to compensate for the shortage of Saudi physicians. Till now the reasons for choosing the medical profession by Saudi students were not thoroughly investigated. This study aimed to investigate the reasons for study medicine at King Abdulaziz University (KAU); and if there is any difference in these reasons between the junior and senior medical student. Factors helping in profession selection as well as the future specialty selection were also investigated.
Methods: This comparative cross section study was conducted at KAU during the year 2014-2015 using a self-administered questionnaire distributed to all the 2nd and 6th year medical students.
Results: Like to help patients, interest in medical field and being prestigious career were the commonest causes of choosing the medical profession among the 2nd year students and they were significantly rated higher (0.031, 0.001, 0.028) in 2nd year students compared to the 6th year. Getting a high GPA was rated significantly higher (p=0.01) by the 6th year students than the 2nd year students. Publications and internet sources was the significant (p=0.001) helpful factors rated by the 2nd year students. Surgery, Pediatric and Internal medicine were the commonest future specialties that had been chosen by both 2nd and 6th year students.
Conclusions: Comprehensive and structured programs directed to the secondary school and preparatory university year students to guide them to the proper career with the highlight of Medicine as one of the profession strongly needed in Saudi Arabia.

Keywords: Medical, Career, Choice, Reasons, Students, KAU, Junior, Senior

INTRODUCTION

The doctors are considered as the cream of the society and this inclines most of the students to choose medical education as their career of choice after completion of secondary schooling.[1] Students who choose medicine are usually expected to be interested in helping patients but unfortunately, a considerable number of medical students were reported to enter the medical filed just because they had high grades or to satisfy their parents.[2,3] Though some report has shown that medicine is not among the top profession choice of today's youth, many traditional families still believe that medicine is a good career option for their offsprings.[4] Sometimes the parents forced their wards to become a doctor and this may make them to sacrifice their own likeness in order to fulfill the dreams of their parents. This may result in adverse outcome later in the life of the ward.[1]

Investigating the pattern of medical school enrollments; the demographic data of the students and their motivations for medical study affords a rough assessment of the future prospects of health care in a country and helps in providing guidelines for improvement of medical school.[5] On the other hand, career choice is as important to the Saudi Arabian student as it is to any other student and it is considered a complex decision making process.[6]

The number of the private and governmental medical schools in the Saudi Arabia has been markedly increased during the last 15 years and this was in a response to the reported shortage in the numbers of the Saudi physicians in the country.[7] Only four medical schools existed in Saudi Arabia in 1983 and King Abdulaziz University medical school in Jeddah was one of these schools. In 2005 this number of schools tripled as there were12 governmental and one private medical school.[8] In 2010, the total number of the Saudi medical schools reached 31.[7]

The studies which aimed to investigate the motivations of the Saudi medical study to pursue study medicine were scare. This study aimed to investigate the reasons for study medicine at King Abdulaaziz University (KAU); one of the oldest medical schools at Saudi Arabia and if there is any difference in these reasons between the junior and senior medical student. Factors helping in profession selection as well as the future specialty selection were also investigated.

METHODS

This comparative cross section study was approved by the biomedical research ethics committee at the Faculty of Medicine (FOM) King Abdul-Aziz University (KAU). It was conducted at the FOM, KAU at Jeddah during the academic year 2014-2015 using a self-administered questionnaire that was distributed to all male and female 2nd and 6th year medical students (Appendix 1). The response rate was 69.61% (268/385) and 55.2% (189/342) from the second and six year respectively.

The used questionnaire was validated in previous studies.[9,10] Pilot study was done among 30 students to enhance face validity. The modified questionnaire was examined by two experts for content validity. The tool of the study was test for reliability and alpha Cronbach was 0.815. It included demographic characteristics as the gender, type of the secondary school as well as mother's and father's level of education. The students were also asked about the reasons behind their choice of the medical profession, about their preferred future specially and the factors affecting their choice. Collected data were entered to and analysed by using the SPSS software version 16. Data was presented in the form of number and percentage or mean± standard deviation (SD). Students' test was used to compare the Mean of the two groups while chi- square test was used to compare percentages of the two studied groups. p value less than 0.05 was considered significant.

RESULTS

The total number of students participated in this study was 268 and 189 from the 2nd year and 6th year respectively and more than half of the participant were females (Table 1). About 59% of 2nd year students were coming from governmental secondary school while about 68% of the 6th year students were coming from private secondary school with no statistical difference between both (Table 1). It was observed that about 40% of the fathers of the 2nd year students were master degree holders while about 46% of the fathers of the 6th year students were bachelor degree holders. Larger percent of mothers of both 2nd and 6th year students were bachelor's degree holders (44.4, 43.4% respectively) (Table 1).

Table 1: Demographic data of the participants.

Parameter	Second year N= 268		Six year N= 189		P value
	N	(%)	N	(%)	
Gender					
Male	128	(47.8)	80	(42.3)	0.25
Female	140	(52.2)	109	(57.7)	
Type of the secondary school					
Governmental	157	(58.6)	59	(31.2)	
Private	102	(38.1)	128	(67.7)	0.056
International	9	(3.4)	2	(1.1)	
Level of education of father					
Less than secondary school	16	(6.0)	32	(16.9)	
Secondary school	36	(13.4)	36	(19)	0.125
Diploma	11	(4.1)	10	(5.3)	
Bachelor	66	(24.6)	86	(45.5)	
Master	106	(39.6)	8	(4.2)	
Ph.D.	33	(12.3)	17	(9)	
Level of education of mother					
Less than secondary school	44	(16.4)	28	(14.8)	
Secondary school	43	(16.0)	20	(10.6)	0.223
Diploma	18	(6.7)	9	(4.8)	
Bachelor	119	(44.4)	82	(43.4)	
Master	18	(6.7)	17	(9)	
Ph.D.	26	(9.7)	33	(17.5)	

Data was presented in the form of number and percentage; *Significant is considered at p <0.05; Chai square with liner trend was used.

Regarding the reasons for choosing the medical profession, it was observed that like to help patients, interest in medical field and being prestigious career were the commonest causes of choosing the medical profession among the 2nd year students and they were significantly

rated higher (0.031, 0.001, 0.028) in 2nd year students compared to the 6th year. Getting a high GPA was rated significantly higher (p=0.01) by the 6th year students than the 2nd year students (Table 2).

Table 2: Reason for choosing medical profession by the participants.

Reason behind choosing medical profession	Second year N=268		Six year N=189		P value
	N	(%)	N	(%)	
Like to help patients	219	(81.7)	106	(56.1)	0.031*
Getting a high GPA	89	(33.2)	92	(46.7)	0.006*
Prestigious career	98	(36.6)	60	(31.7)	0.028*
Interest in medical field	180	(67.2)	90	(47.6)	0.001*
Gain a lot of money	48	(17.9)	37	(19.6)	0.65
Having a medical role model	78	(29.1)	26	(13.5)	0.001*
Having a patient in my family	79	(29.5)	17	(8.9)	0.001*
Family pressure	16	(5.9)	22	(11.6)	0.03*
Getting a job easily	45	(16.8)	24	(12.7)	0.18

Data was presented in the form of number and percentage.
*Significant is considered at p <0.05

Table 3: Factors helping in medical profession selection by the participants.

Factors	Second year N=268 (M±SD)	Six year N=189 (M±SD)	P value
Career planning program in school	1.53±1.05	0.29± .81	0.001*
Academic Counselling	2±1.45	1.22±1.53	0.001*
Groups interested in the medical field	1.6±1.54	0.89±1.38	0.001*
Career planning workshops/ school courses	0.84±1.25	0.59±1.14	0.169
Publications and internet sources	2.09±1.47	1.38±1.42	0.001*
Participation in extracurricular activities	1.77±1.66	1.07±1.4	0.001*
Qudorate and personality tests	1.61±1.19	1.16±1.27	0.001*
University guidance program for career choice	1.60±1.38	0.79±1.38	0.001*

Data is presented in the form of number mean±standard deviation (M±SD)
*Significant difference is considered at p <0.05

Table 4: Future specialty selection by the participants.

Specialty	Second year		Six year		Total		P value *
	No	(%)	No.	(%)	No.	(%)	
Medicine	43	(16.0)	28	(17.1)	71	(16.4)	0.44
Surgery	130	(48.5)	46	(28.0)	176	(40.7)	<0.001*
Obstetrics &Gynecology	25	(9.3)	18	(11.0)	43	(10.0)	0.35
Pediatrics	51	(19.0)	32	(19.5)	83	(19.2)	0.49
Medical Education	6	(2.2)	4	(2.4)	10	(2.3)	0.56
Family Medicine	14	(5.2)	12	(7.3)	26	(6.0)	0.25
Emergency Medicine	20	(7.5)	13	(7.9)	33	(7.6)	0.49
Ophthalmology	28	(10.4)	10	(6.1)	38	(8.8)	0.08
Anesthesia	3	(1.1)	10	(6.1)	13	(3.0)	0.004*
Dermatology	19	(7.1)	26	(15.9)	45	(10.4)	0.004*
Psychiatry	16	(6.0)	6	(3.7)	22	(5.1)	0.24
ENT	7	(2.6)	6	(3.7)	13	(3.0)	0.36
Orthopedics	37	(13.8)	10	(6.1)	47	(10.9)	0.01*
Radiology	3	(1.1)	3	(1.8)	6	(1.4)	0.41
Immunology	11	(4.1)	5	(3.0)	16	(3.7)	0.39
Pathology	13	(4.9)	5	(3.0)	18	(4.2)	0.26
Genetics	13	(4.9)	7	(4.3)	20	(4.6)	0.49
I haven't decided yet	69	(25.7)	21	(12.8)	90	(20.8)	0.001*
Other	15	(5.6)	7	(4.3)	22	(5.1)	0.35

Data is presented in the form of number and percentage; *Significant difference is considered at p <0.05.

It was observed that none of the surveyed factors that were supposed to be helpful for students during their career selection was really helpful form neither 2nd nor 6th year students as the mean of all factors dropped below 2 expect that of publications and internet sources which was the comments helpful factors and was significantly rated higher (p=0.001) by the 2nd year students. Academic counseling service at the secondary school was significantly more helpful (p=0.001) for the 2nd year students than the 6th year from their point of view (Table 3).

Table 5: Factors affecting specialty selection among the 2nd year medical students of KAU and private universities.

Factors	Second year Mean±SD	Sex year Mean±SD	P value*
Family's expectations	1.49±1.033	1.37±1.17	0.24
Geographical consideration	0.78±1.054	0.78±1.09	0.76
life style	1.68±1.082	1.65±1.118	0.77
Little responsibilities	0.92±1.104	1.07±1.113	0.01*
Research opportunities	1.57±1.070	1. 3±1.114	0.46
Duration of the residency program	1.25±1.158	1.33±1.16	0.25
Availability of postgraduate programs in KSA	1.35±1.208	1.46±1.16	0.25
Rarity of the specialty	1.49±1.191	1.28±1.101	0.06
High income expectations	1.52±1.040	1.48±1.05	0.68
Personal interest	2.47±0.814	2.3±0.95	0.001*
Competition	1.52±1.127	1.43±1.09	0.43
Cost of study	0.71±0.982	1.27±1.18	0.01*
Plenty of subspecialty choices	1.62±1.123	1.41±1.046	0.05
Influence of a role model physician	1.59±1.107	1.33±1. 08	0.01*
Dealing with patients	1.84±1.074	1.59±1.08	0.01*
The rapid progress of specialty	1.51±1.110	1.41±1.04	0.22
Occupational prestige	1.66±1.057	1. 3±1.09	0.02*
Qualification exams or selection exam	0.89±0.984	0 .88±1.07	0.83
The college programs helping in specialty selection	0.98±0.994	0.84±1.071	0.69

Data is presented in the form of number mean±standard deviation (M±SD); *Significant difference is considered at p <0.05.

Although surgery, paediatric and internal medicine were the commonest future specialties that had been chosen by both 2nd and 6th year students, surgery was significantly rated higher (p<0.001) by the 2nd year students. On the other hand, Anesthesia and Dermatology were significantly rated higher (p=0.004) by 6th year students. As expected a higher percentage of 2nd year haven't yet decided their future specialty compared to those of the 6th year students (25.7 versus 12.8% respectively) and this was of statistical significance (p=0.001) (Table 4).

When it came to the factors affecting the future specialty selection, it was found that personal interest and preference of dealing with patient were the commonest factors mentioned by both 2nd and 6th year students although it was rated significantly higher (p=0.01) by the 2nd year students. Occupational prestige and influence of a role model physician were other two factors rated significantly higher (p=0.02, p=0.01) by the 2nd year students (Table 5).

DISCUSSION

Though some reports have shown that medicine is not among the top profession choice of today's youth, many traditional families still believe that medicine is a good career option for their off springs.[4] This study aimed to investigate the reasons for pursing the medical profession by the junior and senior medical students at KAU as well as give a highlight on their future specialty preferences and factors affecting it. It was observed that a high percent of both mothers and fathers of 2nd and 6th year students was either bachelor of master degree holders and it is expected and is in agreement with that of Mukhtar et al.[3]

Like to help patients, interest in medical field and being prestigious career were the commonest causes of choosing the medical profession by the 2nd year students and they were significantly rated higher compared to the 6th year. This is in line with the finding of Al- Maddah et al.[11] Being a prestigious career is another important factor that draws the attention of students towards the medical profession. In an Indian study, it reached to 48.7% of the students studied sample.[12] Getting a high GPA was a significant common reason for choosing medical profession by the 6th year students surveyed in this study and this is logic as the admission at the public medical school inquires a high GPA. On the other hand, medical profession's social status and financial allowances were listed among the top five reasons for selecting the medical profession.[13]

It was observed that none of the surveyed factors that were supposed to be helpful for students during their career selection was really helpful form neither 2nd nor 6th year students which highlight the lack of informative comprehensive career counselling service that help in career selection. Fortunately, the junior students perceived theses academic counselling service at the

secondary school of higher significant importance than the senior students.

In this study, publications and internet sources and academic counselling service at the secondary school were the comments helpful factors that helped the 2nd year students during their medical profession selection. This finding was different from what was reported by Abou Zaid et al who reported that aattending educational activities and orientation sessions were significantly helpful for career choice and what was reported by Al-Dabal et al who reported that friends and relatives, reading and university visits as the main sources of information about profession choice.[14,15]

In this study, Surgery, paediatric and Internal medicine were the commonest future specialties that had been chosen by both 2nd and 6th year students. This was different from what was reported by AlShahrani et al during their study of Saudi medical students and interns' choice of specialty at the University of Dammam, Kingdom of Saudi Arabia.[16] They found that Internal medicine, family medicine, general surgery, paediatrics, and emergency medicine were the preferred specialties. Many factors might affect medical student in choosing their future specialties. In this study, it was found that personal interest, preference of dealing with patient, occupational prestige and influence of a role model physician were the commonest factors mentioned by both junior and senior students. In 2011, Abu-Rafea et al conducted a study that aimed to look at the factors influencing students' decision in choosing obstetrics and gynecology as a career in a university hospital in Central Saudi Arabia.[17] The study found that faculty interaction was a major reason for attracting students accounting for 71.9%. Interestingly, only 37.5% of the students mentioned resident interaction as a positive influence on their subspecialty choosing. This is an interesting area to study. In 2015, as a study was conducted by Mashat et al to explore whether or not regret took place after specialty selection.[10] The analysis showed that 11% of the participants regret their choice of specialty. Conducting studies that investigate the relationship between regret among medical students and availability of coaching and career counselling is of great importance since it will increase the weight of such programs and their need for educational institutions.

CONCLUSIONS

In conclusion, the common reasons for selecting Medicine as a profession included interest in the medical field and willing to help the patients with these reasons significantly higher among the junior students while having a high GPA was significantly higher among the senior students. Publications and internet resources were the most helpful factors in choosing the medical profession by both junior and senior students. The most frequent future specialty chosen by junior and senior students were surgery, paediatric and internal medicine. Personal interest was the significant factor affecting the junior students' choice of their future specialty while that of the senior students was the study cost. Comprehensive and structured programs directed to the secondary school and preparatory university year students to guide them to the proper career with the highlight of Medicine as one of the profession strongly needed in Saudi Arabia. Specialty selection and regret is an extensively studied area that needs putting into action the improvement plans suggested by these studies.

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APPENDIX I

First: Personal data

Name (Optional) .....

Academic number (optional): .....

Study year: .....

University:

1. King Abdul Aziz University

2. Other

Gender:

1. Male

2. Female

High school type:

1. Private school

2. Governmental school

Mother's education:

1. Less than secondary
2. A high school
3. Diploma
4. College
5. Master
6. PhD

Father's education:

1. Less than secondary
2. A high school
3. Diploma
4. College
5. Master
6. PhD

Mother Function:

1. Housewife
2. Teacher
3. Physician
4. Secretary
5. Dentist
6. Business woman
7. Nurse
8. Employee
9. Retired
10. Others specify….

Father function:

1. Teacher
2. Physician
3. Secretary
4. Dentist
5. Business woman
6. Nurse
7. Employee
8. Retired
9. Others specify….

Second, the reasons for choosing Medicine as carrier: (You may select more than one reason)

I chose Medicine because I

1. I have to help patients
2. Got a high grade
3. Think it's prestigious College
4. Interested in the medical field
5. Want to earn a lot of money
6. Have a role model
7. Have an experience of illness with a relative / friend
8. Have been pressured from parents
9. Want to get a job easily
10. Could not find a college by specialty that I want

Third: My favorite future specialist is:

1. Internal medicine
2. Surgery
3. Gynecology
4. Pediatric
5. Medical education
6. Family Medicine
7. Emergency Medicine
8. Ophthalmology
9. Anesthesia
10. Dermatology
11. Psychiatry
12. Ear, Nose & Throat.
13. Orthopedic
14. Immune
15. Pathology
16. Genetic diseases
17. I have not decided yet
18. Other (please specify) .....

Fourth: choose how was the usefulness of the following in choosing your specialty?

	(0) Did not use	(1) is not useful at all	(2) hardly little	(3) is useful to some extent	(4) is very useful
1.Comprehensive career planning program at your school					
2. Provide advice / guidance					
3. Interested specialization groups					
4. Career planning workshops / courses sponsored by school					
5. Publications and sources from the Internet					

6. participate in activities outside the home					
7. Capability test or personality tests					
8. University indicative program to educate students about career choice					

Fifth: What are the factors influencing the preferred choice of your specialty?

	(0) No effect	(1) Have little effect	(2) have a moderate impact	(3) have a strong influence
1. expectations of parents (parents, husband / wife, children, relatives)				
2. Account the geographical				
3. Lifestyle				
4. Few responsibilities				
5. Research opportunities				
6. Term resident physician program				
7. Offer graduate programs in the Kingdom				
8. Scarcity of specialization in the UK				
9. Income expectations				
10. Personal Interests				
11. Competition				
12. The high level of the costs of the study				
13. Specialization choices				
14. Advisory impact / doctor ideal				
15. Interfering with patients				
16. Rapid progress of specialization				
17. Specialization is a high-denominator				
18. Capacity tests or personality tests				
19. College of assistance on the choice of specialization programs				