

Career Choices Among Medical Students and Factors Influencing Their Choices

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Abstract

Background: Physicians' specialty choices have a direct impact on medical workforce. As medical students progress through medical school, it is observed that their interests in specialties change due to one reason or another. The aim of this study is to firstly identify factors that influence medical students' career choices using a cross sectional study. Secondly, to analyze which factors are the most influential with the aim of informing the work force and curriculum developers and thus enhance the employability of graduates.

Methods: A computer generated random sample of 131 medical students was taken from the preclinical second-year medical students at the Royal College of Surgeons in Ireland-Medical University of Bahrain. Questionnaires were distributed face to face and later retrieved for data collection and analysis.

Results: Eighty-four (70%) students responded to the survey. Thirty-two (38.1%) of the respondents were male and fifty-two (61.9%) were female. The top three preferred specialty choices were Surgery 22 (26.5%) followed by Internal medicine 12 (14.5%) and Paediatrics 11 (13.3%). The most popular factor in specialty choice was interesting field and the least popular factor was geographical location of the hospital or health institution.

Conclusion: The top three career choices were selected because those students felt they were interesting fields. The least important factors were geographical location of the hospitals or health institutions, media influence and financial reasons respectively.

Keywords: career choice, medical students, medical school, future career, speciality choice

1. Introduction

Specialty career choice is a life determinant decision for medical students. Choosing a medical specialty to go into can be a very confusing decision for most medical students owing to the increasing number of specialties and subspecialties available today. For most of them, it is a transitional phase which means that what they had considered a career choice at time of entrance might completely change by the time they graduate. The decision is influenced by many internal and external factors. Through a mix of short and long-term preceptorships and rotations, medical students are exposed to a wider range of specialties, mentors and role models than has traditionally been the case. In addition, the factors that may influence these choices are often multiple and sometimes intertwined. A careful career selection by undergraduate medical students becomes vitally important as students may dropout from their selected specialties or due to incompatible aptitude or other reasons. Students may be urged to change their choice of specialty after spending few years in training. Such mishaps, primarily due to careless career selection, jeopardize the efforts and undermine the entire process of intended delivery of appropriate health-care services to the community (Guraya & Almaramhy, 2018). Historically, it is noted that medical student's preferences for specialty choice, as well as their motivational factors for a career choice have a tendency to change during the period of their studies. However, longitudinal studies aimed at providing information regarding factors influencing career choices amongst medical students in an international environment is by far limited.

Physicians' specialty choices have a direct impact on medical workforce. It can affect the composition of the physician workforce nationwide (Pianosi, Bethune, & Hurley, 2016). Therefore, it is fundamental to achieve the

balance between satisfying the demands from medical graduates and projections for health care workforce which align education, labour market and policies.

The aim of this study is to identify the preferred career choices among medical students and the factors that influence their choices. Furthermore, we aim to identify which factors are most influential in determining their choice with the ultimate aim of informing the work force and curriculum developers and thus enhance the employability of graduates. The results of the study could be incorporated into existing medical school curriculums by increasing the level of practical experience for each student in a certain specialty with a special focus on aspects such as early patient contact and developing hands-on clinical skills (Grasreiner, Dahmen, & Settmacher, 2018).

2. Method

2.1 Study Design and Setting

This is a cross sectional descriptive study in which a random sample of one hundred and thirty one medical students was selected. RCSI Bahrain runs a five-year medical program of which the first two and a half years are preclinical and the last two and half years are mainly spent in the hospitals and primary health care centers. However, a significant portion of students is exposed to clinical medicine through self-organized observerships over the summer and winter breaks prior to their clinical years. By the end of the second year, the students would have completed several basic science modules including anatomy, physiology, pharmacology, epidemiology and psychology.

2.2 Participant (Subject) Characteristics

All year two students were eligible and included in the selection process. We chose second year students because we plan to do a follow up study on the same cohort of students when they reach their final year in order to compare the changes of career choice preferences over the years of study.

2.3 Sampling Procedures

This is a cross sectional study in which a random sample of 131 medical students was selected. The randomization process was computer generated. The sample was extracted from a total of 172-second year medical students at the Royal College of Surgeons in Ireland-Medical University of Bahrain (RCSI Bahrain). The approval body for this study was given by the Research Ethics Committee at RCSI Bahrain. All participants consented to participation. All data was collected anonymously and treated with confidentiality.

2.3.1 Measures and Covariates

After a comprehensive review of the literature we developed a questionnaire that includes demographic characteristics of the participants such as age, gender, nationality and highest qualification before medical school. The second section consists of the current preferred specialty choice, a rating scale of the factors influencing the chosen specialty, the degree of certainty of that choice and whether or not their parents were currently in medical practice. The career choices were Family medicine, Internal Medicine, Surgery, Pediatrics, OBGYN and 10 other specialties making a total of 15 choices. There was also an additional option to choose a specialty outside the list. There were 12 items considered as factors motivating the specialty choice ranked as 1 being the most important, and 12 being the least important.

2.3.2 Approach to Participants

Questionnaires were distributed face to face to the target population and later retrieved for data entry and analysis. Information sheets containing a summary of the study, as well as a consent form were attached to the questionnaires. The participants were assured that the results of the study would be anonymized.

3. Results

3.1 Recruitment

We collected the data in the period between March to May 2017.

3.2 Statistics and Data Analysis

We entered and analysed the data using the Statistical Package for Social Sciences (SPSS) with a two-tailed p-value <5% considered as the cut-off value for significance. We conducted descriptive analysis and computed frequencies and percentages for all demographic and outcome variables. In addition, Chi-square test was used to assess the association between preferred specialty and the sociodemographic and academic characteristics of the participants.

3.3 Characteristics of Participants

Overall, 84 (70%) students responded to the survey. Thirty-two (38.1%) of the respondents were male and 52 (61.9%) were female. The age range was from 19 to 30 with a median of 21 and a mean of 21.64 (SD 2.06). Thirty-nine (46.4%) of the participants were Bahraini and 15 (17.9%) were North American. The rest 45 (35.7%) were from other nationalities including Gulf Corporation Council (GCC) countries, non GCC Arab countries, African countries, South Asian countries, European countries and Turkey (Table 1). Majority of participants 58 (71.6%) reported that both of their parents were not in the medical field, 11 (13.6%) had both parents currently in medical practice and 6 (7.4%) had one parent in medical practice.

Table 1. Socio-demographic characteristics of participants (N=84)

Variable	No	%
Gender		
· Male	32	38.1
· Female	52	61.9
Nationality		
· Bahraini	39	46.4
· GCC	10	11.9
· Arab Countries	8	9.5
· North American	15	17.9
· European	3	3.6
· African	3	3.6
· South Asian	5	6.0
· Turkish	1	1.2
Highest qualification		
· High school	43	51.2
· A levels/IB	32	38.1
· Previous degree(s)	7	8.3
· Other	2	2.4
Parents in medical practice		
· Mother	6	7.4
· Father	6	7.4
· Both	11	13.6

3.4 Speciality Choice

The top three preferred speciality choices were surgery 22 (26.5%) then internal medicine 12 (14.5%) and pediatrics 11 (13.3%) as seen in Figure 1. Out of the 11 students that chose Pediatrics, 9 (82%) were female and 2 (18%) were male. For surgery, out of 21 students, 12 (57%) were female and 9 (43%) were male. For internal medicine, out of 11 students, 7 (64%) were female and 4 (36%) were male. The most popular factor in determining speciality choice was interesting field 42 (51.9%) followed by Family and friends and Observership experience 10 (12.3%) and the least popular factor was the availability of Residency 26 (32.1%) (Table 2). Fifteen (18.8%) of participants were most certain that this was the speciality that they want to go into and 7 (8.8%) were least certain. Chi-square test showed that there was no statistical significant association between any of the demographic variables and the preferred speciality choices.

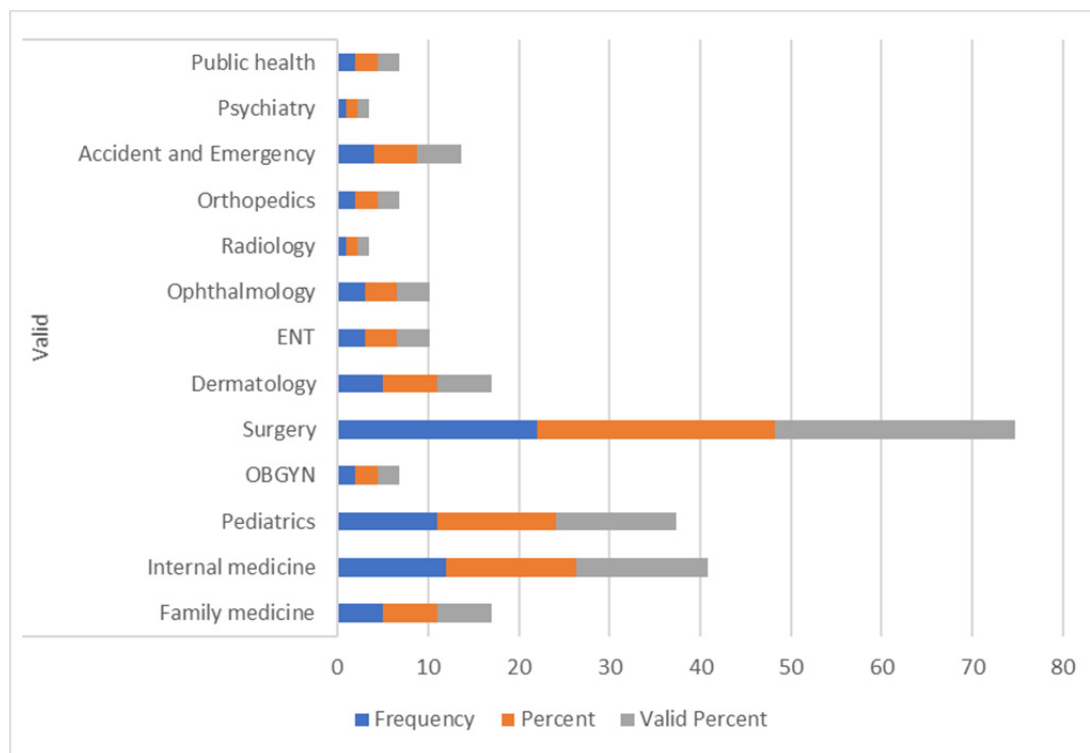


Figure 1. Preferred specialty choices

Table 2. Factors influencing the career choice decision (N=84)

Variable	Most important	Mid important	Least important
	N (%)	N (%)	N (%)
Family and Friends	10 (12.3%)	64 (79%)	7 (8.6%)
Geographical Location	0 (0%)	68 (84%)	13 (16%)
Observership experience	10 (12.3 %)	61 (75.3%)	10 (12.3%)
Media influence	0 (0%)	67 (82.7%)	14 (17.3%)
Lifestyle	7 (8.6%)	71 (87.7%)	3 (3.7%)
Financial reasons	2 (2.5%)	76 (93.8%)	3 (3.7%)
Job opportunities	6 (7.4%)	74 (91.4%)	1 (1.2%)
Interesting field	42 (51.9%)	38 (46.9%)	1 (1.2%)
Private practice	0 (0%)	3 (3.7%)	3 (3.7%)
Quality of life	4 (4.9%)	75 (92.6%)	2 (2.5%)
Residency	0 (0%)	55 (67.9%)	26 (32.1%)

4. Discussion

This study is based on surveying second year medical students regarding their career choices. The top three specialty choices in our study were surgery, internal medicine and pediatrics. This is in accordance with results produced by other studies in Jordan (Khader et al., 2008), Canada (Scott, Wright, Brenneis, & Gowans, 2009) and Kuwait (Al-Fouzan, Al-Ajlan, Marwan, & Al-Saleh, 2012).

We speculate that these specialties were popular amongst students as they are often the most discussed by academic staff. It might also be because these are specialties generally considered as main branches of medicine. Another possible explanation is that students in their earlier years of studying medicine are not exposed to a wide variety of specialties; they are focused on basic sciences and have still not gained clinical experience. Therefore,

their choice was based on the major specialties in medicine that they are more likely to have heard of or come across.

Gender differences were noted in the preference of certain specialties. For example, over 80% of the students that selected pediatrics as their preferred specialty were females. This finding is in agreement with others (Khader et al., 2008; McCord et al., 2007). This could also be because pediatrics is often seen as a more family oriented specialty allowing for a more controllable lifestyle (Dorsey, Jarjoura, & Rutecki, 2005). This remains an important factor for female medical students who are choosing a specialty. It is therefore important to begin to make meaningful and thoughtful changes in medical center policies that affect a balance between work and home (Lee, 2013).

The most popular factor chosen across the study was interesting field. Similarly, previous studies in Kuwait and Jordan related students' specialty choices to the intellectual content of a specialty (Al-Fouzan et al., 2012; Khader et al., 2008). The next most popular factors chosen amongst the students were both Family and Friends and previous observership experience. The former may be related to the expected influence that loved ones have on major life decisions such as this while the latter is understandable since having an experience in a certain specialty gives the student a more tangible idea of what to expect if they do decide to venture into that specialty.

The least important factor chosen was availability of residency. This factor in addition to media influence was the least popular amongst students who chose internal medicine as their preferred specialty. The least important factor to students that selected Surgery was geographical location. This is not surprising based on the observation that in recent times, people are seen to travel far and wide in search for quality education and good job opportunities while placing less emphasis on the location. For Pediatrics, the least important factors were financial reasons and geographical location once again.

Family medicine was one of the least popular specialty preferences, which is consistent with the findings of other studies (Baboolal & Hutchinson, 2007; Khader et al., 2008). This might be a result of the fact that junior students are not exposed to family medicine until they reach their senior years. Therefore, they don't have an idea of what it is like or what it entails. The same applies to other specialities such as psychiatry, ENT, ophthalmology and radiology.

It is likely that a balance of factors operating before, during and after medical school is involved in any individual's career decision. In this study, the most important factor determining the preferred choice is interesting field followed by Job opportunities. However, the influence and importance of these factors might change as students progress through the years (Khader et al., 2008). One should note that none of these factors reached statistical significance in this study when they were associated with the preferred speciality.

Our study included a random sample of second year medical students only and thus the results could not be generalized to the entire cohort of medical students in the university. Additionally, the sample is selected from one of the two medical universities in the Kingdom in Bahrain and therefore could not be generalized to all medical students in the country. The survey determined "preferred" choice rather than the student's actual choice, which makes it difficult to ascertain if this is the student's realistic career choice. The factors included in the survey were not an extensive list therefore, other potentially important factors may have been unexplored such as influence of personal mentoring and career guidance although we attempted to lessen the effect of this by including an "other" option. The quantitative nature of our study takes away from the potential value that would be derived from an additional qualitative approach. In addition to this, it is known in the literature that students' first specialty preference often changed as they progressed through the course (Al-Fouzan et al., 2012; Khader et al., 2008). Therefore, we plan to conduct a follow up study when the students are in their 4th year hoping to analyze how their specialty choices and influencing factors have changed over time as they approach their final clinical years. In Jordan for example, a wider distribution of first specialty preference was found among fourth year medical students but the widest was found among sixth year medical students (Khader et al., 2008).

It will also be interesting to compare the current trends in speciality preference among medical students with the actual physician workforce.

5. Conclusion

The most popular career choices in this study are Surgery, Internal medicine and Paediatrics selected primarily because students felt they were interesting fields. It is clear that a multitude of factors may influence these decisions. We believe that these factors can be utilized by mentors and the medical workforce in encouraging students to choose specialties that are inadequately represented and thus better serving the immediate community. For example, better incorporation of surgery into the curriculum, proper attention given to students during their surgical rotation and restructuring of the surgical training program are some of the ways that may improve the

interest of students in the field of surgery (Zaheer, Rehman, Fareed, Khan, & Rizvi, 2018). This data will be followed with a longitudinal study in order to understand the dynamic influence that educational institutions, work environments, lifestyle etc. exert on medical students' career choices towards the end of their clinical years.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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