

A cross sectional study on the perceived value of mentorship and mentors' influence on student specialty selection

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ABSTRACT

Introduction: At beginning of medical school carrier orientation activities could play major role in career decisions for students. It is important to identify the variables that affect career choices at the beginning of medical school and correlations with different styles of personality. However, there has not been much work on how do the students perceive the influence of mentors in their decisions regarding specialization selection. We aimed the study, the perceived influence of the mentorship on the selection of specialization is investigated.

Materials and Methods: A cross-sectional survey was carried out and 282 students from College of Medicine, Majmaah University, were interviewed from 30 September 2019 to 30 October 2019. Demographic details were included various reasons like a speciality selection, intension to pursue post graduate, when decision was made on speciality selection and whether there was any form of mentorship.

Result: Total 282 students of aged 18years to 26 years and one student was under 18 years were participated in this study among them, 61% were male, and 39% were female. Most of the students (~50%) felt that the influence of the mentor is Neutral, the second-highest number thought that the influence is strongly positive. The average score ranged from 2.85 ± 1.06 to 3.46 ± 1.05 . The highest score was for Internal Medicine, and the lowest was for Pharmacology ($p=0.0001$). The study also included a general questions "I do not have sufficient mentorship to pursue a career in academic medicine." 13.83% of students responded strongly agree, 21.28% mentioned Agree, 51.42% mentioned Neutral, and 8.51% and 4.96% responded as Disagree and strongly disagree respectively.

Conclusion: Our study conclude that most preferred specialities of medical students were highest and lowest in internal medicine and pharmacology respectively. The speciality selection preferences were found significant with gender of medical student, male medical students prefers surgical specialities whereas female medical students prefer obstetrics and gynaecology and paediatrics.

Key words: Mentorship, Mentor, Speciality, Career, Medical Students, Mentoring

INTRODUCTION

When demographics expand need of health services arises because of this need global health system face various difficulty which need to rectify and addressed. Occasionally many new pathogens are emerging with new trend or pattern of existing ones. The inadequate number of medical professionals and their non-uniform deployment in the fields of specialty and geographic location compound this condition.¹ Medical education requires a broad range of medical specialties to be learned by undergraduate students. Students are often believed not to reveal their career choices until after graduation from medical institute.¹ However, not only entrants to medical institute,² but also candidates to medical school also have clear expectations for or against other medical careers. The final year MBBS students and freshly graduates usually plan for the career ahead.^{3,4}

The selection of profession by medical students are still complicated. The elements found linked to the option include the features of medical school, personal experiences and lifestyle choices, personal health and labour force factors, including predicted earnings, reputation, work prospects, longitudinal treatment, societal needs, and career progression where some relevant factors found by students considered significant. The commonest reason for the choice of specialties was students who declared financial benefits and private practice.⁵⁻⁷

For medical students, the selection of specialization is a significant career decision. It has substantial financial

and career satisfaction implications. The academic content of the specialty and the competences of the professional have been recognised as being the most influential in their specialty preferences. Mentorship has also been considered to play an essential role in this regard. Different studies have reported different specialty preferences of medical students.⁸⁻¹⁰ Limited choice was available in few subjects such as surgery, internal medicine, obstetrics and gynaecology. The choice of subject depends upon gender like subject seems to be surgery for men and obstetrics and gynaecology and internal medicine for women.⁹ It has also been reported that a faculty advisor is a significant factor affecting the specialty choice made by students.¹¹ Dimitriadis et al. analysed such factors and reported that a significant number of students recognized that mentoring relationship have positive impact on career planning.¹²

At beginning of medical school carrier orientation activities could play major role in career decisions for students. It is important to identify the variables that affect career choices at the beginning of medical school,⁶ and correlations with different styles of personality.¹³ Other research has centred on the professions of certain classes like female physician, anaesthesia, psychiatry, attitudes towards specific specialties and the basic statistics needed for workforce planning.^{13,14}

Thistlewaite et al.⁵ and Henry et al.¹⁵ reported that previous rural residency plays major role in preference of rural career selection. However, long-term rural experience during medical school and role models also have a huge influence on rural career preferences.

There has been a growing focus of career choice issues in recent years. What motivates students to choose those specialties over others which also provide insight on what may be required to align the availability of manpower between various specialties. Still, there is a paucity of

specialist doctors. However, there has not been much work on how do the students perceive the influence of mentors in their decisions regarding specialization selection. We aimed the study, the perceived influence of the mentorship on the selection of specialization is investigated.

Table 1: General characteristics of (n = 282) mentees

Variable	Number of Medical Students (n)	(%)
Gender		
Men	171	60.64
Women	111	39.36
Age (yr.)		
Under 18	1	0.35
19	31	10.99
20	48	17.02
21	48	17.02
22	44	15.6
23	48	17.02
24	38	13.48
25	17	6.03
26	7	2.48
Marital status		
Single	276	97.87
Married	2	0.71
Divorced	1	0.35
Widowed	1	0.35
Separated	2	0.71
Location		
Majmaah City	98	34.75
Outside Majmaah City	184	65.25
Academic Year		
1st year (Pre-medical year)	11	3.9
2nd year (1st Basic sciences preclinical year)	53	18.79
3rd year (2nd basic sciences preclinical year)	67	23.76
4th year (1st Clinical year)	41	14.54
5th year (2nd Clinical year)	39	13.83
6th year (3rd Clinical year)	35	12.41

MATERIALS AND METHODS

A cross-sectional survey total 337 students were in the medical school at the College of Medicine, Majmaah University, from 30 September 2019 to 30 October 2019. Among them only 282 medical students participated in the study with the response rate of 83.6%. The informed written consent was taken from the students, and the protocol was approved by the Unit of medical Ethics of King Fahad Medical City (KFMC) (Log number: 20-269E). The students completed an anonymous questionnaire about the perceived influence of the mentor on the specialization selection.

Survey Instrument: The study instrument was a self-prepared questionnaire on the perceived influence of the mentors in selecting a specialization, was used to conduct the study. Demographic details were included various reasons like a speciality selection, intension to pursue post graduate, when decision was made on speciality selection and whether there was any form of mentorship.

Study variables: Study variables like sex, age, marital status, location and academic year were extracted from students. Medical specializations included academic medicine, General Surgery, Urology, Plastic surgery, Orthopaedic surgery, Otorhinolaryngology (ORL),

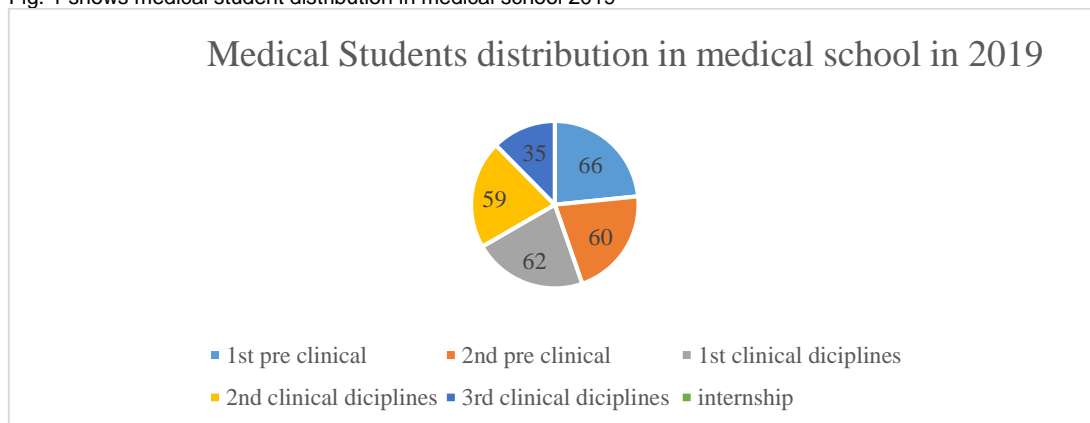
Ophthalmology, Internal Medicine, Family Medicine, Community medicine, Psychiatry, Paediatrics, Dermatology, Radiology, Emergency Medicine, Obstetrics and Gynaecology, Anatomy, Physiology, Pathology, Pharmacology, Biochemistry, Medical Education and Microbiology.

Statistical methods: The data were collected and analysed with a 95 % confidence level and 5 % margin of error by using descriptive statistics by the Microsoft office Excel and GNU PSPP software. Chi –square test and Student's t-test were used to compare general characteristics and mean respectively. The p-value greater than 0.5 was considered significant.

RESULT

A cross-sectional survey total 337 students were in the medical school at the College of Medicine, Majmaah University, from 30 September 2019 to 30 October 2019 (Figure 1). Total 282 students of aged 18years to 26 years and one student was under 18 years were participated in this study among them, 61% were male, and 39% were female. Maximum students were unmarried and mean age was 21.9±1.4 years (Table 1).

Fig. 1 shows medical student distribution in medical school 2019



Specialization: The students were asked to rate the mentors' influence in pursuing them to select a particular specialization. All common specializations were included. The trend was common across the specialization. Most of the students (~50%) felt that the influence of the mentor is Neutral, the second-highest number thought that the influence is strongly positive. The average score ranged from 2.85 ± 1.06 to 3.46 ± 1.05 . The highest score was for Internal Medicine, and the lowest was for Pharmacology ($p=0.0001$) (Table 2, Figure 1).

The study also included a general questions "I do not have sufficient mentorship to pursue a career in academic medicine." The mean score was 2.7 ± 0.98 , and the median was 3 (IQR=1). 13.83% of students responded strongly agree, 21.28% mentioned Agree, 51.42% mentioned Neutral, and 8.51% and 4.96% responded as Disagree and strongly disagree respectively. 2.51 ± 1.17 (95% CI 2.37-2.65) and 3 (IQR=2) was mean score and median respectively.

Table 2: Perceived quality of the mentor's influence on the specialization

Variable	Mean Score	SD
Rate the effect of mentors on pursuing an academic medicine career	3.07	0.92
Rate the effect of mentors on pursuing a "non-academic" medicine career	3.11	0.9
Rate the effect of mentors on pursuing a career in General Surgery	3.04	1.08
Rate the effect of mentors on pursuing a career in Urology	3.19	0.87
Rate the effect of mentors on pursuing a career in Plastic surgery	3.20	0.87
Rate the effect of mentors on pursuing a career in Orthopaedic surgery	3.15	0.87
Rate the effect of mentors on pursuing a career in ENT	3.18	0.78
Rate the effect of mentors on pursuing a career in Ophthalmology	3.13	0.93
Rate the effect of mentors on pursuing a career in Internal Medicine	3.46	1.05
Rate the effect of mentors on pursuing a career in Family Medicine	3.38	1.03
Rate the effect of mentors on pursuing a career in Paediatrics	3.30	0.94
Rate the effect of mentors on pursuing a career in Dermatology	3.28	0.99
Rate the effect of mentors on pursuing a career in Radiology	3.06	0.91
Rate the effect of mentors on pursuing a career in Emergency Medicine	3.25	0.91
Rate the effect of mentors on pursuing a career in Obs/Gynae	2.91	0.99
Rate the effect of mentors on pursuing a career in Anatomy	3.01	1.04
Rate the effect of mentors on pursuing a career in Physiology	3.04	0.99
Rate the effect of mentors on pursuing a career in Pathology	3.07	1.01
Rate the effect of mentors on pursuing a career in Pharmacology	2.85	1.06
Rate the effect of mentors on pursuing a career in Biochemistry	2.91	1.02
Rate the effect of mentors on pursuing a career in Medical Education	2.89	0.96
Rate the effect of mentors on pursuing a career in Microbiology	3.10	0.92

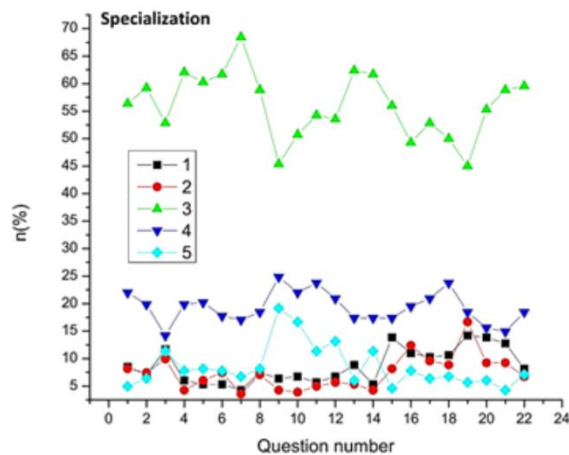


Figure 1: Frequency of selected options in response to different questions on the mentor's influence on specialization

DISCUSSION

In undergraduate education, mentoring activities are also gaining increasing importance. It has also been stated that mentors and consultants influence the students' decisions on choosing a specialty. In this study, we have shown that the perceived efficacy of mentorship among students can be influenced by certain parameters of academic achievement, whereas many other parameters, such as gender, have no major impact. Besides, among all aspects of mentorship, this influence is not consistent.

National availability of health care manpower can be effected by medical student's choice of speciality. Understanding the influences that affect the decisions of students about future careers will contribute to corrective action.^{16,17}

The selection of a specialty is a major decision for a medical mentee, and a mentor can play an important role in identifying mentees' motivations and life goals in this regard. In this study, it was found that the majority of mentees reported either neutral or strongly positive. The highest influence was found on the "internal medicine" whereas the lowest recommendation was found to be for pharmacology. There was no effect of gender, GPA, or other parameters of academic performance. Buddeberg-Fischer et. al. reported that most of Swiss medical students choose internal medicine and surgery followed by primary care.⁹ In similar study in Greece also reported primary choice of medical student were general surgery followed by cardiology and endocrinology.¹⁸

In decision making process of higher education, career choice and personal life decision family member attitudes plays a significant role. A study conducted by sadaf et. al. reported that majority of 3rd and 4th year MBBS students were not sure about their choice of speciality and career.¹⁹

No significant role found on medical students of mentorship effectiveness in all four dimensions. These two groups may have been predicted to be distinct in MRS and engaged; but there are no statistically meaningful variations in the use of mentoring between these two groups. A study conducted by O'Neil et. al. reported that no any specific

pattern of demographic details found significant in relation to dropout.²⁰ Between academic performance and psychological distress poor correlation was noted and it also effects on speciality selection among medical students reported by Dendle et. al.²¹ The indifference of repeating college year on perceived quality of mentorship were also attributed by such reasons.

There were several limitations to this present study. The analysis of interactions frequency between mentor and students and duration was not done and then generalization outcome and effective relationship on the basis of result were reported with caution because of single centre analysis. The perceived quality of mentorship may also affect the qualifications of mentors and other personality characteristics, and it is necessary to analyse them. It can, however, be emphasized here that a uniform mentorship protocol has been adopted in the mentorship exercise, so a significant variation is not expected in this study between the nature and frequency of mentee-mentor interactions.

CONCLUSION

Our study conclude that most preferred specialties of medical students were highest and lowest in internal medicine and pharmacology respectively. The speciality selection preferences were found significant with gender of medical student, male medical students prefers surgical specialties whereas female medical students prefer obstetrics and gynaecology and paediatrics. In terms of the mentor's influence on the selection of specialization, most of the mentees reported above the average influence, though there was no significant difference reported in academic performance. Further efforts are needed to shed light on finer facets of positive mentoring actions in medical education. The modification should be done accordingly in the mentorship program in every academic year, careful consideration to GPA and interactions between students and role model.

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