

## **Knowledge and attitude of Saudi medical students towards the family medicine specialty during their family medicine course and its effect on their career plans: A comparative study.**

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### **Abstract**

The field of family medicine is emerging as a cornerstone for the providing comprehensive, quality care to a diverse population. The importance of family medicine in Saudi Arabia has also rapidly increased due to the growing morbidity and mortality for preventable diseases. Therefore, it is necessary to train qualified and competent family medicine practitioners, and their scarcity in Saudi Arabia should be addressed on a priority basis. The objective of this study is to assess the knowledge of Saudi medical students about the family medicine specialty and their attitude towards selecting family medicine as a career. A quantitative method is used to assess the knowledge and attitudes of fourth year medical students training in a family medicine clinical course in King Saud University as part of their curriculum during (March 2015-May 2015). The study participants were evaluated through questionnaire-based responses before and after commencing their clinical rotation training. The study findings deduced that the family medicine clinical course has a significant effect on medical students' career decisions, and this course is beneficial in improving students' knowledge of family medicine ( $P=0.009$ ). The study responses suggested that students become more determined to practice family medicine after completing their clinical training ( $P=0.034$ ). Many of the study participants have chosen family medicine as a career after acquiring extensive knowledge on the subject (58%). Approximately 81% of the participants believe that it is an integral part of the healthcare system in Saudi Arabia. The top reasons why students included family medicine in their career plans were observations of the physician-patient interaction in this specialty (66.7%); the faculty staff's attitudes, interests and compassion (61.5%); and the enjoyment of the family medicine rotation (51.3%). Based on the study findings that the family medicine clinical rotation was highly beneficial for medical students in terms of improving their knowledge about and attitude toward the field, the choice of family medicine as a career was not affected by the course. Instead, the student's personal perception and passion to pursue family medicine as a practice influences the student's career choice.

**Keywords:** Family medicine, Medical education, Career.

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### **Introduction**

The recent allocation of family medicine as a separate domain of medical practice has started a new discussion among medical practitioners. Diverse perceptions about the future of family medicine have been observed among medical professionals and students. Generally, medical students better understand the practice of family medicine when they undergo a clinical rotation in the family medicine discipline [1]. It is evident that the increasing rate of preventable diseases, such as Type 2 Diabetes Mellitus (T2DM), hypertension, coronary artery disease, stroke, Chronic Obstructive Pulmonary Disease (COPD), etc., accounts for the increase in morbidity and mortality percentages worldwide. Hence, family practitioners are needed to implement effective interventions, such as

infection precautions, smoking cessation, healthy eating and increased physical activity, to reduce the risk of non-communicable diseases [2].

The objectives of primary care that need to be achieved include accessibility, accountability, affordability and comprehensive care. These objectives could be achieved by localizing the provision of care to family and community medicine practices. It has been suggested through research-based evidence that personal healthcare needs could be effectively met by developing a sustained bond with patients and families through the emerging family medicine practice. The concept of family medicine practices has shifted the accountability to family physicians to provide easily accessible and primary care to the community. Family medicine has evolved as a guiding light for

maintaining the health status of the population because it enables the use of preventive and cost-effective therapies [3].

Similarly, the scope of family medicine in Saudi Arabia also revolves around the previously mentioned basic objectives. Family medicine, in combination with community medicine, has been taught in the medical curriculum since 1980 in Saudi Arabia. These programs have been extremely successful in providing family practitioners with expertise in the field of community medicine. Furthermore, it has been considered mandatory to incorporate family medicine training into the curriculum to enhance evidence-based practice in the field of family medicine. It is necessary to understand that family medicine is a rapidly changing field of medicine that needs to be structured as per the current health needs of specific communities. Hence, continuous medical education of family practitioners is required to develop need-specific strategies for care provision. It is evident from the above discussion that family medicine residents need specialized knowledge and skills to be a qualified family medicine practitioner. Competent faculty and evidence-based learning methods are essential to appropriate training and professional development of a family practitioner [4].

Therefore, the medical students' perceptions family medicine as a future career and the adequacy of residency training should be evaluated. It is important to objectively ascertain that the residency training programs in Saudi Arabia sufficiently to prepare medical students enter the field of family medicine. Family medicine is a field that requires knowledge about diverse aspects of comprehensive care provision. Furthermore, the family medicine discipline requires that medical practitioners have a high level of commitment to maintaining the individuals' quality of life through preventive therapy [5]. The objective of this research is to evaluate fourth year medical students' perceptions of family medicine and choice of family medicine as a career. Moreover, the effect of clinical rotations on students' knowledge and attitudes about family medicine will also be examined in this study.

## Methods

### *Study design*

A quantitative study design was chosen for this study, and the study variables were correlated to achieve the study objectives. The fourth medical students participate in a family medicine course at King Saud University as part of their curriculum during (March 2015-May 2015). It was a four-week course that consisted of lectures covering the concepts of family medicine and consultation models with communication skills as well as special lectures in evidence-based medicine. It also included related projects, tutorials covering the most common acute and chronic health problems at primary care clinics, and clinical attachments in the primary care centers in Riyadh.

### *Study population*

Fourth year medical students who were in the family medicine course were surveyed. A total of 98 medical students were asked about their perceptions, knowledge and attitudes about family medicine. All students responded appropriately to the survey questions. The survey was administered twice, before and after the clinical rotation.

### *Ethical considerations*

Ethical approval was obtained from the Institutional Review Board of the College of Medicine at King Saud University. The privacy and confidentiality of the data and study results were secured by restricting unauthorized access.

### *Instrument*

The survey method for data collection was used in the study, and a questionnaire was completed based on the responses of the students who participated in the study. The pre-assessment and post assessment questions were based on data collected from previous studies on the topic. The study instrument used for the topic had a similar pattern as that used in another study [6]. The students' responses were collected before and after they participated in the family medicine course.

### *Statistical analysis*

The data collected through questionnaires were then analysed with Statistical Package for Social Sciences, SPSS version 21.0. The relationships between the data were evaluated with the chi-square test.

### *Results*

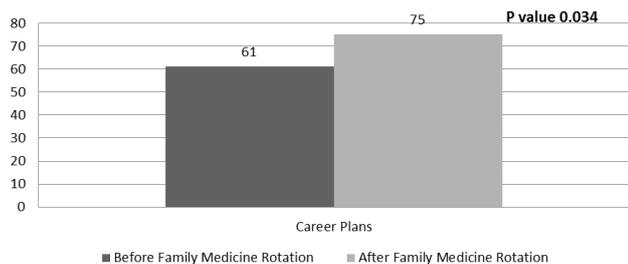
The pre-assessment results indicated that most of the students were aware of the family medicine discipline, but they did not have a sufficiently clear vision of this field to pursue it as a career. Furthermore, the students were able to assess the significance of family medicine in their future practice. The quantitative analysis of the questionnaire responses was conducted by correlating the pre-assessment responses with the post-assessment responses (Table 1). Eighty-two point seven per cent of the students had an idea about the family medicine discipline, whereas, after the clinical rotation, the participants' awareness of the importance of family medicine was up to 76.5%. Hence, it is evident that the clinical rotation significantly helped the students understand the diversity of family medicine and enabled them to choose family medicine as a future career.

The questionnaire responses suggested knowledge of the family medicine discipline is valuable to successful professional practice, regardless of students' future career choices, and 96.9% of the students in the study responded positively about the experience. Ninety-five per cent of the participants agreed that the family medicine course improved their ability to provide comprehensive care in future practice. The ability to deliver comprehensive care is evident in this

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discipline because family physicians have greater access to the general population and they are responsible for catering to the daily health needs of the population, as suggested by 69% of the participants. Hence, 34.7% of the students after the course suggested that family medicine is one of the most fascinating career choices (P=0.009). Approximately 81% of the participants believe that family medicine is an integral part of the healthcare system in Saudi Arabia.

The Chi-square value of the responses also demonstrated the positive impact of the family medicine rotation on students' professional futures (P=0.034).

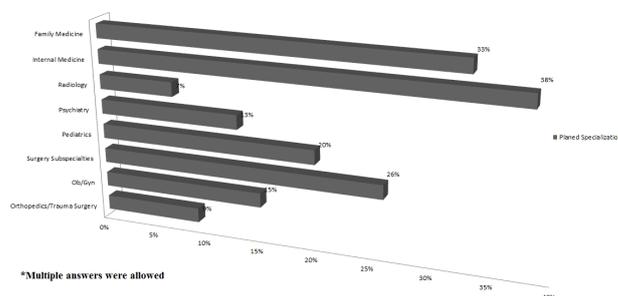


**Figure 1.** Career plans before (pre) and after (post) family medicine rotation for medical students.

Fifty-eight percent of the students reported they would consider family medicine as a future career after the clinical rotation (Figure 1). When we asked the students to choose their top three specialties, internal medicine was at the top (38.4%), which was followed by family medicine (33%), and then surgery, including its subspecialties (26.3%) (Figure 2).

The top reason students included family medicine in their career plans is based on their observations of the physician-patient interaction in this specialty (66.7%). Faculty staff's attitudes, interest and compassion (61.5%) was cited as one of the reasons students plan to choose family medicine as a career. Other reasons include the better working environment in family medicine (56.4%), family physician attitudes (56.4%), enjoyment of the family medicine rotation in medical school (51.3%), diversity in practice (51.3%), more comfortable facilities (38.5%), having a family member with health problems (17.9%) and a new and different residency program (12.8%).

Students who were not interested in family medicine cited that they have an interest in surgery (49.2%), think family medicine has low social prestige (1.7%) or did not appreciate the attitudes of some family physicians (6.8%).



**Figure 2.** Career plans for 4<sup>th</sup> year medical students. Multiple answers were allowed.

**Table 1.** The P-values of the fourth year medical students' responses before (pre) and after (post) the family medicine clinical rotation.

Item	Pre (%)	Post (%)	P-value
<b>Appreciation of family medicine</b>			
Family medicine is a valid discipline like paediatrics or internal medicine.	82.7	99	0.048*
Performing a complete medical history and physical examination is important to practicing good medicine.	99	99	0.315
Experiences in family medicine are valuable to future physicians regardless of their eventual specialty choice.	83.7	96.9	0.963
Family medicine doctors are particularly capable of providing comprehensive care.	70.4	92.9	0.451
Family physicians have more time with patients.	52	66.3	0.437
<b>Comparison with specialists</b>			
The work of a hospital specialist is intellectually more stimulating than that of a family physician	33.7	37.8	0.852
The work of a specialist working in ambulatory care is intellectually more stimulating than that of a family physician	29.6	24.5	0.409
A specialist (e.g., Cardiologist) should earn more money than a family physician.	27.6	25.5	0.029*
I would feel frustrated if I could not practice in a field other than family medicine.	42.9	38.8	0.049*
<b>Family medicine physicians' tasks</b>			
Treating acute diseases is more interesting than counselling/caring for chronically ill patients.	62.2	54.1	0.579
Health maintenance (prevention and rehabilitation) is not as interesting to me as curative medicine.	51	48	0.364
I prefer to spend time dealing with patients' medical problems than with their psychological problems.	48	38.8	0.725
In terms of working as a doctor, I take the most pleasure in talking to patients.	66.3	71.4	0.323

<b>Broad interest</b>			
If I were asked to include the three most fascinating medical specialties, I would include family medicine.	13.3	34.7	0.009*
Working as a specialist is more attractive than being a family physician	74.5	54.1	0.403
A wide variety of problems encompassing all age groups is interesting	55.1	69.4	0.353
I feel well prepared for the daily activities as a doctor	33.7	60.2	0.348
<b>Competence of family medicine physicians</b>			
The quality of the medical care provided by family medicine is not good	21.4	26.5	0.038*
In case of uncertainty, family medicine physicians should not hesitate to consult a specialist	24.5	92.9	0.623
Family medicine physicians are not as competent as internists	20.4	17.3	0.668
<b>Team work</b>			
A family medicine physician should not assume the long-term responsibility of treating patients with chronic illness alone	50	25.5	0.842
A family medicine physician should always consult a specialist for managing critically ill patients	45.9	48	0.919
<b>Organization</b>			
Physician's assistants should be more integrated in the care of patients	65.3	82.7	0.943
The provision of service by specialty-oriented physicians should be coordinated and controlled by family physicians	50	67.3	0.070
<b>Science</b>			
Epidemiological and preventive medicine research is interesting	45.9	56.1	0.003*
General practice is based on sound scientific principles	61.2	75.5	0.989
<b>Time for patients</b>			
A doctor should perform as many direct patient-contact services as possible	80.6	95.9	0.180
Patients with emotional disorders cannot be helped without spending much of the doctor's time	53.1	67.9	0.156
<b>Health care system</b>			
The Saudi health system only works well when family medicine physicians are an integral part of the system	49	80.6	0.356
<b>Other</b>			
A family medicine should enjoy as much as prestige as specialists, e.g., Neurosurgeons	59.2	76.5	0.935
Saudis require more specialists than family medicine physicians	64.3	10.2	0.479
Family physicians have a deeper relationship with their patients than specialists	67.3	74.5	0.461
Working as a family physician in Saudi Arabia is not very attractive	30.6	85.7	0.380
Family physicians are among the most respected members of their communities	49	64.3	0.141
Working in family medicine provides physicians with an excellent opportunity to make a good living	49	52	0.540
The care of geriatric patients is less interesting to me	50	72.4	0.000*
*P<0.05, Statistically significant differences			

## Discussion

Various studies have been conducted to assess medical students' preferred specialty choices. A study was conducted in Saudi Arabia to assess medical students' preferred specialties in their final year of their study and during residency training. It was observed that medical students generally pursue careers in internal medicine, general surgery, paediatrics, emergency medicine and family medicine. The study findings suggested

that the lifestyle and personal priorities of the medical residents are the prime factors responsible for their choice of specialty. Furthermore, the study results indicated that the decision of a career choice is based on personal feelings and life attitudes more than on the clinical rotation experience [7].

The results of this study are consistent with our study findings, which also indicated that medical students' decision to pursue a career in family medicine was not influenced by their

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experience of the clinical rotation. The knowledge gained about family medicine has no effect on medical students' career decisions. The medical students' personal perceptions and interest in a specialty field is the only driver of career choice.

Another study highlighted the challenges that medical students face in their postgraduate training phase in Saudi Arabia. The research was primarily conducted on participants in family medicine training programs to indicate the problems medical students face in this specialty. The study revealed that family medicine is a challenging discipline; as a result, students should be properly trained according to the specifications of this practice. The medical training centers and hospitals did not contain updated and comprehensive health records [8,9]. Moreover, there is a scarcity of qualified trainers in the field of family medicine who can teach medical students comprehensive history taking techniques. Furthermore, the scarcity of family practitioners in Saudi Arabia has increased the workload of individual physicians, which then increases burnout among physicians and decreases the time they have to teach medical residents [8].

A literature review was conducted to assess the factors that influence the choice of specialty among medical students. It was suggested that a variety of contributing factors may be responsible for this decision. A review of the literature showed that factors, such as the medical school curriculum, influence medical students' career choices. The admission factors, such as the demographics of the medical student, could also affect their choice of pursuing family medicine as a career. Medical students from low economic backgrounds who have been educated at State-supported schools have a personal interest in family medicine. This specialty of medicine arouses a sense of achievement within them because they will be helpful in addressing the unmet health-related needs of the down-trodden population [5].

Another study was conducted to assess the effect of the clinical rotation on the medical students' choice of specialty. In this study, all students who were previously interested in selecting family medicine as a career became more dedicated to their decision after the clinical training experience. Furthermore, many students switched from their previously chosen specialty into family medicine as a result of the knowledge they gained about family medicine during their clinical rotation [10].

A study was conducted to assess the career motivation level in the future generation of professionals who have chosen the family medicine specialty. It was observed that family medicine is a very diverse discipline, and professionals in this discipline need to have sound knowledge about every aspect of physician care to be a successful. In the face of the high expectation level associated with this specialty, medical students may lose hope and become de-motivated. Hence, it has been suggested that medical students need sound knowledge and appropriate training during their clinical rotations [11].

Post graduate medical training influences medical students' specialty choices. It should be noted that clinical training provides the students with the opportunity to meet role models in a respective discipline. Hence, their mentorship and sharing of positive experience changes the attitudes of future practitioners. The practical knowledge that students gain enables them to understand the complexities of a specialty, and they should be in a better position to consider their interest in a particular specialty [12].

Kruschinski et al. also conducted a study to evaluate the impact of clinical training on medical students' attitudes about their careers [6]. Forty per cent of the study participants confirmed that clinical training has contributed to their current knowledge about the specialty. However, it cannot be concluded that clinical training has a definitive impact on the decision of choosing career path at the present stage [6].

### **Conclusion**

Family practitioners are highly needed, particularly in the Middle East. It is evident from the research findings of another study that there is a scarcity of family practitioners in Saudi Arabia [13]. The study findings suggested that family medicine is a very challenging field, but it has a wider scope in the field of medicine compared to other specialties. Therefore, it is necessary to inspire medical students to pursue careers in a more diverse field of family medicine. The family medicine specialty is an extremely valuable experience for medical practitioners, and these practitioners have greater opportunity to serve diversified populations. The presence of family practitioners in the healthcare system is necessary for the delivery of comprehensive care services. The study findings suggest that most students have limited knowledge of family medicine before the clinical rotation. However, the clinical rotation phase has improved students' knowledge and skills in family medicine. The family medicine clinical course has enabled students to reasonably select this discipline as a future career.

### **Declaration**

#### ***Competing interests***

No competing interest.

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#### ***Authors' contributions***

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