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# A cross-sectional study of medical students' perceptions about family medicine in Saudi Arabia

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## ABSTRACT

**Objectives:** The main aim of this study is to evaluate the interest and knowledge of medical students about family medicine (FM) in Saudi Arabia.

**Methods:** A cross-sectional study was conducted. The data was collected through a voluntarily filled survey that was distributed among medical students at all universities in Jeddah, Saudi Arabia. **Results:** Data were collected from 340 students, with a mean age of  $22 \pm 1$ . The majority of respondents (94%) have heard about the FM specialty and only 6 percent haven't heard about it. Most of the participants (79%) stated that they knew the family physician's role in society. Statistics showed a significant difference between males, females and Saudi and non-Saudi students regarding knowledge about the family physicians' role in the community. **Conclusion:** Our qualitative study provided comprehensive information on medical students' knowledge of family medicine. The available data shows that there is good knowledge and perception of FM as a specialty and its role in the community. In general, almost half of the students have the desire to specialize as family physicians, which is consistent with the plans of the country's health system.

**Keywords:** Cross sectional survey, Jeddah Saudi Arabia, student perception, medical student, family medicine.

## 1. INTRODUCTION

In healthcare, the emphasis has shifted from disease-oriented etiologies to the interactions between factors embedded in environment, culture, ethnicity or race and policy. In order to address the population's health requirements during such a shift, ongoing and integrated primary care services that are person- and family-focused and community-oriented were required (Al-Saffer et al., 2021; Al-Khashan et al., 2021). Family physicians are the core of primary care in any healthcare facility and their roles in primary, secondary and tertiary care facilities include specialist clinicians who have first contact

with all individuals in the population, regardless of sex, age or disease (Scott et al., 2007; Phillips et al., 2009).

They are also specialists in providing total care for mental, social, physical and spiritual health to each person attending the clinic. Medical school comes with a lot of expectations and hurdles for people who want to work in the health field. FM practice started in the early 1980s, while the SWDE3344433 Saudi board of FM started in 1995. Residents are exposed to more than 13 different specialties in different hospitals during the 4-year FM residency training program (Al-Khashan et al., 2021; Al-Khalidi et al., 2017; Bennett and Phillips, 2010).

It is a field that requires knowledge about diverse aspects of comprehensive care provision. Furthermore, the FM discipline requires a high level of commitment to maintaining individuals' quality of life through a preventive approach (Garg et al., 2022). Choosing a career path is a complex process influenced by personal preferences unique to individual medical students (age, values, debt level, etc.) and program-specific considerations (Gill et al., 2012; Alshammari et al., 2019; Alzahrani et al., 2023).

Decision-making in medical practice can be difficult for medical students and interns owing to the multiple variables involved. The selection of medical specializations is an important aspect of the growth of healthcare workforces. The overall proclivity to pursue various medical specialties can have a significant impact on the healthcare system or physician workforce (Bennett and Phillips, 2010). In the latter case, it is necessary to investigate the variables and assess medical students' perceptions of FM as a career option. According to the literature, the presence of role models (Scott et al., 2007; Phillips et al., 2009; Jordan et al., 2003) and varied clinical exposure during rotations influence students' decisions to pursue FM.

Other factors such as completing a rotation in a rural setting (Gill et al., 2012), exposure to continuity of care and the opportunity to practice medical procedures can influence students' intentions to pursue FM (Gill et al., 2012; Jordan et al., 2003). To comprehend how Saudi medical students, choose a life career path and understand their perspectives and learning experiences behind choosing this specialty, it is critical not only for the existing health professions education framework but also for the education system to clarify information in the literature as well.

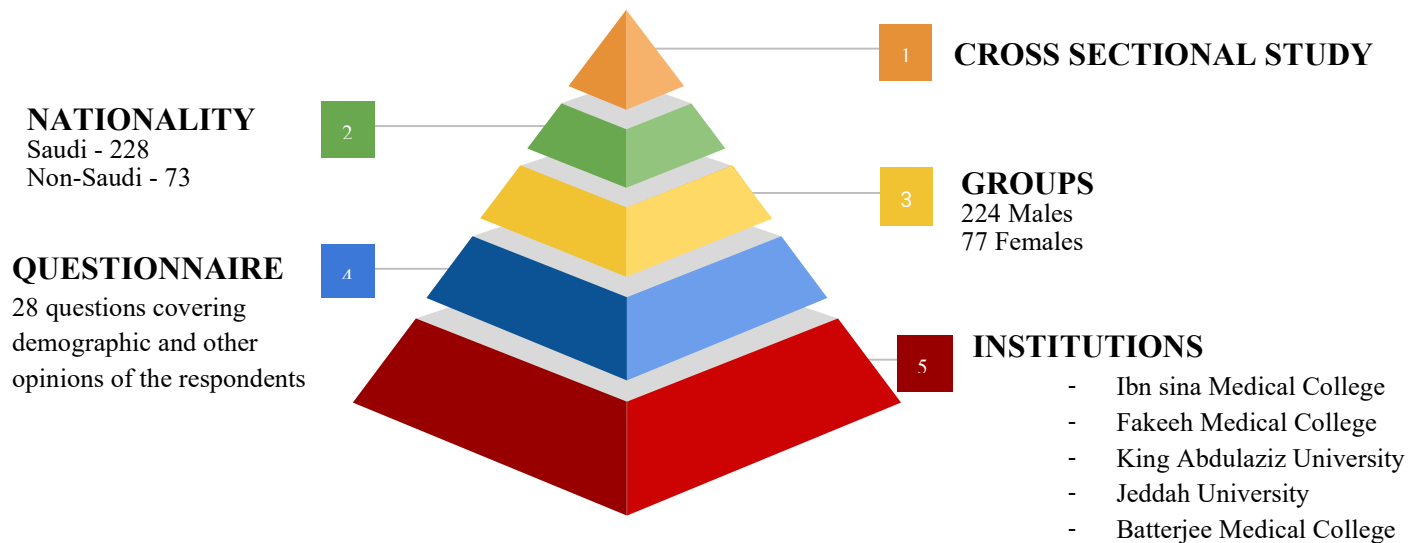
According to a local and recently published paper by Asiri et al., (2023), job security was the most significant consideration in medical students' specialty choice, followed by creativity. For the factors influencing the choice of FM as a future career, many studies have investigated these factors on an international scale (Thuy et al., 2022; Selva-Olid et al., 2012; Ehsan and Musarrat-Ul-Hasnain, 2018). As a first local study, the purpose of the present study is to investigate the factors that influence medical students' perceptions of FM as a career choice.

## 2. MATERIALS AND METHODS

This study was a descriptive, cross-sectional and correlative study to achieve the study objectives was applied among medical students in Jeddah, Saudi Arabia. Data was collected during the first two weeks of March 2023. As in Figure 1, the study involves medical students from the first year to the fifth year in all medical universities in Jeddah, which are: King Abdulaziz University, Batterjee Medical College for Sciences and Technology, Jeddah University, Fakeeh College for Medical Science and Ibn Sina National College. The desired number of participants would be at least 300. Randomly selected among medical students in Jeddah, Saudi Arabia. To be 95% confident, with a 5% margin of error.

In this study, data was collected through an online questionnaire among medical students in Jeddah, Saudi Arabia. There was a total of 29 closed-ended questions divided into the following four categories: Demographics (7 questions), knowledge about FM specialty (19 questions) and attitudes (3 questions). It consisted of true and false, yes and no, multiple choice and written questions. In total, 347 students participated in the survey from all medical colleges and universities in Jeddah and 300 medical students were included in the analysis, while 47 students who do not live in Jeddah were excluded from the analysis in March 2023. Those who were included in the study were asked to accept the consent form and they then completed the online questionnaire. To ensure confidentiality, no information identifying participants was collected.

The data obtained from the questionnaire were entered and analyzed using the IBM SPSS version 23 computer program. Socio-demographic data were presented using descriptive statistics such as means, medians, percentages and standard deviation. An analysis of normality was performed to determine the use of an independent t-test and one-way analysis of variance to demonstrate the statistical significance of participant characteristics or nonparametric tests. The  $\chi^2$  test is used to show the relationship between categorical variables. Ethical considerations were approved by the Medical Research Ethics Committee and the scientific community at Batterjee Medical College for Sciences and Technology (approval code: RES-2023-0011).



**Figure 1** Perception of medicine aspirants about family medicine in Saudi Arabia

### 3. RESULTS

The study was carried out with the principal aim of evaluating the perception of medical students about the FM specialty; the analysis was performed as described in "materials and methods", 347 students participated in the study and 47 students who do not live in Jeddah were excluded from the analysis. The demographical analysis results included the mean age of the participants, which was  $22 \pm 1.69$  years.

As in Table 1 there were more males (74%) than females (26%) and the number of Saudi students (76%) was greater than that of non-Saudi students (24%). Furthermore, the highest responses were from KAU (23%), BMC (21%) and Jeddah University (20%) and the results were the same for Fakeeh and Ibn Sina colleges (18%). The students that were included in the analysis are from the first medical year until the fifth medical year, with the highest response being the fifth medical year (32%), followed by the fourth medical year (25%), the third and second medical years having the same responses (18%) and the first year having the least responses (8%).

**Table 1** Demographic information

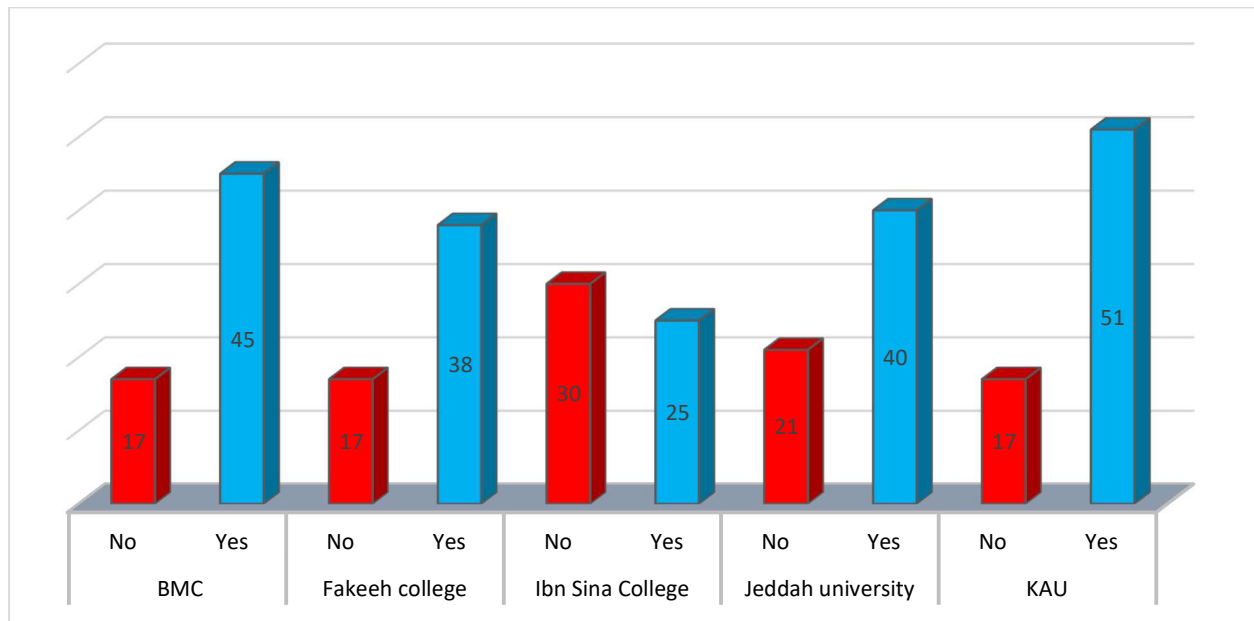
Demographics		Number	Percent %
Gender	Male	224	74%
	Female	77	26%
Nationality	Saudi	228	76%
	Non-Saudi	73	24%
University	KAU	68	23%
	BMC	62	21%
	Jeddah University	61	20%
	Fakeeh	55	18%
	Ibn Sina colleges	55	18%
Academic year	First year	23	8%
	Second year	54	18%
	Third year	54	18%
	Fourth year	74	25%
	Fifth year	96	32%

In Table 2, the following 22 questions were used to assess the perception and knowledge of the medical students about the specialty. There were no differences found between the participants from different universities or any statistical significance; most of the participants stated that they had heard about the specialty (94%) and that they had knowledge about the role of the family

physicians that they deliver to the community (79%). Regarding the knowledge of the student about the aspect of FM role in Saudi Arabia, as in Figure 2 the majority of the students from all of the universities stated that the prospect is poor (66%).

**Table 2** Knowledge and attitudes of medical students about FM speciality

Question		Number	Percent %
Did you ever hear about family medicine speciality?	Yes	284	94%
	No	17	6%
Did you ever visit a family medicine doctor?	Yes	197	65%
	No	104	35%
Do you have an idea about the role of the family doctor in society?	Yes	238	79%
	No	63	21%
One of Family Medicine doctors' roles is to help family members get environmental care easily?	True	268	89%
	False	33	11%
The family doctor's role includes treating many of the health issues that family members face, particularly respiratory diseases, urinary system diseases and skin diseases?	True	253	84%
	False	48	16%
The family doctor can refer patients with special cases to a specific specialist?	True	276	92%
	False	25	8%
Follow-up of the patients' condition is one of the family doctor's roles?	True	261	87%
	False	40	13%
The family doctor's role can also include the early detection of any disease that poses a threat to society?	True	258	86%
	False	43	14%
The family doctor is in charge of keeping health status records and medical histories for each patient?	True	262	87%
	False	39	13%
The family doctor is required to keep his patient's information private and not to reveal it to anyone?	True	275	91%
	False	26	9%
The family doctor can advise the family members on how to live a healthy lifestyle and how to prevent many diseases?	True	272	90%
	False	29	10%
The Family doctor can be working in coordination with a physiotherapist, nursing staff and psychiatrists?	True	248	82%
	False	53	18%
The family doctor protects the family members from different diseases by providing them with the required vaccinations, clinical examinations and investigations, such as cholesterol level, cancer screening and blood picture?	True	271	90%
	False	30	10%
The family doctor can treat chronic diseases, such as asthma, diabetes, hypertension and heart disease?	Yes	243	81%
	No	58	19%
The family doctor can be present in the clinic for assessment of children?	True	244	81%
	False	57	19%
The family doctor is present in preventive medicine clinics?	True	251	83%
	False	50	17%
The family physician is the same as a general practitioner?	True	138	46%
	False	163	54%
The family medicine is the same as internal medicine?	True	122	41%
	False	179	60%
The family doctor is also present in the maternity clinics?	True	196	65%
	False	105	35%
Do you think the prospects for family medicine in Saudi Arabia are poor?	True	199	66%
	False	102	34%



**Figure 2** Answers of the students from different universities on the question: (Do you think the prospects for family medicine in Saudi Arabia are poor?)

In Table 3 there was a slight difference regarding the attitude of the students about considering specializing as a FM doctors in the future, the majority stated that they do not consider it as a future specialty (52%) and other students who do consider it were (50%). The major cause of not considering the specialty preferred other specialties on it (39%), but 29 students stated that they do not have enough information about it (10%) and small number find it a difficult specialty (2%).

**Table 3** Attitudes of medical students about FM specialty

Question		Number	Percent %
Would you choose to specialize as a family medicine doctor?	True	149	50%
	False	152	52%
If you answered the previous question with (No) what is the reason?	Difficult specialty	7	2%
	I prefer another specialty	116	39%
	I don't have enough information of the specialty	29	10%

The relationship between males, females and Saudi and non-Saudi students was statistically significant regarding knowledge about the role of the FM physician in the community and the prospects of the specialty in Saudi Arabia (Table 4, 5).

**Table 4** Different opinions of males and females' medical students regarding the knowledge about the family medicine doctor's role

Question		Yes (%)	No (%)	Chi-Square Test p values
The family doctor is required to keep his patient's information private and not to reveal it to anyone?	Male	211 (94%)	13 (6%)	0.003
	Female	64 (83%)	13 (17%)	
The family medicine is the same as internal medicine?	Male	99 (44%)	125 (56%)	0.027
	Female	23 (31%)	54 (46%)	
Do you think the prospects for family medicine in Saudi Arabia are poor?	Male	156 (70%)	68 (30%)	0.027
	Female	43 (56%)	34 (44%)	

**Table 5** Different opinions of Saudi and Non-Saudi medical students regarding the knowledge about the family medicine doctor's role

Question		Yes (%)	No (%)	Chi-Square Test p values
One of Family Medicine doctors' roles is to help family members get environmental care easily?	Saudi	210 (92%)	18 (8%)	0.003
	Non-Saudi	58 (80%)	15 (21%)	
The family doctor is present in preventive medicine clinics?	Saudi	296 (86%)	32 (14%)	0.034
	Non-Saudi	55 (76%)	18 (25%)	

#### 4. DISCUSSION

With the 2030 vision of Saudi Arabia, FM was drawn to the attention of society and students in medical schools. Many factors are attributed to highlighting the importance of this specialty, including the magnification in the number of citizens, the escalation in chronic illnesses and the spread of common diseases among all groups of ages, from infancy to the elderly. Therefore, medical students in KSA need to have grounding in the significance of the FM specialty.

FM is an imperative element of the primary healthcare system, as it forms the foundation and first line of defense in the health sector. Family physicians are accountable for providing a wide-ranging package of health assistance involving the management of common complaints, such as common cold and respiratory tract infections. Health education, which is a significant aspect of preventive care, is also being lent by family physicians to patients on related health concerns, such as dietary intake in gravid women, toddlers and infants and family planning methods. Moreover, initial aid for injuries, vaccination of children, controlling chronic illnesses such as hypertension and diabetes, early discovery and management of any evolving conditions such as malignancy and providing referral services (Al-Khashan et al., 2021).

During the COVID-19 outbreak and lockdown in Saudi Arabia, family physicians confronted COVID-19 as frontline workers. The pandemic has affected clinical practice, knowledge, manners, tension levels and the workforce. Family physicians here and throughout the world played an important part in providing inclusive treatment, which embraces accessible health aids either through virtual consultation or at the patient's doorstep, patient triage, counseling, health education and behavioral interventions that focus on the family to diminish stigma and nervousness. Patients seek guidance and assurance from their family physicians more than ever before (Garg et al., 2022; Alshammrani et al., 2022).

This study was designed to recognize the level of awareness among medical students regarding FM practice and what they knew about it. To compare the results to generate a hypothetical reason for the scarcity of knowledge. From different universities in Jeddah and at five different academic levels, three hundred forty (340) medical students participated in this study through a questionnaire that assessed their knowledge of FM. The results of the ongoing study demonstrated that most of the participants (94%) had heard about the specialty and (79%) acknowledged the family medicine doctor's role. There was a statistical difference between the genders, where males had higher knowledge (74%) about FM than females (26%).

However, a significant data and difference was reported in a local study conducted at Al-Taif University in the perceptions of female and male students of the FM specialty, with female students showing more interest ( $P < 0.001$ ) (Alshammari et al., 2019; Katoue et al., 2022; Al-Thagafi and Zughbi, 2018). In the literature, there were no significant differences between Saudi Arabia and non-Saudi Arabia in terms of awareness and knowledge of the family medicine doctor's role. Nevertheless, in this study, a statistical significance and difference was found in the nationality where Saudis have a higher level of knowledge about FM physicians' role than non-Saudi.

However, the highest response to the study questionnaire came from a governmental University that only accepts Saudis, in addition to Saudi students in private schools and the participation of another governmental University. They formed the majority of the cases (76%). While the non-Saudi responses were only from private schools, which have fewer students than government universities, they formed a minority of participants (24%) (Alshammari et al., 2019; Katoue et al., 2022). The study's limitations are the cross-sectional design and the small sample size. Thus, the findings may not be demonstrative of all the medical schools in Saudi Arabia. Lastly, the study did not focus on non-Saudi awareness regarding the FM role in Saudi Arabia further studies should be conducted.

#### 5. CONCLUSIONS

This study aimed to identify the awareness of FM's role among medical students in Saudi Arabia and whether they are interested in the specialty as a life career or not. Although the results showed that 79% had good knowledge of the importance of FM, there was



still a population that lacked knowledge about this specialty. Further studies should be conducted to investigate and understand the key factors that influence medical students' perceptions of FM as a career choice crucial to Saudi healthcare services.

### Abbreviation

Family medicine (FM)

### Ethical approval

The study was approved by the medical ethics committee of Batterjee Medical College for Health Sciences and Technology (ethical approval code RES-2023-0011).

### Informed consent

Written informed consent was obtained from all individual participants included in the study.

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### Authors' contributions

Futoon Afandy suggested the search idea from the inception of the research proposal through its conclusion, she organized and supervised the whole project and participated in all aspects of the study.

Razan Alsuayri was responsible for the proposal background and introduction written in the manuscript.

Alaa Kadah Salim was responsible for literature searches, results writing in the manuscript and the revision of the manuscript.

Reem Khan was responsible for the questionnaire, questionnaire design and abstract writing in the manuscript.

Lena Mahrous was responsible for the proposal background, discussion and conclusion writing in the manuscript.

Abdullah Khafagy reviewed and wrote the proposal and the manuscript.

Mohammed Shaikh Omer reviewed and wrote the proposal and the manuscript.

Nadeem Ikram was responsible for analyzing the data.

All authors have read and agreed to the content of the final manuscript.

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This study has not received any external funding.

### Conflict of interest

The authors declare that there is no conflict of interests.

### Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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