



Factors Predicting the Choice of Specialization Among Medical Students and Junior Doctors in Oman: A Cross-Sectional Study

Rahma Said Al Hadhrami ^{1,*}, Al Safa Khalfan Al Mamari ², Shahad Hamed Al Omrani ³, Sumayia Hummod Al Rumaidhi ², Turkiya Mohammed Al Busaidi ⁴, Rahma Mohamed Al Kindi ¹, Asma Ali Al Salmani ¹

¹ Department of Family Medicine and Public Health, Sultan Qaboos University Hospital, Muscat, Oman

² General Foundation Program, Oman Medical Specialty Board, Muscat, Oman

³ Family Medicine Program, Oman Medical Specialty Board, Muscat, Oman

⁴ Ministry of Health, Muscat, Oman

*Corresponding author: Department of Family Medicine and Public Health, Sultan Qaboos University Hospital, Muscat, Oman. Email: rahmasaid@squ.edu.om

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Abstract

Background: Choosing a medical specialization is a crucial, career-defining decision for medical students and junior doctors.

Objectives: This study aimed to identify variables impacting junior postgraduate doctors' and medical students' choice of specialty in Oman.

Methods: A cross-sectional study was conducted at Sultan Qaboos University (SQU) and the Oman Medical Specialty Board (OMSB) in Muscat, Oman. A two-part, self-administered questionnaire was electronically distributed to 247 respondents of different positions and levels of education, including doctors enrolled in the General Foundation Program, interns, and medical students undergoing their junior and senior clinical rotations. Sociodemographic characteristics were compared to determine factors influencing the choice of medical specialization.

Results: The most popular choice of specialty was pediatrics (14.6%), followed by family medicine (10.9%), psychiatry (9.3%), and general medicine (8.5%). Medical specialties were chosen more frequently than surgical or diagnostic specialties (60.7% vs. 27.5% and 10.9%, respectively), regardless of gender or current position/level. Significant variations in specialty preferences were observed based on the respondents' level of paternal educational attainment ($P = 0.026$) and future desired location of residency ($P < 0.001$). The factors identified by the participants as most important when selecting preferred specialties were working hours/lifestyle after completion of training (77.3%), positive experiences with a clinician/teacher of a particular specialty (72.5%), and income potential (70.9%).

Conclusions: The findings of this study may contribute to healthcare workforce planning strategies aimed at supporting insufficiently staffed specialties, taking into account the needs of patients as well as the interests and preferences of future doctors.

Keywords: Graduate Medical Education, Internship and Residency, Career Choice, Specialization, Oman

1. Background

The selection of a medical specialization by postgraduate medical students and junior doctors is influenced by numerous factors, including personal interests and aptitude, degree of patient interaction, clinical experiences, mentorship and role models, financial considerations, and preferences regarding work-life balance, geographic location, clinical setting, and opportunities for career progression, research, and

academic advancement (1-3). However, studies conducted in various regions around the world have reported distinct priorities among young doctors when choosing a medical specialty (4). A review found that in low- and middle-income countries, significant factors in choosing a medical specialty include life fulfillment, career influences, personal determinants, educational factors, and interpersonal effects. Key elements identified were a controllable lifestyle, economic concerns, job prospects, mentorship, and research

opportunities (3). In comparison, in the Arab world, particularly in Kuwait, patient treatment outcomes and challenging specialties were prominent reasons for choosing certain fields of medicine over others (4). In Jordan, factors such as interest/potential creativity, fewer on-call duties, family time, job opportunities, expected income, and duration of training were influential in determining participants' specialty choices (5, 6).

In Oman, postgraduate medical education is overseen by the Oman Medical Specialty Board (OMSB). Medical graduates have two pathways: They can either apply directly to one of 19 available OMSB residency programs during their internship year or enroll in the general foundation program (GFP), which offers diverse tracks such as family medicine, gynecology, surgery, and medicine (7, 8). During their internship, candidates can apply for positions in their preferred fields to assess their suitability for a future specialty. Alternatively, Omani graduates can apply for sponsorship to pursue their residency abroad in countries such as Canada, France, New Zealand, the United Kingdom, and Australia. Non-Omani medical graduates may enter the healthcare system either as medical officers or after completing their training outside of Oman.

As a consequence of modernization, the healthcare system in Oman has undergone rapid evolution over the last two decades, presenting new opportunities for specialization across diverse health fields (9). Exploring young doctors' preferences for certain medical specialties can help ensure the sustainability of the healthcare workforce by providing insights into the development of new training programs and sites. This ensures a well-balanced distribution of physicians across all specialties, including the integration of additional trainers aligned with available resources to meet the growing demand for certain fields. Notably, no prior research on the selection of medical disciplines among Omani medical students and junior doctors has been conducted in Oman. Hence, the aim of the present study was to investigate factors influencing the choice of specialty among Omani medical students and junior postgraduates (i.e., interns and GFP doctors).

2. Objectives

The study aimed to compare prevalent factors and choices of specialization between medical students, who have recently exposed to multiple clinical specialties, and junior doctors, who have just commenced their work in different specialties as postgraduate interns and GFP doctors. In addition, it

aimed to identify the most preferred specialties among the participants.

3. Methods

This cross-sectional, survey-based study was conducted between April and July 2023 at Sultan Qaboos University (SQU) and the Oman Medical Specialty Board (OMSB) in Muscat, Oman. In Oman, oversight for graduate medical education is vested in the OMSB, an independent body established by royal decree in 2006 and internationally accredited by the Accreditation Council for Graduate Medical Education. Currently, the OMSB offers 19 specialized residency programs along with several fellowship programs in pediatrics, hematology, cardiology, and genetics (7). The OMSB graduates approximately 100 specialized doctors per year, a number anticipated to rise following recent increases in admission rates.

To examine factors influencing specialty choice, a total of 247 respondents from diverse demographic backgrounds were recruited. The inclusion criteria comprised medical students in their junior clerkship (JCR) or senior clerkship (SCR) rotations, interns, and GFP doctors. Students and doctors at different levels and career positions and from various regions of Oman were deliberately included to ensure a comprehensive exploration of perspectives. Using an online sample size calculator, the necessary sample size for this study was determined to be 245 at a 95% confidence interval and with a 5% margin of error, based on an estimated population of 670 (including 117 JCR students, 110 SCR students, 283 interns, and 160 GFP doctors).

A two-part, self-administered, English-language questionnaire was used to collect data. The first part gathered information regarding the respondents' sociodemographic traits, including gender, age, marital status, number of children, parents' education level, presence of relatives or friends in different medical fields, and preference for pursuing residency in Oman or abroad. The second part of the questionnaire was adapted from a survey conducted at the University of Alberta to assess the preferences of senior medical students and junior doctors when selecting their specialty (10). This section included 22 items scored using a Likert scale from 1 (very unimportant) to 5 (very important) to determine the perceived importance of each factor in the choice of future specialty. For the purpose of analysis, responses were grouped as either unimportant (including responses of very unimportant, unimportant, and neutral) or important (including responses of important and very important).

The final version of the questionnaire was distributed electronically using Google forms to the respondents at the beginning of April 2023. Distribution was carried out through various platforms, including emails, QR code scans, and the WhatsApp application. Due to a low initial response rate, a reminder email was sent after one month. Additionally, more face-to-face invitations were made, and participants who agreed to participate scanned the QR code.

The investigators contacted the participants by sending emails with the Google form through focal points at the GFP at the OMSB and interns at the College of Medicine in Sultan Qaboos University. Furthermore, JCR and SCR medical students were invited at the college, libraries, hospitals, or training sites. Participants were required to sign the consent form before they could fill out the questionnaire.

Collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) software, version 23 (IBM Corp., Armonk, NY, USA). Results were presented using descriptive statistics. Continuous variables were reported as means and standard deviations, while categorical variables were reported as frequencies and percentages. Associations of independent variables with outcome variables were calculated using the chi-Square test, and the level of two-tailed significance was set at $P < 0.050$. The primary outcome of the study was to determine factors influencing the choice of specialty among undergraduate medical students and junior doctors. The secondary outcome was to identify the most preferred specialties among the participants.

Ethical approval for this study was obtained from the respective institutional committees of SQU and the OMSB, Muscat, Oman. Before commencing the survey, all respondents were required to confirm their willingness to participate in the study and were assured of the confidentiality of their responses. All study procedures were performed in accordance with the revised Declaration of Helsinki.

4. Results

A total of 247 respondents took part in this study. Among them, 106 (42.9%) were medical students, including 45 (18.2%) in their JCR rotation and 61 (24.7%) in their SCR rotation. Additionally, 141 (57.1%) were junior doctors who had recently graduated but were not yet specialized, comprising 70 (28.3%) interns and 71 (28.7%) GFP doctors. Demographically, most respondents were single (81.8%), female (70%), and aged 21 - 25 years old (59.5%). More than half reported having family or friends in the medical field (64.4%) and that their fathers had a college-level or higher education (53.1%). The greatest

proportion of respondents originated from Muscat Governorate (39.7%), followed by Al Batinah North (18.2%) and Ad Dhakhiliyah (17.8%). The majority of respondents (69.6%) expressed a desire to undertake their residency in Oman.

The most preferred specialties were pediatrics (14.6%), family medicine (10.9%), psychiatry (9.3%), and internal medicine (8.5%). Overall, a majority of respondents expressed a preference for medical specialties (60.7%) compared to surgical (27.5%) or diagnostic (10.9%) specialties. Significant differences in preferences for surgical, medical, or diagnostic specialties were identified based on paternal education level ($P = 0.026$) and desired location of residency ($P < 0.001$). However, there were no significant associations between the preferred type of specialty and other demographic characteristics (Table 1).

According to the respondents, the most important factors when choosing a specialty were working hours/lifestyle after completion of training (77.3%), positive experience with a clinician/teacher of the specialty in question (72.5%), income potential (70.9%), ability to use a wide range of skills and knowledge in patient care (69.2%), and compatibility with the respondent's personality (69.2%). In contrast, a preference for working in a rural community (30.4%) and perceived prestige (38.5%) were deemed the least important factors when choosing a specialty (Table 2).

Several of these factors were found to influence respondents' preferences for surgical, medical, or diagnostic specializations. For instance, respondents who preferred medical or surgical specialties placed more value on income potential (55.2% and 31.0%, respectively, vs. 13.8%; $P = 0.004$), emphasis on procedural skill (56.0% and 35.5%, respectively, vs. 9.5%; $P = 0.001$), and the opportunity to work on highly challenging cases (55.2% and 34.3%, respectively, vs. 10.5%; $P = 0.023$) compared to those preferring diagnostic specialties (Table 3).

Regarding the top four most preferred specialties, respondents who preferred pediatrics or family medicine more frequently prioritized an emphasis on procedural skill when choosing a specialty compared to those choosing psychiatry or internal medicine (13.6% and 10.1% vs. 4.7% and 7.1%; $P = 0.001$). Similarly, respondents who preferred pediatrics or family medicine perceived that the ability to master a small set of skills and be considered the "expert" was a more important factor influencing their specialty choice compared to those preferring psychiatry or internal medicine (12.5% and 9.4% vs. 6.9% and 6.3%; $P = 0.009$) (Table 4).

Table 1. Characteristics Influencing Type of Preferred Specialty Among Medical Students and Junior Doctors in Oman (N = 247)

Characteristics	Preferred Specialty Type, No. (%)			P-Value
	Surgical	Medical	Diagnostic	
Current position				0.470
JCR student	12 (27.3)	25 (56.8)	7 (15.9)	
SCR student	21 (35.0)	32 (53.3)	7 (11.7)	
Intern	20 (28.6)	45 (64.3)	5 (7.1)	
GFP doctor	15 (21.1)	48 (67.6)	8 (11.3)	
Age (y)				0.096
21 - 25	47 (32.4)	81 (55.9)	17 (11.7)	
≥ 26	21 (21.0)	69 (69.0)	10 (10.0)	
Gender				0.631
Male	21 (28.8)	42 (57.5)	10 (13.7)	
Female	47 (27.3)	108 (62.8)	17 (9.9)	
Marital status				0.057
Single	59 (29.5)	116 (58.0)	25 (12.5)	
Married	9 (20.0)	34 (75.6)	2 (4.4)	
Number of children				0.173
0	68 (28.8)	142 (60.2)	26 (11.0)	
1	0 (0.0)	7 (87.5)	1 (12.5)	
≥ 2	0 (0.0)	1 (100.0)	0 (0.0)	
Mother's education level				0.844
Illiterate	8 (25.0)	20 (62.5)	4 (12.5)	
School graduate	32 (25.0)	83 (64.8)	13 (10.2)	
College graduate	17 (30.4)	32 (57.1)	7 (12.5)	
Postgraduate	11 (37.9)	15 (51.7)	3 (10.3)	
Father's education level				0.026 ^a
Illiterate	2 (14.3)	10 (71.4)	2 (14.3)	
School graduate	19 (18.6)	72 (70.6)	11 (10.8)	
College graduate	24 (30.8)	46 (59.0)	8 (10.3)	
Postgraduate	23 (45.1)	22 (43.1)	6 (11.8)	
Family or friend in a medical field				0.243
Yes	41 (26.1)	95 (60.5)	21 (13.4)	
No	27 (30.7)	55 (62.5)	6 (6.8)	
Place of residence				0.380
Muscat	32 (32.7)	56 (57.1)	10 (10.2)	
Other	36 (24.5)	94 (63.9)	17 (11.6)	
Preference of location for pursuing residency				< 0.001 ^a
In Oman	34 (20.0)	115 (67.6)	21 (12.4)	
Abroad	34 (45.3)	35 (46.7)	6 (8.0)	

Abbreviations: JCR, junior clerkship; SCR, senior clerkship; GFP, general foundation program.

^a Statistically significant at P < 0.05.

5. Discussion

The present study aimed to identify the most preferred specialties and factors influencing the choice of future specialization among medical students and junior postgraduate doctors in Oman. According to the respondents, the four most preferred specialties were

pediatrics, family medicine, psychiatry, and internal medicine, with medical specialties chosen more frequently than surgical or diagnostic specialties. Generally, a doctor is typically thought of as someone who practices clinical medicine, which may explain the reluctance among respondents to choose non-clinical specializations (11). The American Medical Association (AMA) has reported that the most popular medical

Table 2. Factors Deemed Most Important by Medical Students and Junior Doctors in Oman When Choosing a Specialty (N = 247)

Factors	Influence on Choice of Specialty, No (%)	
	Unimportant	Important
Working hours/lifestyle after completion of training	56 (22.7)	191 (77.3)
A positive experience with a clinician/teacher of this specialty	68 (27.5)	179 (72.5)
Income potential	72 (29.1)	175 (70.9)
Ability to use a wide range of skills and knowledge in patient care	76 (30.8)	171 (69.2)
Compatibility with personality	76 (30.8)	171 (69.2)
Opportunity for research	77 (31.2)	170 (68.8)
Emphasis on procedural skill	78 (31.6)	169 (68.4)
Ability to master a small set of skills and be the "expert"	87 (35.2)	160 (64.8)
Opportunity to deal with a variety of medical problems	88 (35.6)	159 (64.4)
Opportunity to teach	89 (36.0)	158 (64.0)
Emphasis on continuity of care	91 (36.8)	156 (63.2)
Early exposure to the discipline	100 (40.5)	147 (59.5)
Opportunity to work on highly challenging cases	103 (41.7)	144 (58.3)
Previous exposure to primary care practice	106 (42.9)	141 (57.1)
Opportunity to work on acute medical problems	113 (45.7)	134 (54.3)
Perceived intellectual content of discipline	119 (48.2)	128 (51.8)
Overhead expenses	123 (49.8)	124 (50.2)
Length of residency	125 (50.6)	122 (49.4)
Preference for working in an urban center	131 (53.0)	116 (47.0)
Preference/influence of family, friends, or community	138 (55.9)	109 (44.1)
Perceived prestige	152 (61.5)	95 (38.5)
Preference for working in a rural community	172 (69.6)	75 (30.4)

specialties in recent years include internal medicine, family medicine, and pediatrics (12).

Previous research conducted in neighboring countries has similarly revealed that pediatrics and internal medicine were two of the top future career specialty preferences among undergraduate medical students in Saudi Arabia, Kuwait, and Jordan, indicating a growing demand for non-surgical skills (5, 6, 13, 14). Nonetheless, general surgery has consistently emerged as one of the most preferred specialties in Saudi Arabia and Kuwait, despite ranking considerably lower among preferred medical specializations in the current study (5, 14). Similarly, general surgery has been reported as the most common choice of specialty elsewhere around the world, including in Sudan, China, Sri Lanka, Nepal, India, and Malaysia (15, 16).

According to a recent systematic review and meta-analysis of 75 global studies encompassing 882,209 medical students, the primary factors influencing the choice of specialty were academic interest, followed by competencies, a flexible lifestyle, career opportunities, workload, and income potential (1). In the present study, respondents ranked several factors as pivotal in shaping their future career choices, including post-training

working hours or lifestyle, positive experiences with physicians or specialist educators, income potential, the ability to utilize a broad range of skills and knowledge in patient care, and compatibility with their own personalities. Comparable findings are prevalent in the existing literature. In Saudi Arabia, most undergraduate students in one study chose specialties aligned with their personal capabilities; others favored specialties based on interesting or challenging cases, as well as a desire for a good lifestyle (5, 13). A previous study from Oman utilizing the same adapted questionnaire found that emphasis on continuity of care, the opportunity to deal with a variety of medical problems, the ability to use a wide range of skills and knowledge, early exposure to the discipline, the opportunity to teach and perform research, and the influence of family or friends were important factors in determining the choice of a career in family medicine (17).

Overall, there is a growing emphasis on work-life balance in medical career decisions (18). Indeed, more than two-thirds of the respondents in the current study considered post-training working hours and lifestyle to be important factors influencing their choice of specialty. In the UK, for instance, lifestyle factors like working hours, workspace, and options for balancing

Table 3. Factors Influencing Preferred Specialty Type Among Medical Students and Junior Doctors in Oman (N = 247)

Factor	Preferred Specialty Type, No (%)			P-Value
	Surgical	Medical	Diagnostic	
Working hours/lifestyle after completion of training	49 (25.9)	117 (61.9)	23 (12.2)	0.349
A positive experience with a clinician/teacher of this specialty	49 (27.7)	108 (61.0)	20 (11.3)	0.975
Income potential	54 (31.0)	96 (55.2)	24 (13.8)	0.004 ^a
Ability to use a wide range of skills and knowledge in patient care	51 (30.0)	102 (60.0)	17 (27.0)	0.430
Compatibility with personality	49 (28.8)	103 (60.6)	18 (10.6)	0.835
Opportunity for research	52 (30.8)	98 (58.0)	19 (11.2)	0.245
Emphasis on procedural skill	58 (34.5)	94 (56.0)	16 (9.5)	0.001 ^a
Ability to master a small set of skills and be the “expert”	45 (28.3)	92 (57.9)	22 (13.8)	0.106
Opportunity to deal with a variety of medical problems	47 (29.7)	97 (61.4)	14 (8.9)	0.292
Opportunity to teach	50 (31.8)	91 (58)	16 (10.2)	0.151
Emphasis on continuity of care	43 (27.6)	99 (63.5)	14 (9.0)	0.380
Early exposure to the discipline	46 (31.5)	84 (57.5)	16 (11.0)	0.262
Opportunity to work on highly challenging cases	49 (34.3)	79 (55.2)	15 (10.5)	0.023 ^a
Previous exposure to primary care practice	38 (27)	89 (63.1)	14 (9.9)	0.730
Opportunity to work on acute medical problems	39 (29.1)	83 (61.9)	12 (9.0)	0.507
Perceived intellectual content of discipline	35 (27.6)	79 (62.2)	13 (10.2)	0.908
Overhead expenses	38 (30.9)	70 (56.9)	15 (12.2)	0.379
Length of residency	32 (26.4)	75 (62)	14 (11.6)	0.889
Preference for working in an urban center	35 (30.4)	65 (56.5)	15 (13.0)	0.342
Preference/influence of family, friends, or community	30 (27.5)	70 (64.2)	9 (8.3)	0.430
Perceived prestige	33 (35.1)	50 (53.2)	11 (11.7)	0.100
Preference for working in a rural community	17 (23.0)	47 (63.5)	10 (13.5)	0.456

^a Statistically significant at P < 0.05.

work and personal life played a significant role in the selection of medical specialties (19).

A noteworthy conclusion drawn from the present study is that the vast majority of respondents indicated that they had already selected a future specialty. This trend could be attributed to their previous exposure to these disciplines, particularly considering that positive experiences with a clinician or teacher of the respective specialty ranked as the second most important factor influencing their choice of future specialization. Prior research has consistently shown that the decision to specialize in family medicine or general practice is greatly influenced by exposure during medical education (17, 20, 21). Mentors or teachers often act as role models for students, inspiring them to pursue careers in medicine (1, 8). Therefore, subspecialties facing shortages of healthcare professionals might benefit from increased student interest through mentoring programs that help shape the learning process, potentially impacting future doctors' career decisions and eventual job satisfaction (21).

In addition, a sizable portion of respondents considered income potential to be important when

choosing a medical specialty. Importantly, this factor demonstrated statistical significance when it came to selecting medical or surgical specialties over diagnostic specialties. The preference for these specialties among medical students and junior physicians in Oman may be influenced by national regulations that permit practitioners to work in both the public and private sectors. Globally, the highest-paid medical specialties are generally procedure-based, such as plastic surgery, orthopedics, and cardiology, while physicians in primary care fields tend to earn less (22). This disparity may explain why income potential was associated with the preference for medical and surgical specialties. Despite this, it is essential to note that medical students often prioritize factors other than income when selecting a specialty, such as interest in the field, work-life balance, and patient interaction (1, 8).

In medicine, the process of choosing a specialty is highly individualized, with practitioners typically making their decision based on how well their talents and interests align with the protocols of that discipline. As a result, procedural skill becomes a crucial consideration, especially in selecting surgical

Table 4. Factors Influencing Choice of Most Preferred Specialties Among Medical Students and Junior Doctors in Oman (N = 247)

Factor	Choice of Specialty No (%)				P-Value
	Internal Medicine	Pediatrics	Family Medicine	Psychiatry	
Working hours/lifestyle after completion of training	13 (6.8)	27 (14.1)	23 (12.0)	20 (10.5)	0.282
A positive experience with a clinician/teacher of this specialty	13 (7.3)	24 (13.4)	21 (11.7)	20 (11.2)	0.298
Income potential	11 (6.3)	25 (14.3)	17 (9.7)	15 (8.6)	0.163
Ability to use a wide range of skills and knowledge in patient care	16 (9.4)	25 (14.6)	16 (9.4)	12 (7.0)	0.240
Compatibility with personality	13 (7.6)	21 (12.3)	21 (12.3)	15 (8.8)	0.388
Opportunity for research	14 (8.2)	26 (15.3)	14 (8.2)	14 (8.2)	0.253
Emphasis on procedural skill	12 (7.1)	23 (13.6)	17 (10.1)	8 (4.7)	0.001 ^a
Ability to master a small set of skills and be the “expert”	10 (6.3)	20 (12.5)	15 (9.4)	11 (6.9)	0.009 ^a
Opportunity to deal with a variety of medical problems	14 (8.8)	26 (16.4)	19 (11.9)	9 (5.7)	0.109
Opportunity to teach	13 (8.2)	20 (12.7)	16 (10.1)	11 (7.0)	0.190
Emphasis on continuity of care	14 (9.0)	22 (14.1)	19 (12.2)	15 (9.6)	0.907
Early exposure to the discipline	9 (6.1)	21 (14.3)	16 (10.9)	12 (8.2)	0.426
Opportunity to work on highly challenging cases	12 (8.3)	18 (12.5)	11 (7.6)	11 (7.6)	0.071
Previous exposure to primary care practice	9 (6.4)	22 (15.6)	19 (13.5)	15 (10.6)	0.282
Opportunity to work on acute medical problems	14 (10.4)	17 (12.7)	10 (7.5)	10 (7.5)	0.100
Perceived intellectual content of discipline	12 (9.4)	15 (11.7)	14 (10.9)	13 (10.2)	0.737
Overhead expenses	6 (4.8)	19 (15.3)	12 (9.7)	12 (9.7)	0.269
Length of residency	10 (8.2)	17 (13.9)	16 (13.1)	12 (9.8)	0.852
Preference for working in an urban center	8 (6.9)	15 (12.9)	11 (9.5)	12 (10.3)	0.686
Preference/influence of family, friends, or community	9 (8.3)	15 (13.8)	14 (12.8)	12 (11.0)	0.813
Perceived prestige	4 (4.2)	10 (10.5)	13 (13.7)	10 (10.5)	0.120
Preference for working in a rural community	6 (8.0)	14 (18.7)	9 (12.0)	5 (6.7)	0.687

^a Statistically significant at P < 0.05.

subspecialties like neurosurgery and orthopedics, where a high level of dexterity and precision is necessary for optimal outcomes (23). Similarly, the ability to perform complex medical procedures, such as angioplasty and stent placement, is crucial in interventional cardiology, a specialty recognized for its reliance on procedural expertise (24). Empirical evidence and professional endorsements strengthen the significance of procedural skill as a deciding factor in choosing a specialty, ultimately influencing the career decisions of aspiring medical professionals.

Many medical professionals derive satisfaction and a sense of professional accomplishment from tackling challenging cases, a factor that may influence their choice of specialty. In the present study, the perceived importance of this factor was significantly greater among respondents who chose medical and surgical specialties compared to those opting for diagnostic specialties. Certain medical and surgical specialties, such as neurosurgery or oncology, are renowned for their inherent challenges (25). The ability to master a limited range of highly specialized skills is a crucial factor to consider when choosing a medical specialty;

this proficiency not only brings the satisfaction of improving patient outcomes but also involves expanding the body of existing knowledge and becoming a recognized authority in a specific field of medicine. Internal medicine subspecialties like gastroenterology and nephrology are particularly attractive in this regard, as they allow doctors to focus on a small number of treatments or ailments to the point of mastery, thereby providing the best care possible to patients with specific needs (26). This supports the findings of the present investigation, which indicated that this factor significantly influenced the decisions of students and junior physicians to specialize in medical fields.

Conversely, medical students and junior postgraduate doctors in the current study indicated that a desire to work in a rural community and the perceived prestige of the specialty were the least important factors when choosing a specific medical field. Patients in rural areas often face challenges in healthcare access due to social and cultural barriers, making them difficult to reach (27). A scoping study conducted in low- and middle-income countries

identified awareness of rural needs as one of the factors associated with selecting primary health care as a specialty career (28). Similarly, a prior study found that Omani family medicine applicants were significantly more likely to reside in rural areas (17). In contrast, most respondents in the present study rated their desire to work in a rural community as unimportant when selecting their future specialty. This could be attributed to the participants' willingness to work in their respective towns and villages, although further longitudinal research is necessary to confirm this.

5.1. Limitations

Limitations of the present study may be primarily attributed to the cross-sectional survey design, which offers a single snapshot of the situation at a specific moment and may not capture changes over time. While survey studies are valuable for efficiently gathering data from a large pool of participants, researchers must consider several constraints when interpreting their findings. Moreover, it is important to note that the questionnaire used in the present study assessed only the respondents' preferred career choices, not their actual choices. This distinction is relevant given that the respondents were at varying stages of career progression; their career preferences could evolve based on their experiences and post-graduation decisions. Additionally, the questionnaire may not have fully addressed the comprehensive array of factors influencing interest in various medical specialties. Finally, selection methods for entrance into various residency programs, whether within or outside Oman, could influence their eventual career decisions. Consequently, additional longitudinal research is recommended.

5.2. Conclusions

The choice of medical specialization is influenced by a combination of personal interests, regional trends, lifestyle considerations, mentorship, research opportunities, income potential, and the nature of the medical field itself. Nonclinical specializations were found to be less interesting to students and junior physicians in Oman, with pediatrics, family medicine, psychiatry, and internal medicine being the most preferred specialties. Respondents identified working hours and lifestyle after completion of training, positive experiences with clinicians or teachers in a certain specialty, income potential, and the ability to use a wide range of skills and knowledge in patient care as the most important factors when selecting a specialty. These

findings may contribute to healthcare workforce planning strategies designed to support insufficiently staffed specialties.

5.3. Highlights

The key applications of this study for future demands in medical education in Oman include:

(1) Emphasizing mentorship programs: The study highlights the importance of positive interactions with lecturers or doctors in shaping students' career choices. Developing strong mentorship programs could encourage students and junior doctors to pursue less popular specializations, helping address labor shortages; (2) tailoring training programs: Understanding young doctors' specialty preferences can guide the creation of training programs tailored to these interests, ensuring a more motivated and sustainable healthcare workforce; (3) career guidance: Data on specialty preferences can be used to counsel medical students and young physicians through effective career guidance programs, ensuring a balanced and sustainable distribution of medical professionals across specialties.

5.4. Lay Summary

The study examined the factors influencing medical students' and junior doctors' choices of specializations. Personal interests, local trends, lifestyle needs, research opportunities, mentorship, potential income, and the structure of the medical field all play a role in choosing a medical specialization. The specialties that Oman's students and future doctors are most interested in are internal medicine, psychiatry, family medicine, and pediatrics. Their top priorities after training are good instructors, flexible work schedules, high earning potential, and the opportunity to use diverse skills for patient care. Based on these findings, better strategies can be developed for specializations lacking physicians.

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Footnotes

Authors' Contribution: R. H., concept, design, definition of intellectual content, literature search, writing proposal, statistical analysis, manuscript preparation, manuscript editing and manuscript review, project administration and supervision. In addition, she is responsible for the integrity of the work as a whole from inception to published article 'guarantor'; A. M., S. O., and S. R., literature search, writing proposal, data collection, statistical analysis, manuscript preparation, manuscript editing; T. B., data collection; R. K., and A. S., manuscript editing and manuscript review.

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