Original Article

Factors Affecting Specialty Selection Among Clinical Years' Medical Students at Al-Baha University Faculty of Medicine

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Abstract

Background: Selecting a medical specialty is thought to be one of the most significant choices undergraduate students worldwide must make. Understanding the elements that influence medical students' career decisions is crucial.

Objective: To find out what factors Al-Baha University clinical-year medical students consider when making career decisions.

Methods: This is a cross-sectional questionnaire-based survey that was carried out among clinical-year medical students at Al-Baha University, Saudi Arabia. A questionnaire was designed using Google Forms platform. The data was collected between April 2024 – May 2024 at the University of Al-Baha.

Results: Most of the participants 163(65.5%) thought that the gender of the doctor plays a role in the specialty selection. Factors that influence the choice of specialty include individual characteristics (96%). Type and Nature of the specialty 95.2%, lifestyle (94.4%), and job satisfaction (92.8%). The top selected future specialties by male and female students were medicine, orthopedics, general surgery, dermatology, pediatrics, ophthalmology, family medicine, psychiatry, and emergency medicine.

Conclusion: Most of the students selected clinical specialty and internal medicine is the most popular career choice. The most important factors influencing specialty selection were individual characteristics, followed by the type and nature of the specialty, lifestyle, and job satisfaction. We recommend further studies to investigate medical students' career preferences and the factors influencing them in Saudi Arabia.

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Introduction

For medical students, choosing a specialty and identifying one's interest is a challenging process that takes years for completion, and requires critical and logical thinking. It is based on early desires, realistic selection, individual abilities, the labor market, and available resources. Choosing a future medical specialty is a crucial and frequently difficult decision for undergraduate medical students.[1] The medical field offers a wide variety of specializations, and in recent years,

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this selection has grown more challenging and competitive. Previous studies on this topic showed quite a bit of heterogeneity depending on the region in which the study was conducted.[2] The selection of a medical specialty is influenced by several factors, such as good outcomes for the patient, financial benefits (income), and prestige.[3] Moreover, working hours, compensation, duration of training, and status were every element in the choice regarding which career to follow. Although personality classifications and variations in gender were also common factors, their effect has not been docuented in the literature.[4] Medical students frequently select their specialties based more on what is readily available to them than on what they are truly passionate about. Medical students most frequently choose surgery, internal medicine, pediatrics, obstetrics, and gynecology, according to published data about students. While men tended to choose high-paying specialties, women favored those where they could find a lifestyle that worked for their families.[5] Additionally, research has shown that men are more likely than women to study and work overseas.[6] A doctor's professional development will be greatly impacted by their choice of medical specialty, so it is necessary to give it much thought and direction. This has been demonstrated by research carried out in Saudi Arabia that looked at the variables influencing medical students' specialty decisions and contrasted the results with those from other countries.[7,8] Therefore, the purpose of this study is to ascertain the career preferences of medical students and the factors that influence these decisions among medical students enrolled in the clinical years at Al-Baha University's College of Medicine. 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.

Methods

This study is a cross-sectional study that was conducted by using a previously validated questionnaire taken from a previous study after a literature review[9] and modified to survey medical students from Al-Baha University.

This study was conducted in the main campus for clinical years 4th to 6th year, male and female medical college students of Al-Baha University, which is located in Agig province, Al-Baha region, Saudi Arabia.

Clinical years medical students from Al-Baha University's faculty of medicine were chosen for the study based on the selection criteria since they are more accustomed to choosing a specialty. The study was conducted in the 2023–2024 school year. Medical students who were identified by the Faculty of Medicine's Student Affairs department by obtaining a list of their names, ID numbers, and serial numbers are included in the study population. The sample size included all clinical year's students, which were 257 medical students.

All medical students (257 students) in clinical years 4th to 6th year in Al-Baha University Faculty of Medicine Saudi Arabia were included.

Other years students, postgraduate, students who refuse to participate were excluded.

We used a census sampling technique including all 4th, 5th and 6th clinical years medical students, University of Al-Baha college of medicine, which were 257 medical students. The clinical years medical students were recruited based on data obtained from undergraduate students' records for the academic year 2023-2024. Students were grouped into three categories premed students, basic years students, and clinical years students we chose a census sample of the clinical years' students for our research. The students who agreed to join the study were informed about its purpose, and their right to refuse participation. To collect the data, we used a semi-structured online Google Form. The semi-structured questionnaire was adopted from previous similar study after searching previous literature to cover the most important key areas. The questionnaire was composed of two parts. The first part dealt with demographic details and academic data, while the second part was yes/ No questions which were 14 questions evaluating the student perceptions regarding the factors influencing the specialty choices according to their own perception including lifestyle, financial issue, personal characteristic, role model, social influences and chances of employment. Regarding the score the choices for answering were "Yes," and "No." one point was awarded for yes response, and zero points were awarded for a "No response. A sample of seven students who were not involved in the study was used to pre-test the questionnaire to determine its reliability and to make sure the items were simple and easy to understand. The necessary adjustments were made. Following the completion of data collection, the data was examined. The data was then processed and analyzed using Microsoft Excel 2007 and the Statistical Package for Social Sciences (SPSS) version 25. The Chi-square test was used to examine relationships between independent and dependent variables. The study adhered to ethical principles

and was conducted in accordance with the Ethics and Research Committee approval of the College of Medicine of Al-Baha University {REC/PEA/BU-FM/2023/50}. Informed consent was included at the beginning of the questionnaire as an initial obligatory step for the participants to fill out the questionnaire.

Results

We received 249 responses on Google Forms; the total number of clinical years students is 257 students which represents a response rate of 96.9%. Of these total responses, the male students were 149 with a response rate of 94.9% whereas the females were 100 students with a 100% response rate.

The commonest student age group was 21-24 years 235 (94.4%). The socio-demographic and academic characteristics of the respondents are shown in Table 1.

To assess the factors that affect specialty selection we categorized it into two groups: socioeconomic factors such as age, gender, etc and the characteristics of the program itself.

Table 1: *Socio-demographic and academic data, (n = 249).*

Item	Variables	N (%)
Gender	Male	149(59.8)
	Female	100(40.2)
Age (Years)	18-20 years	1(0.4)
	21-24 years	235(94.4)
	25-30 years	13(5.2)
Year of Admission to the University	2013	1(0.4)
	2014	1(0.4)
	2015	5(2)
	2016	16(6.4)
	2017	56(22.5)
	2018	23(9.2)
	2019	95(38.2)
	2020	52(20.9)
Academic level	Fourth Year	86(34.5)
	Fifth Year	84(33.8)
	Sixth Year	79(31.7)
Students` Grade Point Average (GPA)	< ١	1(0.4)
	1-2	26(10.5)
	2-3	88(35.3)
	3-4	134(53.8)

Regarding the Socio-demographic factors, most of the participants 163(65.5%) thought that the gender of the doctor plays a role in the specialty selection. Other Socio-demographic factors selected by most of the students include lifestyle (94.4%), presence of a role model (73.1%), individual characteristics (96%), marital status (58.4%), financial status (67.4%) and prestige (53%). Whereas most of the participants reported that age (67.5%) and external influences from family and relatives (61) have no role in choosing the future specialty.

On assessing the effect of the characteristics of the program and the effect of bedside teaching on specialty selection we found that most of the respondents agreed that the following factors have a role in selecting the future specialty type and nature of the specialty (95.2%), type of clinical round (73.9%), duration of the training program (63.1%), job satisfaction (92.8%), availability of chances for employment (82.7%), work hours per

Table 2: *Association between gender in the selection of specialty (Yes or No questions)*

Factor affecting Specialty selection	Response	Male N = 149	Female N = 100	P-value
Gender affects specialty selection	Yes	96(64.4)	67(67%)	0.676
	No	53(35.6)	33(33%)	
The age affects specialty selection	Yes	47(31.5%)	34(34%)	0.658
	No	102(68.5%)	66(66%)	
Lifestyle affects specialty selection	Yes	138(92.6%)	97(97%)	0.141
	No	11(7.4%)	3(3%)	
Role models affect specialty selection	Yes	114(76.5%)	68(68%)	0.138
	No	35(23.5%)	32(32%)	
Individual characteristics and type of personality	Yes	140(94%)	99(99%)	0.047
	No	9(6%)	1(1%)	
External influences (Family and relatives)	Yes	64(43%)	33(33%)	0.114
	No	85(57%)	67(37%)	
Type and Nature of the specialty	Yes	139(93.3%)	98(98%)	0.089
	No	10(6.7%)	2(2%)	
Type of shifts and rotation	Yes	106(71.1%)	78(78%)	0.227
	No	43(28.9%)	22(22%)	
Duration of the training program	Yes	99(66.4&)	58(58%)	0.176
	No	50(33.6%)	42(42%)	
Job satisfaction	Yes	134(89.9%)	97(97%)	0.035
	No	15(10.1%)	3(3%)	
Chances for employment	Yes	124(83.2%)	82(82%)	0.803
	No	25(16.8%)	18(18%)	

week and night calls (82.3%) personal skills and competencies (93.6%).

The chi-square test was used to investigate relationships between the different numerical variables. When studding the responses of the male students to females we found that the difference between males and females is not statistically significant regarding the effect of gender (P-value = 0.676), age (P-value = 0.658), lifestyle (P-value = 0.141), presence of role model (P-value = 0.138), External influences such as family and relatives (P-value = 0.114), Type of clinical round (P-value = 0.227), Duration of the training program (P-value = 0.176), and the chances of employment (P-value = 0.803). In contrast, this difference between males' and females' opinions was found to be statistically significant regarding the effect of the Individual characteristics and type of personality (P-value = 0.047) and job satisfaction effect (P-value = 0.035) Table 2.

Table 3: *Gender effect on the selection of specialty (Likert scale questions).*

Factor	Response	Male N = 149	Female N = 100	P-value
Financial issue	Strongly Agree	48(32.2%)	39(39%)	0.096
	Agree	55(36.9%)	26(26%)	
	Neutral	26(17.5%)	13(13%)	
	Disagree	20(13.4%)	22(22%)	
Marital status	Strongly Agree	33(22.1%)	38(38%)	0.005
	Agree	42(28.2%)	30(30%)	
	Neutral	43(28.9%)	12(12%)	
	Disagree	31(20.8%)	20(20%)	
Prestige	Strongly Agree	35(23.5%)	23(23%)	0.058
	Agree	50(33.6%)	24(24%)	
	Neutral	30(20.1%)	15(15%)	
	Disagree	34(33.8%)	38(38%)	
Work hours per week and night calls	Strongly Agree	78(52.3%)	63(63%)	0.373
	Agree	42(28.2%)	23(23%)	
	Neutral	21(14.1%)	9(9%)	
	Disagree	8(5.4%)	5(5%)	
Own Skills and Competencies	Strongly Agree	91(61.1%)	77(77%)	0.048
	Agree	48(32.2%)	17(17%)	
	Neutral	8(5.4%)	5(5%)	
	Disagree	2(1.3)	1(1%)	

A closer look at the relationship between gender and academic and sociodemographic characteristics that influence future specialization choices using the Likert scale showed that there was a statistically significant difference between male and female students' perspectives on marital status (P-value = 0.005) and personal skills and competencies (P-value = 0.048). At the same time, this difference was statistically not significant regarding the effect of financial status (P-value = 0.096), prestige (P-value = 0.058), and work hours and night shifts (P-value = 0.373) Table 3.

The top selected Expected future specialties by male and female students were medicine, orthopedics, general surgery, dermatology, pediatrics, ophthalmology, family medicine, psychiatry, and emergency medicine Figure 1.

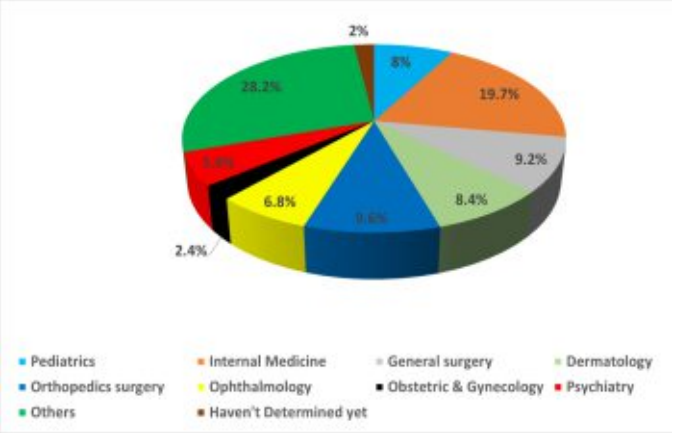

Figure 1: *Future specialties chosen by the participants*

There was a great variation between specialties selected by male students and those chosen by females. Females had mostly chosen medical (non-surgical, non-invasive) specialties more than males where the female-to-male ratio was high as medicine (28:21), pediatrics (14:6), dermatology (13:8), and neurology (2:0) Figure 2A.

In contrast, males chose surgical specialties more than females such as general surgery in which male to female ratio was (17:6), orthopedic surgery (22:2), neurosurgery (3:0), cardiothoracic surgery (2:0), and urology (3:0). As well as those specialties expected to have exhausting shifts such as emergency medicine, anesthesia (3:2), oncology, diagnostic radiology (4:2), interventional radiology (3:0), and forensic medicine (3:1) Figure 2B.

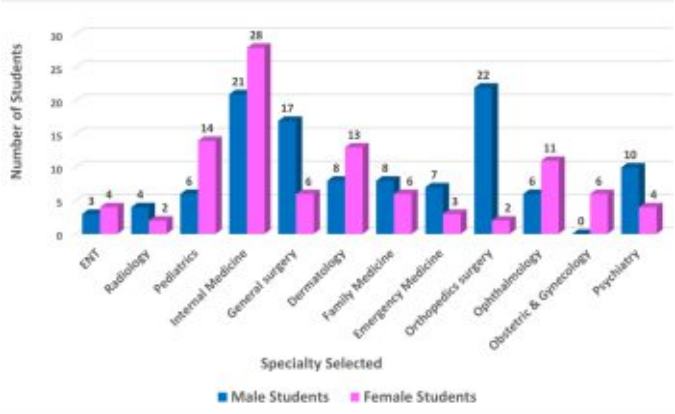

Figure 2A

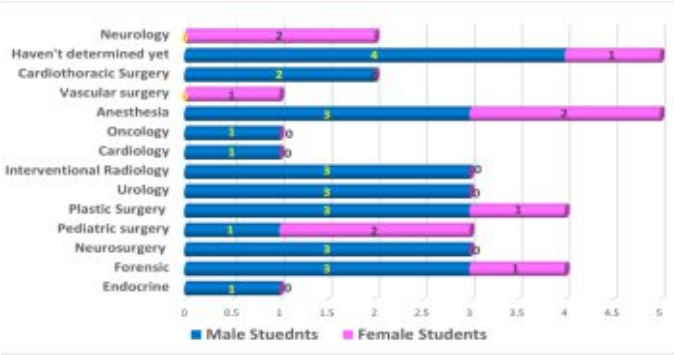

Figure 2B

Figure 2: *A: Top selected future specialty by the students, B: The least selected future subspecialties compared to the students' gender.*

This difference in the selection of future subspecialties between males and females was found to be statistically significant (P-value = 0.015).

On comparing the selection of future subspecialties with the academic level of the student we found that there was no statistically significant difference between the different students' levels (P-value = 0.465).

Discussion

Specialty selection is a very critical and important issue for future healthcare planning. The total responses of male students were 149 with a response rate of 94.9% whereas the females were 100 students with a 100% response rate, which indicated a very high response rate compared with other studies.[10]

Regarding factors affecting the selection of specialties in our study, Socio-demographic factors played a very important role in our study, looking for the effect of gender, 163(65.5%) of the responded students thought that the gender of the doctor plays a role in the specialty selection and this is similar to study done in a single institution in the United Arab Emirates which showed that Gender has a significant role in influencing career choice.[11]

Another socioeconomic factor selected by the majority of the students was lifestyle (94.4%) in contrast with a study done in Argentina which found that only 16 % believe that the ability to maintain a "controllable" lifestyle is more important when choosing a specialty[11] Further-more, the presence of a role model (73.1%) and individual characteristics (96%) were also influencing factors in our study comparable with other research stating that the provision of a good future was a major reason behind specialty selection.[10] Other factors selected by our students were prestige (53%) and financial status (67.4%), which were strongly matched with another study[12] that found specialty prestige and financial incentives were more influential amongst students who were pursuing a surgical specialty.

The most stated factors behind specialty selection in a study done in Argentina revealed that 64 % of the total students will choose based on their affinity for the specialty, which is the most influential factor when selecting a medical specialty.[13] A research study focused on female students at Taif University, Saudi Arabia showed that the first reason behind specialty selection was career development.[14] Most of our participants reported that external influences from family and relatives have no role in choosing the future specialty, other related similar studies showed that the parents play a vital role in career choices.[15]

Regarding specialties selected by our students, the top selected specialties were: Internal medicine (20%), Orthopedic surgery (9.6%), general surgery (9.2%), Dermatology (8.4%), and Pediatrics (8%), those results were identical to the results of the study conducted at Al-Majmaah University KSA, where the most selected specialties by the students were: internal medicine (19.8%), followed by general surgery (18.5%),[10] Those results were also aligned with other research performed elsewhere.[10] According to a study conducted at Al Qassim University, both men and women chose surgery as their first career choice. Internal medicine was the second most popular specialty for men, orthopedic surgery was the third most popular for men, and dermatology was the second most popular specialty for women, followed equally by obstetrics and gynecology and medicine.[15]

Research performed in some areas in KSA found that the three most desired specialties by both genders (males/females) were surgery, internal medicine, and cardiac surgery, respectively.[16] Another related study found that internal medicine was the preferred specialty,

followed by family medicine and general surgery.[17]

Females in our study had mostly chosen medical (non-surgical, non-invasive) specialties like medicine, pediatrics, and dermatology, more than males, which is in contrast to a study done in seven different medical schools in the Western Region of Saudi Arabia, which revealed that The most common choice of field specialization for both male and female was surgical subspecialty followed by emergency medicine at 16.0%, and 15.6%, respectively.[18]

The last selected specialties in our study were: Pediatrics surgery, Oncology, Cardiology, and Endocrinology, no one of the students selected basic sciences as future specialties which was strongly matched with research done in the Faculty of Medicine, Yarmouk University, Jordan which reflects that the basic science specialty was the least preferred by students.[1]

Based on those findings, medical students chose Basic Medical Sciences the least, which may be due to the clinical specialties having more financial income, more prestige, and good social status which were strongly identical to results from other related studies done in AL Qassim-KSA, China, Malaysia and South Asia.[10]

As for the study limitations, it was only carried out at one medical school, and because of the limited sample size, the findings might not apply to other Saudi Arabian medical colleges.

Conclusion

Almost all students preferred clinical specialty of which internal medicine was the most chosen career. There was a difference between male and female future specialty choices.

Females mostly chose medical (non-surgical, non-invasive) specialties such as medicine, pediatrics, dermatology, and neurology. In contrast, males tended to choose surgical specialties such as general surgery, orthopedics, neurosurgery, cardiothoracic surgery, and urology as well as those specialties expected to have exhausting shifts such as emergency medicine, anesthesia, oncology, diagnostic radiology, interventional radiology, and forensic medicine. The most important factors influencing specialty selection were individual characteristics, followed by the type and nature of the specialty, lifestyle, and job satisfaction. We recommend further studies to investigate medical students' career preferences and the factors influencing them in Saudi Arabia.

Ethical Approval Code: This study was approved by the ethical committee, faculty of Medicine Al-Baha University under the approval code No.: {REC/ PEA/ BU-FM/2023/50}.

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Authors' Contribution

Mohammed KAA: Conception & design, acquisition of data, drafting of article, critical revision for important intellectual content, final approval of the version to be published

Salih EMM: Conception & design, analysis & interpretation of data, critical revision for important intellectual content

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Aburaida OM: Acquisition of data, analysis & interpretation of data

Elahag HIA: Conception & design, analysis & interpretation of data, critical revision for important intellectual content

Idreis NMA: Acquisition of data, drafting of article, critical revision for important intellectual content

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