


Factors that influence career choice among undergraduate health professions students

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Background. The landscape of human resources in healthcare is shaped by students' career choices, and a greater understanding of the process of career choice can help to build a better match between students' preferences and specialist demands.

Objectives. To determine the preferred career paths of health professions students and the factors that influence their decisions in Qassim Province, Saudi Arabia.

Methods. This was a cross-sectional study conducted at eight health sciences schools in Qassim.

Results. The main factors that affected career choice were the availability of job vacancies in the career (64.6%), ambition regarding career development (53.9%), and working environment (34.7%). The favoured places in which health professions students hoped to work were government hospitals or health centres (84.9%) and military health services (37.6%). The main barriers that students thought could face them in their future careers were lack of training during their studies at the university (53.1%) and concerns about personal safety (23.6%).

Conclusion. The study highlights the factors that influenced career choices among health professions students, including job availability, career development opportunities, working environment and salary. These findings provide valuable insights for policy-makers and healthcare institutions to address challenges such as lack of previous training and concerns about personal safety, and create a supportive environment in which healthcare professionals can thrive.

Keywords: barriers, career, choice, factors, health, medical education, students

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Every country's healthcare quality is influenced by the amount of available healthcare expertise in various specialties. Diversity in specialties is required to deliver optimal healthcare.^[1-4] Future career paths chosen by students are critical for ensuring a balanced distribution of healthcare professionals across specialties, as they define the composition of the healthcare provider workforce. As a result, medical students have recently expressed a greater interest in career preference issues.^[1-4]

While they are training in healthcare, students start to think about what they want to do for a living. 'What kind of specialist should I become?' is a question that all health professions students must answer.^[5-7] Most people who attend health sciences colleges already know what they want to study when they start. However, first choices are not always met.^[7-9] Many students enter schools of healthcare with vague ideas and false beliefs about the medical field.^[10-12] Even for students who have a strong preference at the start of their studies, job preferences and choices can change during their first year.^[10-12]

A health professions student's choice of specialty is a life-changing event. Most students find it difficult to decide what medical field to go into, because there are so many specialties and subspecialties to choose from. For many of them, this is a transitional period, which means that the job they were thinking about when they first started might be very different by the time they graduate.^[13] Many internal and external factors affect the choice. There are both short-term and long-term preceptorships and rotations that medical students can do. In this way, they can learn about more fields and meet more mentors and role models than was possible in the past. Also, there are often a lot of different factors that affect these decisions, and sometimes

they are linked. Blunders that are primarily the result of negligent career selection jeopardise efforts and undermine the entire process of providing the community with appropriate healthcare services.^[13,14]

Several factors influence job decisions, including personal, professional, socioeconomic and educational aspects. Personal characteristics include gender, interests, family influence, ethnicity, age, geographical location, and marital status.^[15] Professional factors influencing specialty selection include the area's competitiveness among other specialties, its prestige, the availability of mentors, positive attitudes towards the area among students and existing professionals, previous experience in the area, clinical exposure, working hours, facility availability, and teamwork. Socioeconomic factors include income potential, social status, salary, career prospects, work-life balance, job options, family income level, and demand for community services.^[15] Educational factors include access to educators and mentors, instruction in various areas, training duration, degree of study, and school type. Understanding the career ambitions of healthcare personnel and the factors that influence them is critical for career advising, healthcare system planning, and policy-making across countries.^[15]

The landscape of human resources in healthcare is shaped by students' career choices, and a greater understanding of the process of career choice can help to build a better match between students' preferences and specialist demands.^[16] The findings of studies on career choice could be incorporated into existing health sciences curricula by increasing the level of practical experience for each student in a particular specialty, with a focus on aspects such as the development of clinical skills.^[17] The present study aimed to

determine the preferred career paths of health sciences students and the factors that influence their decisions.

Methods

Study design

This cross-sectional study was conducted at eight health sciences schools in Qassim Province, Saudi Arabia, to determine the preferred career paths of health sciences students and the factors that influence their decisions. Convenience sampling was used to select participants from the eight schools to capture a diverse group of students from various healthcare professions: physical therapy, pharmacy, nursing, medicine, medical records, and dentistry.

Inclusion and exclusion criteria

Students from Qassim health sciences schools were included in the investigation. Other college students and health sciences students from other cities were excluded from the study. Participation was purely voluntary, and there was no financial incentive. Participants were required to acknowledge their consent by selecting an option to agree to participate before proceeding with the survey.

Sample size

To calculate sample size, it is first necessary to determine the margin of error, confidence level, population size and response distribution. The confidence level indicates the tolerance for uncertainty. A greater sample size is required to obtain a higher confidence level. The margin of error is the amount of error that can be accepted, with 5% commonly used. In the present study, the sample size was determined using the Raosoft sample size calculator (Raosoft Inc., USA) with a margin of error of 5%, a confidence level of 90%, a population size of 20 000, and a response distribution of 50%. The minimum recommended sample size to ensure that the survey results were representative of the larger population was 267 students.

Ethical considerations

The study was approved by the Ethical Committee of Scientific Research of Buraydah Private Colleges and Scientific Research Center (ref. no. ESRC-00412023). The participants were informed about the purpose of the study and assured that their responses would be kept confidential. To protect anonymity further, the survey was designed to avoid collecting any personally identifiable information such as names, email addresses or phone numbers. To enhance privacy, the online questionnaire was hosted on secure platforms with encryption, and only authorised research team members had access to the data.

Data collection and analysis

Data were collected using an online survey. Three medical academics with expertise in the subject area assessed the questionnaire for accuracy, clarity and comprehensiveness. Feedback from them helped refine the questions, ensuring that the questions effectively captured the intended constructs and were appropriate for the target population. The questionnaire was then distributed to a small group of students as a pilot test, and unnecessary and inadequate questions were eliminated to confirm reliability. The Cronbach's alpha for the survey questions (factors that affect career choice among health professions students, the settings in which students would prefer to work, and the main barriers students thought could face them in their future career) was >0.7 (acceptable internal consistency).

The survey instrument was developed using Google Forms (Google, USA) as a web-based platform for data collection. The study included data collection on respondent demographics, with five items (gender, age, nationality, study programme, and study level), variables influencing job selection among health professions students, with 14 items (availability of job vacancies in this career, ambition regarding career development, working environment, salary, the area where job vacancies are available, quality of life, psychosocial skills and clinical skills, personal experience as a student in contact with a healthcare provider, opinion of family and friends, training and career development opportunities, workload, prestige, research opportunities, whether a parent (or parents) is a healthcare provider, and the influence of the media), the desired work sectors, with seven items (government hospitals or health centres, military health services, private hospitals, health centres or pharmacies, own business, healthcare associate companies, academic institutions, and research institutions), and the primary obstacles that healthcare students might encounter in their future professional endeavours, with 13 items (lack of previous training during study at the university, concerns about personal safety, low salaries compared with other sectors, high workload, irregular working hours, low job security, negative perceptions on the part of society, feeling overqualified for the job, weak healthcare services, limited professional development, the sector is profit orientated, cultural constraints, and laws and regulations). The questions in the survey were closed-ended. With regard to variables influencing job selection among health professions students, the desired work locations of students, and the primary obstacles that students could encounter in their future careers, the respondents could choose more than one answer, so the sum of the percentages could be more than 100%.

The online survey was emailed to students and shared with other students via WhatsApp. After the students had submitted their responses, we verified that the surveys had been filled out in full. The data were collected using an Excel spreadsheet, 2016 version (Microsoft Corp., USA), and the descriptive results were displayed as numbers and percentages. The χ^2 test was used to examine whether the variables were independent or not (to assess the relationship between factors affecting career choice and students' personal data). A χ^2 test was used to assess whether there was a significant difference between two or more categorical variables.

Results

The survey was completed by 271 respondents. Just over 70% of the students were female, and 68.6% of them were aged <21 years. Of the students, 44.7% were nursing students, 17.7% were medical students, and 14.4% were physical therapy students. Approximately 60% of the students were in their first year of study, 15.9% were in their second year, and 14.4% were in their third year (Table 1).

Table 2 shows the factors that affected career choice among the health professions students. The most common factors influencing career choice among physical therapy students were career development ambition (43.6%) and availability of job vacancies in this field (30.8%). For pharmacy students, the key factors were working environment (54.5%), career development ambition (51.5%), and quality of life, psychosocial skills and clinical skills (51.5%). Among nursing students, the most influential factors were availability of job vacancies (81.0%) and having parents, or a parent, working in healthcare (60.3%). The most common factors for medical students were availability of job vacancies (79.2%) and career development ambition (62.5%). Among medical records students, availability of job

Table 1. Personal characteristics of the respondents (N=271)

Variable	n (%)
Gender	
Male	80 (29.5)
Female	191 (70.5)
Age (years)	
18 - 20	186 (68.6)
21 - 23	56 (20.7)
>23	29 (10.7)
Nationality	
Saudi	257 (94.8)
Non-Saudi	14 (5.2)
Study programme	
Nursing	121 (44.7)
Medicine	48 (17.7)
Physical therapy	39 (14.4)
Pharmacy	33 (12.2)
Medical records	18 (6.6)
Dentistry	12 (4.4)
Study level (year)	
1	163 (60.2)
2	43 (15.9)
3	39 (14.4)
4	13 (4.8)
5	8 (3.0)
6	5 (1.8)

vacancies (50.5%) and working environment (44.4%) were the most significant factors. Finally, for dentistry students, career development ambition (41.7%), opinions of family and friends (33.3%) and prestige (33.3%) were the leading factors affecting career choice.

Table 3 shows the sectors the health professions students would prefer to work in. The preferred sectors for physical therapy students were government hospitals or health centres (89.7%) and military health services (38.5%). For pharmacy students, the preferred sectors were government hospitals or health centres (72.7%) and healthcare associate companies (60.6%). Nursing students would like to work in government hospitals or health centres (89.3%) and military health services (51.2%). Medical students favoured government hospitals or health centres (91.7%) and private hospitals, health centres or pharmacies (37.5%). For medical records students, the preferred sectors were government hospitals or health centres (77.8%) and military health services (44.4%). Finally, dentistry students would like to work in private hospitals, health centres or pharmacies (66.7%) and government hospitals or health centres (50.0%).

The main barriers health professions students thought could face them in their future careers are shown in Table 4. The barriers most frequently cited were lack of previous training during study at the university (53.1%), concerns about personal safety (23.6%), low salaries compared with other sectors (22.5%), high workload (19.9%), irregular working hours (19.9%), low job security (16.2%), negative perceptions on the part of society (14.8%), feeling overqualified for the job (12.9%), weak healthcare services (12.9%) and limited professional development (12.2%).

Table 2. Factors affecting career choice among health professions students

Factor	Physical therapy, %	Pharmacy, %	Nursing, %	Medicine, %	Medical records, %	Dentistry, %
Availability of job vacancies in this career	30.8	45.5	31.0	79.2	50.0	25.0
Ambition regarding career development	43.6	51.5	59.5	62.5	33.3	41.7
Working environment	28.2	54.5	33.2	33.3	44.4	8.3
Salary	7.7	48.5	32.2	56.3	27.8	25.0
Area where job vacancies are available	15.4	21.2	43.8	39.6	38.9	8.3
Quality of life, psychosocial skills and clinical skills	10.3	51.5	26.5	58.3	16.7	16.7
Personal experience as a student in contact with a healthcare provider	2.6	6.1	47.1	18.8	5.6	8.3
Opinion of family and friends	20.5	30.3	33.9	27.1	27.8	33.3
Training and career development opportunities	10.3	39.4	26.5	25.0	16.7	8.3
Workload	12.8	39.4	5.8	6.3	16.7	8.3
Prestige	5.1	9.1	18.2	35.4	5.6	33.3
Research opportunities	10.3	24.2	11.6	31.3	0	16.7
A parent (or parents) is a healthcare provider	15.4	6.1	60.3	6.3	11.1	16.7
Influence of the media	5.1	21.2	8.3	6.3	0	0

Table 3. The sectors health professions students would prefer to work in

Sector	Physical therapy, %	Pharmacy, %	Nursing, %	Medicine, %	Medical records, %	Dentistry, %
Government hospitals or health centres	89.7	72.7	89.3	91.7	77.8	50.0
Military health services	38.5	30.3	51.2	33.3	44.4	16.7
Private hospitals, health centres or pharmacies	35.9	51.5	26.5	37.5	27.8	66.7
Own businesses	25.6	42.4	5.8	35.4	0	33.3
Healthcare associate companies	5.1	60.6	16.5	2.1	5.6	8.3
Academic institutions	2.6	36.4	13.2	27.1	11.1	16.7
Research institutions	2.6	33.3	9.9	18.8	0	0

Table 5 shows the relationship between factors influencing career choices among health professions students and their personal characteristics. The χ^2 test was used to examine whether the variables were independent or not. The links between availability of job vacancies in the career and age and study programme were statistically significant. Aspirations regarding career advancement were significantly associated with gender, study programme and study level. The working environment was significantly associated with nationality, and salary correlated significantly with the study programme. The area where employment vacancies were available had a significant link with nationality and study programme.

Discussion

Choosing a career in the health sector is a significant decision that requires careful consideration. Health professions students must weigh up various factors before deciding on a career path that aligns with their interests, skills and goals. Understanding the factors that influence their career choice is essential for educators, policy-makers and employers to develop supportive strategies that attract students to different healthcare fields. In this regard, the present study explores some of the critical factors that affect career choice among health professions students.

The main factors that affect career choice include the availability of job vacancies in the career, ambition regarding career development, working environment, salary, area where job vacancies are available, quality of life, psychosocial skills, clinical skills, and personal experience as a student in contact with a healthcare provider. Health professions students have various career options to consider after completing their degrees. While some may

prefer to work in hospitals, others may have an interest in community health centres, private clinics or research institutions. The places health professions students would prefer to work in are influenced by several factors, including personal interests, job availability and work-life balance. The present study showed that most of the students would like to work in government hospitals or health centres, military health services, or private hospitals, health centres or pharmacies, or to have their own business.

A literature review by Kuzecova and Šverina^[18] shows that nursing students chose career options based on a combination of personal interests in healthcare and a desire to serve others. Students may have strong professional inclinations from the start of their studies. Additionally, they found that interests before becoming a health sciences student, as well as exposures during training, had an impact on students' career decisions. Career preferences can be influenced by experiences in chosen specialties throughout training, as well as by the social environment of the health sciences school, the curriculum, and role models among clinical staff.^[18] Levallant *et al.*^[19] found that the key factors influencing medical students' specialty choices were lifestyle, work-life balance and discipline interest, with variations between nations.^[19] Puertas *et al.*^[20] reported that exposure to rural locations, role models, and working conditions influenced medical students' decisions to pursue a career in primary care. A study by Marznaki *et al.*^[21] that examined the factors influencing individuals in Iran to pursue a career in nursing found that exposure to positive recommendations from family and friends, receiving positive information about studying nursing, positive perceptions regarding the general usefulness of nursing knowledge, and opportunities to emigrate to other countries emerged as the primary factors influencing nursing students' career choices. According to a study by Puertas and Rivera,^[22] the main factors influencing career choice among medical students in Honduras were 'making a difference', salary, teaching opportunities, challenging work, and prestige.

Health professions students face several barriers that can affect their future careers. These barriers can be related to personal factors, education, and the healthcare system itself. Understanding the main barriers that students may face is essential for educators, policy-makers and employers to develop strategies that support and prepare students for successful careers in healthcare. The present study showed that the main potential barriers were lack of previous training during study at the university, concerns about personal safety, low salaries compared with other sectors, high workload, and irregular working hours. Puertas *et al.*^[20] reported that the barriers that affect career choice in primary care among medical students were low income, prestige, and the healthcare school environment. According to Bauer *et al.*,^[23] the primary obstacle to pursuing post-high school education cited by students in the USA is financial. Additionally, for healthcare training, lack of academic achievement emerged as the main barrier.

Table 4. The main barriers that could face health professions students in their future career

Main barrier	%
Lack of previous training during study at the university	53.1
Concerns about personal safety	23.6
Low salaries compared with other sectors	22.5
High workload	19.9
Irregular working hours	19.9
Low job security	16.2
Negative perceptions on the part of society	14.8
Feeling overqualified for the job	12.9
Weak healthcare services	12.9
Limited professional development	12.2
It is a profit-orientated sector	7.8
Cultural constraints	7.8
Laws and regulations	6.7

Table 5. Relationship between factors affecting career choice and students' personal characteristics

Variable	X ² p-value*				
	Gender	Age	Nationality	Study programme	Study level
Availability of job vacancies in this career	0.883	0.046*	0.085	<0.001*	0.419
Ambition regarding career development	0.014*	0.152	0.388	0.007*	0.007*
Working environment	0.921	0.456	0.027	0.527	0.260
Salary	0.644	0.349	0.107	0.03*	0.741
Area where job vacancies are available	0.644	0.911	0.028*	<0.001*	0.651
Quality of life, psychosocial skills and clinical skills	0.346	0.821	0.152	0.078	0.697

*Statistically significant ($p < 0.05$).

The present study identified key factors influencing career choice, including job availability, career advancement opportunities, and work environment. Sawan *et al.*^[24] investigated factors affecting specialty selection among medical students across various Saudi Arabian cities, highlighting the significant roles of personal interest, job security, financial stability, gender and family circumstances. Similarly, Al Subait *et al.*'s^[25] examination of career choice determinants among medical students in Riyadh revealed that the primary motivator for most students was the opportunity to treat or help people. Additionally, Nisar *et al.*^[26] explored specialty preferences among medical students in Jeddah, emphasising that selecting the right career path is crucial for long-term professional success and job satisfaction.

Educators and policy-makers can directly utilise the results of such studies to enhance health professions education and workforce planning by integrating evidence-based insights into curriculum design, ensuring that educational programmes align with current and future healthcare needs. By incorporating these findings into career counselling practices, they can guide students towards in-demand specialties and emerging fields, thus addressing workforce gaps. Additionally, the results can inform policy reforms aimed at improving access to quality healthcare education, diversifying the healthcare workforce, and addressing regional disparities.

The main limitation of the present study is that geographical and cultural specificity may limit its generalisability to other regions. Efforts to contextualise the findings in the broader context of global health workforce challenges could strengthen their relevance. Furthermore, the heavy reliance on nursing students (44.7%) may skew the results. While some of the barriers identified in our study, such as lack of training and low salaries, are not unique to Qassim and may be observed in other regions, one limitation of the study is that it does not compare these barriers across different geographical or cultural contexts, which could provide a broader understanding of how these issues manifest and affect health professions students globally.

Conclusion

The study highlights the various factors that influence career choices among health professions students, including job availability, career development opportunities, working environment and salary. The findings suggest that many students see government hospitals and health centres and military health services as the preferred places to work. However, the study also reveals that several barriers potentially prevent students from pursuing their desired careers, such as lack of previous training, concerns about personal safety, low salaries compared with other sectors, and high workload. The study provides valuable cultural and systemic insights specific to the region (such as preferences for employment in government and military health sectors, concerns about personal safety, and the impact of workload and salary structures), leading to recommendations for curriculum enhancement, policy changes addressing salaries and working conditions, and educational programmes sensitive to local cultural norms to improve healthcare education and workforce development in Qassim. Future research should examine how the barriers identified in our study affect healthcare workforce planning at the global level, particularly in regions with similar cultural, economic or systemic characteristics.

Data availability. The datasets generated and analysed during the present study are available from the corresponding author (SAA) on reasonable request.

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