

Original Article

Navigating Career Paths: Influences on Specialty Selection Among Amna Inayat Medical College Students: A Cross-Sectional Study

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Abstract

Objective: This study focused on examining the specialty preferences of medical students at Amna Inayat Medical College and the factors influencing their choices.

Methods: This cross-sectional study was conducted at Amna Inayat Medical College. The study included 3rd year, 4th year, and final-year MBBS students who consented verbally to participate. Data was collected via a structured questionnaire.

Results: A total of 212 MBBS students participated in this study. Clinical sciences were the preferred choice for specialty training among 78.8% of respondents, with just 21.2% expressing a preference for basic sciences. Gynecology was the most chosen specialty in clinical sciences (19.8%), followed by medicine (18.6%), general practice/family medicine (11.4%), and dermatology (10.8%). Within basic sciences, 28.9% of students expressed interest in anatomy, while 22.2% preferred pathology, and 15.6% chose physiology. The major factors affecting the choice of a specific specialty included high income potential (35.8%), symbol of prestige (10.4%), desire to keep options open (9.4%), family influence (9%), focus on urgent care (7.1%) and job security (7.1%).

Conclusion: Choosing an appropriate future career is critical for medical students, as it significantly influences their professional achievements and satisfaction. This study emphasizes students' concerns and the factors determining their specialty preferences, providing regulatory bodies with valuable evidence to develop targeted resource management strategies.

Keywords: Career preferences, medical specialties, influential factors

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Introduction

Medical undergraduate students in MBBS study a wide range of medical specialties. The usual perception is that students do not decide their career preferences until after they have graduated from medical school. However, not only medical entrants, but even medical school applicants, often have strong preferences for or against some medical careers.¹ In forming the future by the respective governments for health services and medical education the interests of the students who are the future health care providers and the medical teachers must be kept in mind. This is also informative to motivate the students by mentoring them during their stay at medical colleges to motivate them for adopting the careers according to the need of health services and government future plans. Understanding the influencing factors regarding the choice of a certain specialty and disinterest in the other can be due to certain modifiable

factors which can stimulate interest in choices that are not preferred by them.² In most cases, it is observed that students are reluctant to adopt basic science subjects as their future career choice; they think that in these fields their growth in knowledge and skills is static and the main activity is restricted to teaching only.³ To stimulate the interest of students and young doctors, medical institutions have planned and a few have already commenced the Master and Doctoral programs in the basic medical science subjects. This might be useful to stimulate the knowledge quest in students to take it as their future career projects. The literature search shows different influencing factors for the career choices which include demographics, academic performance, income, social status and personality attributes, duty hour requirement and expected income from practicing the selected specialty.⁴ The gender of the students also has effects on career choice as according to different cultures, males

and female doctors prefer to adopt different careers which is acceptable in that specific culture such as women might prefer to be in specialties which are less demanding but paying.⁵ It is also pertinent to know that not only the student's medical college experience of different departments plays a role in the selection of the career but their career perception at the time of admission is important. These studies also give an insight for future planning of healthcare provisions, both for the long and short term. It gives overall information regarding the future availability of different resources in different areas of medical science.³

Methods

A cross-sectional study, conducted among 212 students of Amna Inayat medical college from June 2024 to August 2024. Non-probability convenient sampling technique was used for collection of study participants. Third year, fourth year and final year MBBS students who gave consent were included. Data collection was done using a structured questionnaire focusing on preference affecting speciality choice such as associate-demographic characteristics including income potential, family influence, working priorities etc. The speciality preferences were divided into clinical and nonclinical specialties. Multiple reasons were listed to select along with an option for the students to write any additional information. A verbal informed consent was taken from the students after explaining the details of study procedure. The study was approved by AIMC ethical committee (REF: 45/24 RE).

The data was compiled on MS Excel and then statistical analysis was accomplished by using Statistical Package for Social Sciences (SPSS) version 25.0. This involved descriptive statistics. Data was compiled as frequency and percentage. Chi-square test of significance was applied. P-value less than 0.05 was considered as statistically significant.

Results

The study included a total of 212 students, comprising 59 (28%) students from the 3rd-year class, 78 (37%) from the 4th-year class, and 75 (35%) from the 5th-year class. The mean ($\pm$ SD) age of the students was 21.8 ± 3.5 . 78.8% of respondents expressed a preference for pursuing their specialty training in clinical sciences, while 21.2% opted for basic sciences as shown in Table 1.

The most common specialties chosen in clinical sciences were gynecology (19.8%), medicine (18.6%), General Practice (GP)/Family Medicine (11.4%), and dermatology (10.8%), respectively as shown in Table 2.

However, in basic sciences (n =45) 28.9% students showed inclination towards anatomy, 22.2% students

in pathology and 15.6% students in physiology (Table 3).

Table 1: Characteristics of study participants (n=212)

Variable	Frequency
Year of Study	
3 rd year	59 (28%)
4 th year	78 (37%)
Final year	75 (35%)
Gender	
Female	137 (64.6%)
Male	75 (35.5%)
Career plans	
Clinical	165 (77.8%)
Basic science	47 (22.2%)

Table 2: Clinical specialty preferences among medical students (n=167/212).

Variable	Frequency
Gynecology	33 (19.8%)
Medicine	31 (18.6%)
Family Medicine (GP)	19 (11.4%)
Dermatology	18 (10.8%)
Cardiology	14 (8.4%)
Pediatrics	8 (4.8%)
Urology	8 (4.8%)
Any Other	7 (4.2%)
Endocrinology	6 (3.6%)
Oncology	5 (3.0%)
General Surgery	4 (2.4%)
Cardiac Surgery	4 (2.4%)
Nephrology	3 (1.8%)
Ophthalmology	2 (1.2%)
Radiology	2 (1.2%)
Infectious Disease	1 (0.6%)
Orthopedics	1(0.6%)
ENT	1(0.6%)
Total	167

Table 4 outlines the various reasons students provided for choosing different specialties. The primary factors influencing the choice of a particular specialty were high income potential (35.8%), symbol of prestige (10.4%), desire to keep options open (9.4%), family influence (9%), and focus on urgent care (7.1%) and job security (7.1%). Less common factors influencing career preference were societal influence, recommendation of supervisor or mentor and focus on noncurrent care.

A detailed class-wise comparison of specialty preferences revealed that 47 third-year students chose a clinical specialty, while 13 opted for a basic specialty. In the fourth year, 67 students selected a clinical specialty,

and 12 chose a clinical specialty. For the fifth year, 53 students preferred a clinical specialty, and 22 chose a clinical specialty (Fig.I).

Table 3: Basic sciences specialty preference among medical students (n=45/212).

Variable	Frequency
Anatomy	13 (28.9%)
Pathology	10 (22.2%)
Physiology	7 (15.6%)
Forensic medicine	4 (8.9%)
Biochemistry	3 (6.7%)
Preventive medicine	2 (4.4%)
Any Other	2 (4.4%)
Medical Ethics	2 (4.4%)
Community medicine	1 (2.2%)
Medical education	1 (2.2%)
Total	45

Table 4: Factors affecting the specialty choice among medical students (n=212).

Influencing Factors	Frequency
High income potential	76 (35.8%)
Symbol of prestige	22(10.4%)
Desire to keep options open	20(9.4%)
Family influence	19 (9%)
Focus on urgent care	15 (7.1%)
Job security	15 (7.1%)
Interest in research	9 (4.2%)
Immediate returns/rewards/results	7(3.3%)
Community focus	7(3.3%)
Recommendation of supervisor/mentor	6 (2.8%)
Any other	6 (2.8%)
Focus on non-urgent care	3 (1.4%)
Societal influence	2 (0.9%)
Infrequent on call schedule	2 (0.9%)
Emulating physician known to me	2 (0.9%)
Marital influence	1 (0.5%)
Total	212

In clinical specialties, gynecology was chosen by 17% of 3rd year students, 22.4% by 4th year students and 18.9% by 5th year students. While 19.1%, 14.9% 22.6% of 3rd year students, 4th year students and 5th year student chose medicine specialty. Moreover, General Practice/Family Medicine was selected by 14.9% of 3rd-year students, 11.9% of 4th year students and 7.5% by 5th year students. Dermatology was chosen by 8.5% of 3rd year students, 13.4% by 4th year and 9.4% by 5th year students as shown in figure II.

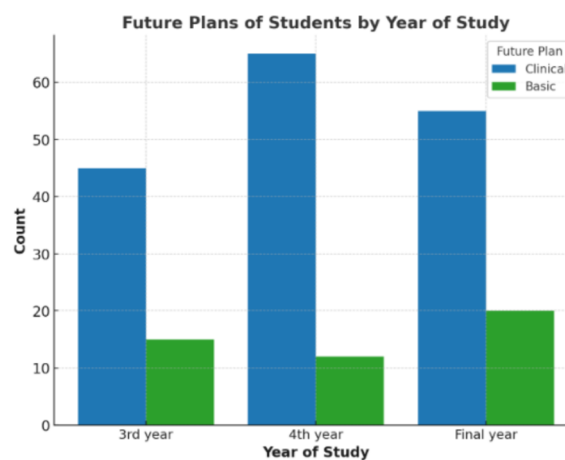


Figure I. Comparison of specialty preference among 3rd year (n=59), 4th year (n=78) and final year students (n=75).

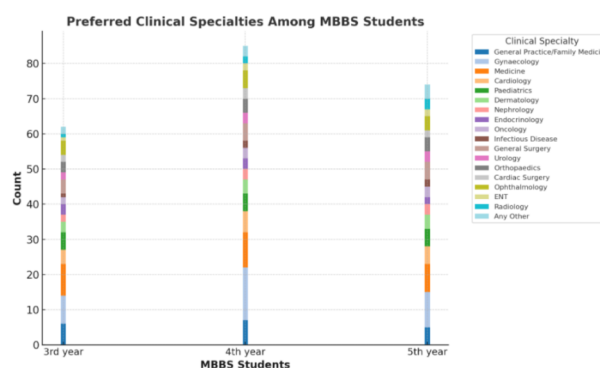


Figure II. Comparison of clinical specialty preferences among 3rd year (n=59), 4th year (n=78) and final year students (n=75).

In basic science, anatomy was selected by 58.3% of 3rd year students, 9.1% by 4th year students and 22.7% by 5th year students. Pathology was preferred by 8.3% of 3rd-year students, while 27.3% of both 4th-year and 5th-year students chose it. Furthermore, physiology was selected by 8.3% of 3rd-year students, 9.1% of 4th year students and 22.7% by 5th year students as shown in figure III.

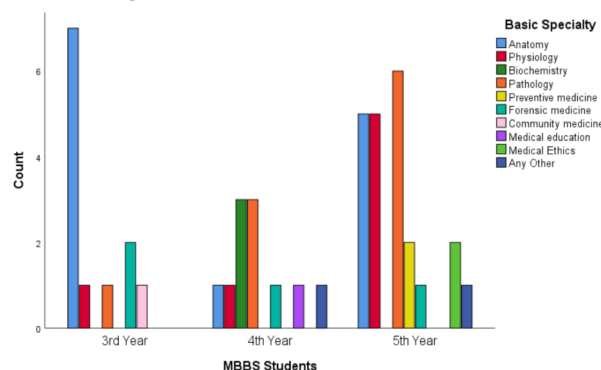


Figure III. Comparison of clinical specialty preferences

among 3rd year ($n=59$), 4th year ($n=78$) and final year students ($n=75$).

A comparison among the classes and factors for choosing a specialty revealed that high income potential was prioritized by 37.3% of third-year students, 35.9% of fourth-year students, and 34.7% of fifth-year students. Symbol of prestige was selected by 10.2% of 3rd-year students, 7.7% of 4th year students and 13.3% by 5th year students. Moreover, desire to keep options open was selected by 11.9% of 3rd year students, 7.7% by 4th year students and 9.3% by 5th year students. Family influence was adopted by 11.9% of 3rd year students, 6.4% of 4th year students, and 9.3% of 5th year students, respectively. 3.4%, 11.5%, 5.3% of 3rd year, 4th year and 5th year student's opted job security factor respectively. While 6.8% of 3rd year students and 14.1% of 5th year students adopted focus on urgent care factor whereas none of final year students selected this factor (Figure IV)

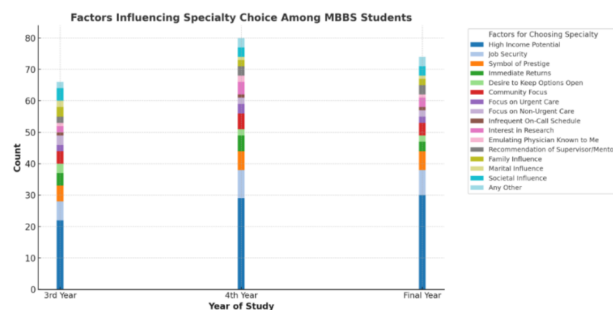


Figure IV. Comparison of factor for choosing specialty among 3rd year ($n=59$), 4th year ($n=78$) and final year students ($n=75$).

Discussion

This study explored the career preferences of medical students at Amna Inayat medical college in Lahore, Pakistan, along with the factors influencing these choices. The choice of medical specialty by medical students has substantial implications for both the practitioners and the national healthcare structure. It plays a crucial role in shaping the future distribution of doctors across various specialties and in workforce planning for healthcare services. The process of understanding and predicting a medical student's choice of specialization is multifaceted and is currently being researched in other studies⁶. The present study reveals several interesting trends in this regard. It was observed that students showed less inclination toward pursuing basic science specialties, preferring clinical specialties over preclinical fields such as Anatomy, Physiology, and Pathology. Overall, 78.8% students showed their interest in clinical sciences, while 21.2% students were with basic sciences in our study. These findings align with those reported in a study conducted in India⁷. A likely justification is

that financial benefits play a substantial role in selecting a specialty. Since basic medical sciences naturally offer lower financial incentives, it is less favored by medical students. This finding is eye opening for those engaged in designing and establishing medical education in Pakistan. It highlights that in order to strengthen medical education the need to reform the system to ensure that basic medical sciences become an equally preferred specialty.⁸

To tackle the limited focus of basic science specialists on teaching and learning activities, medical colleges have introduced masters and doctoral programs in disciplines like Anatomy, Physiology, and Biochemistry. These programs target to ensure a suitable availability of competent basic science faculty for medical institutions and thereby high-income potential.⁹ In present study gynecology, medicine, general practice/family medicine, dermatology and cardiology were the top five specialties chosen by our respondents, mismatching with the findings in previous study,¹⁰ while consistent with the study results conducted by Ali- Zubi et al,¹¹ probably due to demographic and cultural difference as it is considered to be the choice of female doctors and the ratio of female students is high across the board in Pakistan. After gynecology, general medicine was the 2nd most popular career choice of our study participants. The reason behind is that students opting for general medicine are often inspired by factors such as the opportunity for meaningful patient interaction, especially with chronic cases; the perception that being a general doctor is central to medicine; the chance to deliver extensive care; the intellectual challenge of diagnosis; the contentment of thoroughly understanding patient conditions; contribution in the psychological and social aspects of care; interest to pay back to the community; the flexibility to keep career choices open; and a comparatively low emphasis on compensation and lifestyle considerations.¹² Dermatology ranked as the 4th most commonly chosen specialty, and this aligns with the study conducted by Akhund et al¹³. It has been reported that family medicine as a specialty continues to fall short of its predictable demand, comparatively due to the insufficient availability of postgraduate training opportunities.¹⁰ Medical students are less inclined to pursue family medicine, primarily due to its limited financial rewards.¹⁴ But surprisingly it was third most favorite choice of our respondents. It was unexpected to find that 2.4% of our study participants selected general surgery. There are several reasons not to pursue surgery as a specialty, including: many medical students are apprehensive about the long working hours and unpredictable schedules associated with surgical spe-

cialties. In different studies some medical students have expressed concerns about the higher risk of depression and suicide linked to surgical specialties.¹⁵ There are also some claims that general surgery residents may not achieve the full level of competency essential to become qualified practitioners.¹⁶

Anatomy, pathology and physiology were top three basic medicine sciences specialties in our study. Community medicine and medical education received low preference, potentially exacerbating workforce shortages in these fields. Furthermore, faculty shortages in basic medical sciences and research are already a pressing issue in developing countries like ours. By understanding career preferences, medical education policy in Pakistan can be tailored to encourage the redistribution of medical students and physicians to fields with deficiencies, predominantly in areas like primary care. Studies have shown that regions with a greater proportion of primary care physicians tend to have significantly lower overall healthcare costs. This is potentially attributed to enhanced preventive care and reduced hospitalization rates provided by robust primary care services.¹⁷

It was seen in many studies that career selections frequently change as students move on through medical college, possibly influenced by the curriculum and academic setting. Despite changes in career preferences during medical school, Carline and Greer observed a 70% stability rate between students' initial career choices and their eventual practice specialties.¹⁸

High income potential, symbol of prestige, desire to keep options open and family influence were the top most factors chosen by our study participants for choosing their specialty. Researchers have also identified economic considerations as the primary factor affecting career choice.¹⁹ Medical students often select high income potential when choosing a career because it directly impacts their financial security, especially given the substantial costs of medical education. Chawla et al. reported that passion for the subject and economic incentives were the important reasons prompting specialty selection.²⁰

Medical students have internalized the widely held perceptions of prestige associated with various medical specialties. Surgery, internal medicine, and intensive care medicine were considered the highest, whereas public health, occupational medicine, and non-specialist hospital medicine rated the lowest. Symbol of prestige ranked 2nd factor in choosing a specialty and it aligns with the findings from a previous study.²¹ Family influence is still a major factor in our culture posing a

stressful reality as it ranked 4th in our study results. Din et al. study findings indicated that parents' social class played a role in the career choices of medical students for 50% of the participants.²² Auditor et al. reported similar findings, emphasizing that parents can influence the selection of career, with family respect being one of the most noteworthy factors shaping a student's career decision.²³ Ojukwu et al. revealed that parents' academic qualifications suggestively influenced 66% of students' future academic selections, their employment context accounted for 23% of students' academic decisions, and their income and assets positively predicted 62% of career preferences.²⁴

In our study findings 9.4% medical students selected their specialties based on the desire to keep career options open, permitting for flexibility and compliance in their professional courses as documented by Nisar et al.²⁵ This partiality reflects the uncertainty and long-term considerations involved in their decision-making process.

The reduced sample size may limit the generalizability of the findings to all medical students, especially across different institutions or regions.

Conclusion

High income potential, symbol of prestige, desire to keep options open and family influence are key factors motivating the choice of a particular specialty. To overcome disparities, health planners should implement measures to make fewer favorite specialties, such as basic medical sciences more appealing, ensuring a more balanced and equitable healthcare system. Our findings underline that fostering and uplifting students' professional interests could efficiently tackle the uneven distribution of medical resources in a more efficient and cost-effective way.

Ethical Approval: The IRB/EC approved this study via letter no. 45/24-RE dated August 05, 2024.

Conflict of Interest: None

Funding Source: None

Authors' Contribution

BBY: Conceptualization of the project

IJ, IN: Design of the work.

FR, FJ: Data acquisition, analysis, or interpretation.

FR, FJ, IN: Draft the work.

BBN, IJ: Critical review of important intellectual content.

All authors approve the version to be published.

All authors agree to be accountable for all aspects of the work.

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