

ORIGINAL RESEARCH PAPER

## **Career Preference of Final Year Medical Students of Ziauddin Medical University**

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**ABSTRACT Purpose:** *The study aims to identify the career preferences of the final year medical student as well as to determine gender differences in career choices.*

**Participants:** *The participants were 232 final year MMBS students of the first five classes of Ziauddin Medical University.*

**Method:** *A questionnaire was designed that identified student's choice of specialty, location preferences, and reasons influencing career preferences. Percentages and chi-square were used to determine differences in career preferences of students.*

**Results:** *Students chose internal medicine, surgery, and pediatrics as their first three career choices. Clinical specialties were highly rated as compared to family medicine. Personal interest was ranked as the most influencing factor that contributed to choice of specialty. Most respondents preferred working in Pakistan as compared to overseas, and for practice selected, private setup was more favored compared to other settings. Gender differences were found in career preferences.*

**Conclusion:** *The impact of the innovative community education programme is not clearly evident in the study, indicating that several other factors contribute towards decisions regarding career. A critical review by the university is required to strengthen the fields that are being overlooked by the students. A follow-up study would be beneficial to determine the changing trends in career preferences.*

**KEYWORDS** *Career preferences, medical specialties, influential factors, settings and countries for practice.*

### **Introduction**

Students enter the medical field with different intentions but interest and concern for the sick are the most important (Neittaanmäki *et al.*, 1993; Vaglum *et al.*, 1999). Career choices are influenced both by the graduate's inclination

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before starting medical school as well as any exposure during training in medical school (Morrison & Murray, 1996; Newton *et al.*, 2005).

Experiences in chosen specialties during training as well as the social milieu of the medical university, the teaching programme and role models can influence career preferences (Newton *et al.*, 2005). Other factors include expectation of material rewards, societal appreciation of specialty, specialists, response of specialty patients to treatment, and the role of specialty teachers (Newton *et al.*, 2005).

In general, students tend to select hospital medicine over general practice (Goldacre *et al.*, 1999; Campos *et al.*, 2003; Newton *et al.*, 2005). Gender influences not only the specialty chosen, but also the reasons that contribute to making this choice. Valian (1999) suggested that men and women prefer specialties that are congruent to their gender schemas; females generally opt for pediatrics and gynecology-obstetrics (Jaafar & Ahmed, 1993; Kassebaum *et al.*, 1996; AAMC, 1999; Reed & Fischer, 2001; Monleon-Moscardo *et al.*, 2003) and men select surgical specialties (Monleon-Moscardo *et al.*, 2003).

Students generally prefer practicing in the public sector as compared to private or university settings.<sup>1</sup> They also favour working in urban areas over rural ones and opt to practice in their hometowns as compared to going overseas (Jaafar & Ahmed, 1993; Dambisya, 2003).

### *Context*

This study was conducted in Ziauddin Medical University (ZMU), a private medical University established in 1996. Unlike the traditional medical education in Pakistan, ZMU offers a five-year undergraduate medical curriculum with an integrated, systems-based approach to pre-clinical training and a strong commitment to adapt self-learning strategies such as Problem-Based Learning. Students' experiences also include exposure to a defined community where the students spend 20% of their time from first year to fourth year as part of structured activities of both the Departments of Community Health Sciences and Family Medicine. For clinical rotations, students are exposed to a variety of specialties in tertiary care settings.

### *Study Rationale*

The present study serves as a baseline study for ZMU to identify the career choices and factors that influence career decisions of ZMU medical graduates. The study will also help assess whether these factors are in line with the school's philosophy. Findings of this study can thus be utilized to review the current status and future directions of the curriculum.

<sup>1</sup>During the interviews applicants for undergraduate and postgraduate programs stated their preference for the private sector. Interviewers recorded these comments. However there is no published data.

The match between career preferences amongst women and their actual career after graduation is important, as more than half of ZMU students are women. In addition, the study may give insights into patterns in preferences regarding practice location.

### *Study Objectives*

This study will identify career preferences of first, second, third, fourth and fifth year cohorts of ZMU that include the following:

- choice of specialty
- factors influencing choice of specialty
- choice of country and setting for practice
- gender differences with respect to career preferences.

## **Methodology**

### *Recruitment and Procedure*

Participants were 232 final year MBBS students of the first five classes of Ziauddin Medical University from the years 2000–2004 (160 women and 72 men).

A 26-item questionnaire was developed for examining the career preferences among the students. The assessed areas included demographic information, educational and previous work experience and the time allocated to various medically-related activities. Also assessed were students' choice of specialty, factors that influenced their choice, and preference of settings and country of practice. (A copy of the questionnaire is available upon request.)

### *Data Analysis*

Overall percentages as well as percentages for men and women were calculated for all the domains specified in the objectives. Chi-square was calculated to determine gender differences in specialties chosen, factors influencing career choice, preference of country and settings for practice.

## **Results**

### *Specialty Choice*

The first three preferred specialties were internal medicine, general surgery, and pediatrics, respectively (see Table 1). Internal medicine was the first choice for both men and women. Women chose pediatrics as their second choice whereas men preferred surgery. The third choice for men was cardiology and for women it was surgery. There was a significant difference in ratings of “pediatrics” and “internal medicine” between men and women ( $p < 0.001$ ).

**Table 1.** Number and percentage of students selecting various specialties ( $n = 232$ )\*

| Specialty choices                       | Rank  |      | Rank  |      | Rank  |      | Rank  |     | Rank  |     |
|---|-------|------|-------|------|-------|------|-------|-----|-------|-----|
|   | No. 1 | %    | No. 2 | %    | No. 3 | %    | No. 4 | %   | No. 5 | %   |
| Internal Medicine                       | 85    | 36.6 | 60    | 25.9 | 28    | 12.1 | 21    | 9.1 | 7     | 3.0 |
| General Surgery                         | 49    | 21.1 | 35    | 15.1 | 30    | 12.9 | 21    | 9.1 | 11    | 4.7 |
| Pediatrics                              | 41    | 17.7 | 34    | 14.7 | 28    | 12.1 | 8     | 3.5 | 11    | 4.7 |
| Obstetrics-<br>Gynecology               | 21    | 9.1  | 40    | 17.2 | 24    | 10.3 | 19    | 8.2 | 11    | 4.7 |
| Ophthalmology                           | 13    | 5.6  | 21    | 9.1  | 22    | 9.5  | 9     | 3.9 | 13    | 5.6 |
| Ear, Nose<br>and Throat                 | 15    | 6.5  | 29    | 12.5 | 18    | 7.8  | 11    | 4.7 | 7     | 3.0 |
| Psychiatry                              | 11    | 4.7  | 20    | 8.6  | 13    | 5.6  | 2     | 0.9 | 7     | 3.0 |
| Family Medicine/<br>General Practice    | 12    | 5.2  | 19    | 8.2  | 20    | 8.6  | 17    | 7.3 | 6     | 2.6 |
| Dermatology                             | 12    | 5.2  | 13    | 5.6  | 24    | 10.3 | 14    | 6.0 | 12    | 5.2 |
| Radiology                               | 20    | 8.6  | 20    | 8.6  | 16    | 6.9  | 9     | 3.9 | 14    | 6.0 |
| Community<br>Medicine/<br>Public Health | 10    | 4.3  | 16    | 6.9  | 9     | 3.9  | 13    | 5.6 | 9     | 3.9 |
| Cardiology                              | 24    | 10.3 | 28    | 12.1 | 14    | 6.0  | 21    | 9.1 | 19    | 8.2 |
| Oncology                                | 13    | 5.6  | 15    | 6.5  | 11    | 4.7  | 15    | 6.5 | 13    | 5.6 |
| Pathology                               | 8     | 3.5  | 15    | 6.5  | 13    | 5.6  | 11    | 4.7 | 6     | 2.6 |
| Basic Sciences                          | 6     | 2.6  | 13    | 5.6  | 13    | 5.6  | 5     | 2.2 | 7     | 3.0 |
| Other medical<br>specialties            | 13    | 5.6  | 8     | 3.5  | 9     | 3.9  | 2     | 0.9 | 4     | 1.7 |

\*The students could select any five specialties and rank them according to their preference.

### *Factors Influencing Career Choice*

From a list of factors provided, students indicated whether there was a very strong, strong, moderate, little, or no influence on their career choice. Table 2 presents the information with very strong/strong combined together, moderate and little combined together, and “none” in separate columns, and has been ranked from the highest to lowest. Overall, the students rated “personal interest” as the most influential factor that contributed to career choice. Chi-square analysis revealed that there was a significant difference between men and women on the following factors: “intellectual challenge”, “professional independence”, “parental preference”, “few specialists in the country” ( $p < 0.05$ ), as well as related to “content of specialty” and “policies/mission of the college” ( $p < 0.001$ ). According to the study, men as compared to women are more likely to be influenced by factors such as intellectual challenge, professional independence, content specialty and policies/missions of the college. The difference is statistically significant.

*Practice Setting*

The first setting of preference was private university teaching hospital with private specialists' clinic second and public university setting third (see Table 3). A statistically significant difference between men and women

**Table 2.** Factors influencing career preference of students ( $n = 232$ )

| Factors                                   | Extent of influence |      |          |      |      |      |
|---|---------------------|------|----------|------|------|------|
|   | Strong              |      | Moderate |      | None |      |
|   | No.                 | %    | No.      | %    | No.  | %    |
| Personal interest                         | 203                 | 87.5 | 24       | 10.3 | 5    | 2.2  |
| Role models in medical college            | 159                 | 68.5 | 62       | 26.7 | 11   | 4.7  |
| Clinical rotation                         | 157                 | 67.7 | 61       | 26.3 | 14   | 6.0  |
| Intellectual challenge                    | 148                 | 63.8 | 73       | 31.5 | 11   | 4.7  |
| Professional independence                 | 146                 | 62.9 | 68       | 29.3 | 18   | 7.8  |
| Close interaction with patients           | 145                 | 62.5 | 76       | 32.8 | 11   | 4.7  |
| Content of specialty                      | 141                 | 60.8 | 73       | 31.5 | 18   | 7.8  |
| Desired practice setting                  | 136                 | 58.6 | 72       | 31.0 | 24   | 10.3 |
| Fixed working hours                       | 128                 | 55.2 | 94       | 40.5 | 10   | 4.3  |
| Specialty prestige                        | 125                 | 53.9 | 82       | 35.3 | 25   | 10.8 |
| Financially rewarding                     | 123                 | 53.0 | 87       | 37.5 | 22   | 9.5  |
| Parental preference                       | 106                 | 45.7 | 86       | 37.1 | 40   | 17.2 |
| Commitment to family/community            | 106                 | 45.7 | 98       | 42.2 | 28   | 12.1 |
| Burden of disease                         | 100                 | 43.1 | 93       | 40.1 | 39   | 16.8 |
| Few specialists in the country            | 88                  | 37.9 | 104      | 44.8 | 40   | 17.2 |
| Working with new technology               | 87                  | 37.5 | 77       | 33.2 | 68   | 29.3 |
| Opportunities for contribution to society | 84                  | 36.2 | 119      | 51.3 | 29   | 12.5 |
| Opportunities for research                | 82                  | 35.3 | 101      | 43.5 | 49   | 21.1 |
| Policies/mission of medical college       | 58                  | 25.0 | 102      | 44.0 | 72   | 31.0 |

**Table 3.** Ranking for preferred settings for practice ( $n = 232$ )\*

|  | Rank No. 1 |      | Rank No. 2 |      | Rank No. 3 |      |
|--|------------|------|------------|------|------------|------|
|  | No.        | %    | No.        | %    | No.        | %    |
| Public University Teaching Hospital            | 32         | 13.8 | 35         | 15.1 | 45         | 19.4 |
| Private University Teaching Hospital           | 76         | 32.8 | 67         | 28.9 | 20         | 8.6  |
| Private Specialists Clinic                     | 73         | 31.5 | 33         | 14.2 | 39         | 16.8 |
| Public/municipal dispensary                    | 3          | 1.3  | 2          | 0.9  | 12         | 5.2  |
| District Hospital                              | 5          | 2.2  | 18         | 7.8  | 11         | 4.7  |
| Community-Based Health Center                  | 5          | 2.2  | 21         | 9.1  | 4          | 1.7  |
| National Non-Governmental Organizations (NGOs) | 8          | 3.5  | 17         | 7.3  | 12         | 5.2  |

\*Students could select any three settings and rank them according to their preference.

**Table 4.** Students' preference for country of practice ( $n = 232$ )\*

| Country        | Definitely or probably yes | %    | Uncertain | %    | Definitely or probably no | %    |
|----------------|----------------------------|------|-----------|------|---------------------------|------|
| Pakistan       | 120.0                      | 51.7 | 76.0      | 32.8 | 36.0                      | 15.5 |
| UK             | 60.0                       | 25.9 | 104.0     | 44.8 | 68.0                      | 29.3 |
| Other European | 34.0                       | 14.7 | 102.0     | 44.0 | 96.0                      | 41.4 |
| USA            | 57.0                       | 24.6 | 87.0      | 37.5 | 88.0                      | 37.9 |
| Canada         | 39.0                       | 16.8 | 95.0      | 41.0 | 98.0                      | 42.2 |

\*Students could select more than one country.

preferences in choice of settings was found only for “NGOs” ( $p < 0.001$ ). Men were more likely to choose NGOs as their first choice while women more often ranked this as their 2nd or 3rd choice.

#### *Preferred Country for Practice*

A high percentage of students regardless of gender, indicated that “Pakistan” was their preferred choice of country (see Table 4). The students' second choice was the United Kingdom followed by the United States. Significant differences ( $p < 0.001$ ) were found between the choices made by men and women in their preferences for the UK, USA and Canada. For all countries except Pakistan, a higher percentage of men tended to respond in the affirmative as compared to women.

## **Discussion**

Although there has been some research on medical career specialization, this is the first known study in Pakistan of the final year of the MBBS programme. But, this present study has several limitations; because our sample only included final year students, it is likely that students undergoing house job-training or have completed house job-training would have responded differently. In addition, the significant findings applied to a private medical school and not public sector medical schools. Despite these limitations, the findings regarding the career preferences of final year students at Ziauddin Medical University may have implications for both medical education and career counseling.

In the context of Pakistan, significant findings include the students' preference for clinical specialties, their choice of private settings for practice and their selection of Pakistan as the primary country for practice. Interesting differences were also found between men and women in numerous respects to career preferences.

The continuing dominance of hospital specialists over primary care outcomes is evident from the results despite efforts of the ZMU to provide exposure to

community and family attachments. Research supports that the percentage of students choosing general practice has declined over the past years (Goldacre *et al.*, 1999; Dambisya, 2003).

In Pakistan, despite several efforts of the government, including initiation of the WHO project on Community-Oriented Medical Education in 1995 (COME, 1999), the influence and production of family physicians remains scarce. Even the regulatory body, Pakistan Medical & Dental Council (PMDC), does not recommend clinical training in primary health care settings or in family medicine for undergraduate and house jobs. In addition, there is a general perception that career choices outside the specialties are for failures. Students who reject family practice are concerned about prestige, low income, and the breadth of knowledge that is required (Campos *et al.*, 2003).

The inclination of Pakistani students toward the private sector is not surprising. Starfield (2001) has pointed out that in countries with a strong primary care system students have a greater incentive to enter primary care. In recent years, Pakistan has witnessed a decline in the quality of the public health care system because of a shortage in funding, overcrowding of patients, poor governance and inadequate health care providers. The overall environment of public health care settings as well as students' own educational experience in a private university hospital may have influenced their preference.

Similar to studies elsewhere (Lawrence *et al.*, 2003), students highly rated intrinsic factors such as personal interest, content of specialty and professional independence as compared to extrinsic factors like parental preference, material rewards, fixed working hours, commitments to the family and the mission of the medical college. The sample of this study was limited to final year students whose choices may alter after their house job-training is finished. The work by Petrides & McManus (2004) also suggests that, although students have strong career preferences from the beginning of their careers, their choices undergo several transitions before they eventually decide on a career.

Although there is a growing trend in new graduates going abroad for better opportunities, the results of this study indicate that regardless of gender, students preferred to practice in Pakistan. Similar studies undertaken in the UK revealed that students preferred to practice in their own country, whereas overseas students' preferences were to return to their homeland for practice (Goldacre *et al.*, 1999). However, two recent studies related to physician migration to the developed countries, showed that among the lower income countries, Pakistan ranked third in exporting physicians (Astor *et al.*, 2005; Mullan, 2005). The findings of this present study regarding students' choices may be attributed to their limited educational experience, a desire to serve one's own community and an emotional attachment to family and friends. Moreover, this trend could result from the impact of policies of other governments or the high expense involved in meeting the criteria of

international postgraduate institutions. For instance, many graduates who received acceptance to US residency programmes were not successful in getting the requisite visa, so were limited to choosing an alternative track in Pakistan.

Gender differences were found in the choice of specialty as well as in factors that affect these choices. Women in Pakistan have outnumbered men entering the medical profession, though continuation of a long-term career in medicine is dependent on several other factors. Similar results have been pointed out in research conducted in other countries (Williams & Cantillon, 2000). On the one hand, congruent to their gender schemas, women are more likely to select pediatrics than men; on the other hand, their preference for other specialties like internal medicine and surgery is also high.

## Conclusion

Interestingly, findings from this study particularly on choice of specialty and factors that influence these decisions are similar to those which have taken place elsewhere. Although the university has introduced community-based activities and family attachments, a trend toward students not selecting family medicine is obvious. Likewise, the health system and medical education do not reinforce the need for general practitioners in the country and the exposure to specialties takes priority over family medicine. However, the present study should not necessarily be viewed as a disappointment of the university programme. Rather, it is a baseline study indicating that increased efforts are required for a major change at the national policy level.

Studies indicate that there is generally a difference in career choice after students have completed their residency. A follow-up study in this regard would be useful to determine the continuing trends in career preferences. Knowledge and understanding related to trends in career choice could lead to the identification of departments that require strengthening. For a relatively new university, such information is useful in strengthening individual programmes and planning for the future.

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