

Why students select a medical career? A descriptive study conducted in various private and public sector medical colleges of Pakistan

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Author's Contribution

^{1,4} Conception of study

^{1,2} Experimentation/Study conduction

^{1,3} Analysis/Interpretation/Discussion

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Abstract

Objectives: To explore the reasons behind the selection of medical careers by the students and various factors influencing their choice.

Materials and Methods: This descriptive questionnaire-based cross-sectional study was conducted in 2017 in six different medical colleges including both private and public sector institutions. Data were analysed with SPSS 21 and Epi Info 7 and conclusions drawn according to the objectives of the study.

Results: Out of 164 students, 75% of the students came from an urban background. Female students were more likely to have well-educated mothers than their male peers (OR 3.99, CI: 1.81-8.77, P-value: 0.0007) with no significant difference seen in fathers' education between students of different types of medical colleges and gender. Service to humanity or financial and social benefits associated with this profession were the main reasons for pursuing the medical career among the students, whereas parents were mostly fascinated by the financial and social benefits of the job. Nearly a fifth of the students had no personal interest in medical studies and profession; they sought admission only because of their parents. About 11 % were regretting their choice of career. Almost half of the students (48%) were not satisfied with the ways of teaching and curriculum.

Conclusion: There was no significant difference in the views of private and public sector medical colleges. Upgrading the basic and medical education system and the selection criteria for medical colleges is essential to alleviate location and specialty-based health workforce shortage.

Keywords: Medical students, career choices.

Introduction

Career choice is one of the most critical decision in one's life, which is influenced by not only the individual's priorities but different factors like personal aptitude, academic attainment, cultural and religious context of family and the community, and finally the economic and social circumstances of an individual, all color and influence youth perception of appropriate career choice.

During the last couple of decades, there has been a mushroom growth of medical and dental colleges in Pakistan, which are 169 according to the latest statistics of PMDC¹, out of these, 110 are only in the private sector (100 fold increase in last 20 years). This is in comparison to the number of allopathic medical schools in the UK where the figure is about 42 and about 150 in the USA.^{2,3}

Although seems positive, it has to be established whether such a steep rise has any favorable effect on the grooming of this profession or it's just a business. With this growth, there is rising concern about the quality of medical education and the graduating doctors. On the other side, still, nearly about 150,000 students sit for about 15000 seats each year that is at least 10 students contesting for each place.^{4,5}

Medical education institution carries a social mandate to generate a diverse workforce that meets the health needs of inhabitants of that area.⁶ Thus, planning for selection and then appropriate training of the medical workforce is the key step in health care service provision according to community needs.

According to the WHO Global Atlas of health worker 2016, Pakistan has about 8 doctors to 10,000 population.⁷ Private medical colleges may complement public sector institutions in overcoming this shortage of doctors, especially in rural and under-serviced areas by reducing the number of students, that go abroad for medical studies.⁸ Admission to medical college is the beginning of a commitment and devotion that need extreme motivation and hard work. It is vital to evaluate those factors which motivate young individuals to choose the medical profession, to devise fruitful planning for our coming generation of doctors to pursue a satisfactory career.

Little is known about how medical students in private medical schools differ from those studying in public institutions in terms of motivations and career aspirations as it is essential to sort whether this growing cohort of new doctors can bear the demands of the profession. Similar studies were reported in India⁹, Nepal¹⁰ and other parts of Pakistan¹¹, but there

is a lack of data from Khyber Pakhtunkhwa. Consequently, the study was aimed to evaluate the views of medical students regarding motives of having admission in medical college and future progression of their career along with various factors influencing these choices.

Materials and Methods

Objectives:

1. To explore the motivations behind seeking medical careers by the students of different private and public sector medical colleges, along with socio-demographic indicators affecting their choice.
2. To evaluate the difference in the characteristics and views of the medical students in private and public sector institutions.

This descriptive cross-sectional study was conducted between January 2017 and June 2017. Six medical colleges were included in the study namely Khyber Medical College, Khyber Girls Medical College, Kabeer Medical College, Rehman Medical College, Peshawar Institute of Medical Sciences, and Rawal Institute of Health Sciences, Islamabad. Of these, two are public sector medical colleges while the rests are private medical colleges. A semi-structured questionnaire was generated according to the aims and objectives of the study. In addition to socio-demographic information, we captured the views and perceptions of the students about various dynamics of the medical profession and their implications. Most of the questions were open-ended. The answer for each question was further categorized into different groups at the time of data analysis to conclude.

Students of all academic years were included in the study randomly with no preference to gender or any other variable. The sample size was calculated through www.openepi.com, using the frequency of medical students, among all students of higher education in Pakistan, aged between 18-23 years.

Data were analyzed through SPSS version 21 and Epi Info 7. Descriptive statistics like mean, frequency, and proportions were used for sociodemographic characteristics and views of the students about various career questions, while odds ratio, confidence interval, and P-value were calculated to define associations between various background characteristics of these students and their views about career prospects. Conclusions were sorted out after critical evaluation of

the outcome analysis, according to the aims and objectives of the study.

Results

About 180 students were given the questionnaire. Of them, 164 responded, thence were included in the study (response rate 91%). Seventy-two students belonged to public sector medical colleges while 92 students were from private institutions; whereas the number of female students was 89 and males were 75. The mean age of the study population was 23 years. Students from all academic years were included, with the highest frequency from the final year (Figure 1 & 2). Most of the students belonged to Khyber Pakhtunkhwa (KPK), as except one medical college included in this study, all are located in Peshawar.

When socio-demographic data was analyzed 41 students (25%) came from a rural background (living in the rural area) and 123 (75%) students were residents of urban regions, but about half of those, from the rural community had intermediate education from institutions in big cities. The distinction between rural and urban areas was made according to the 1998 census and WHO definition. Most of the students (74%, 122/164) came from the middle class with an average family monthly income of 1,22,000 Rs whereas one-fourth of the students (42/164) came from families with a monthly income of more than 300,000 Rs; students of the private medical college are more likely to belong to this group (31:11) (OR: 2.81, CI: 1.29-6.1, P-value 0.01).

Regarding parents' education, fathers were more educated than mothers, almost all have an education of more than 10 years and 80% were highly educated (Professional bachelor, Masters or beyond). There was no significant trend regarding father's education, relative to gender or type of medical college (private/government). But contrarily, when mother's education was evaluated, it was found that the mothers of female students were more likely to be well educated (10 years of education or more) than those of male students (78: 48) (OR 3.99 CI: 1.814-8.7702, P-value 0.0007). One or both parents of about 20% of the students were doctors (Table 1).

When asked about the reasons for admission to medical college, 95 students (58%) regarded the medical profession as their own choice, 31 students (19%) got admission totally because of their parents wish with no personal interest, whereas for 38 students (23%), it was a mutual decision of the students and their parents. There was no significant

difference in this trend noted specific to gender (OR: 1.02, CI: 0.43-2.4, P-value 1.00) or type of medical college (OR 1.46, CI 0.62-3.47, P-value 0.42). About 47 students (29%) wasted 1 or 2 years to achieve admission in medical colleges.

Students were asked through open-ended questions, about the most fascinating factor related to the medical profession, for them and their parents, which motivated them to opt for the career. Their answers were then categorized into different groups. The rationale of the job that is service to humanity and the benefits of the job (namely respect in the community, job security, and financial benefits) were the main aspects that fascinated the students (Fig 3), whereas for their parents the financial and social benefits of the medical job mattered more (OR 2.346 CI 1.5-3.66 P-value 0.0002). There was no significant difference in this trend when data according to gender and category of medical college (private/public sector) was separated (Figure 3 & 4).

When probed about any regrets for choosing a medical career, 18 students (11%) regretted their decision mostly due to hectic routine. Regarding any intention to change the career, 28 (17%) of them admitted the possibility of changing the profession when given better choice, while 136(83%) students had no intention to change the profession even if compelled to do so due to family circumstances or given a better option. No significant change of opinion was seen according to gender and category of the medical field but students who took admission entirely because of their parents' desire were more likely to regret (OR 6.68 CI 2.38-18.74, P-value 0.0002) and change career.

As part of the survey, views of medical students about the qualities of a good doctor were also taken into account. About 144 (88%) students considered good attitude and behavior as the most essential quality to be a good doctor, while only 7% considered skills and knowledge to be the main characteristics of a good doctor.

Finally, on an inquiry about medical education, 78 students (about 48%) were not satisfied with the way of education conducted in medical colleges and they wanted it to be more practical; with exams and ways of education, promoting practical skills and education.

Table 1: Background characteristics of medical students in public and private medical institutions

Characteristics	Public sector Institutions N (%age)	Private sector institutions N (%age)	Odds ratio	Confidence interval	P-value
Parents medical doctors	15 (20.83%)	15 (16.30%)	1.35	0.61-2.99	0.54
Father's education ≤ 10 years	15 (20.83%)	14 (15.22%)	1.47	0.66-3.28	0.41
Mother's education ≤ 10 years	26 (36.11%)	42 (45.65%)	0.67	0.33-1.32	0.28
Illiterate mothers (less than 5 years)	13 (18.05%)	25 (27.17%)	0.59	0.25-1.33	0.19
Family income ≥ 300,000 Rs	11 (15.28%)	31 (33.69%)	0.35	0.15-0.81	0.01
Mean income of parents (Rs)	1,76,029 Rs	2,96,753 Rs	-	-	-
Parent's desire as a sole reason for admission	16 (22.22%)	15 (16.30%)	1.47	0.62-3.47	0.42
Wasted ≥ 1 year before admission	15 (20.8%)	32 (35%)	0.49	0.22-1.06	0.06
Rural background	17 (23.61%)	24 (26.09%)	0.88	0.40-1.89	0.85
Regretting their choice(male:female)	7(2:5) (9.72%)	11(5:6) (11.96%)	0.79	0.24-2.39	0.80
Having foreign nationality	3 (4.17%)	17 (18.48%)	0.19	0.03-0.71	0.007

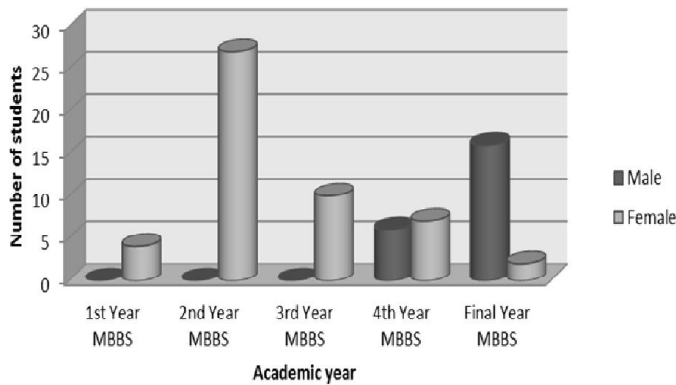


Figure 1: Academic year with Gender of Pubic sector students

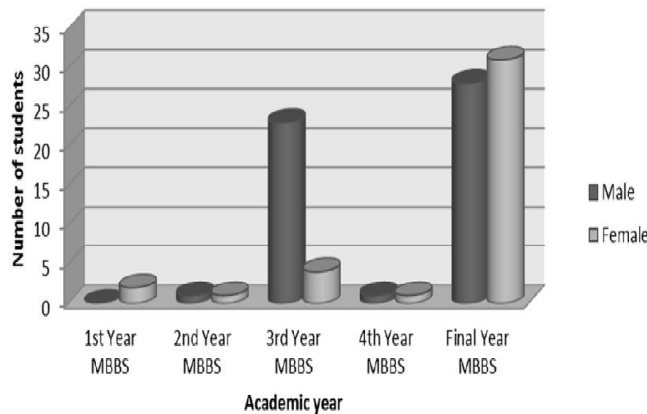


Figure 2: Academic year with Gender of Private sector students

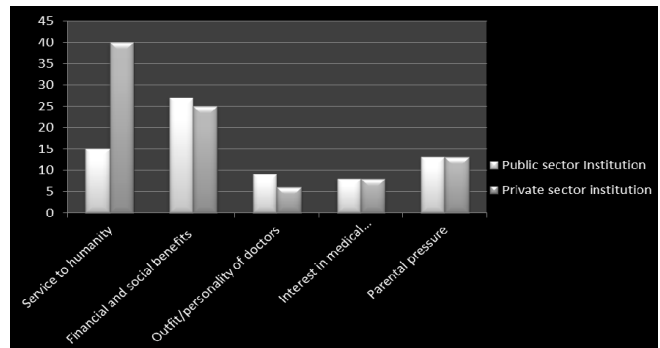


Figure 3: The most motivating factor for the students to pursue a medical career

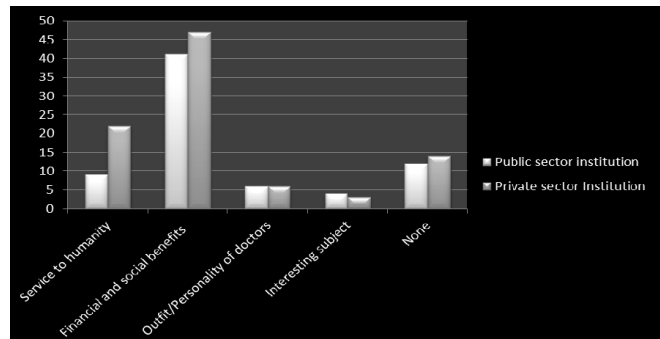


Figure 4: Most fascinating factor about a medical career for the parents of medical students

Discussion

In the context of the growing private medical education sector in the country, the study was aimed to explore various factors contributing towards admission to medical colleges by the students of different private and public sector medical institutions along with their views regarding their ongoing careers.

This study also aimed to report medical students' motivation and aspiration along with their perception of success and professionalism in the medical job. Due to the mounting medical education business, there has been an obvious concern about the admission process, teaching modes, curricula, ineffective and doubtful assessment system, morality in the profession, and the motivation and devotion in medical students. Furthermore, whether the affordability of the fees of private medical college is the main requirement for admission or something else like students' aptitude, hardworking ability and intelligence also matter. Annually students sit for the entrance test in Pakistan, final merit is generated according to the entrance test and higher secondary school or equivalent results. The entrance test is based on the intermediate course for which the students have already been tested in higher secondary school exams.^{4,5}

We aimed to evaluate the career aspirations and motivation of students of both private and public sector medical colleges and find the difference, if any, to explore the possible outcome of the growing population of newly graduated doctors like unemployment, lack of training, and resultant frustration in our young doctors' community. Also, this may have an impact on the working of these doctors; as motivated, hard-working doctors who came through merit may be more committed to the profession as compared to those students having rich parents but lacking the motivation and devotion.

In our study it was found that about three fourth of the students came from the urban background even who came from rural areas, about half had completed their intermediate education from urban colleges. This fact should raise a concern about our education system where rural schools' quality and the standard has been so much compromised that only a few students can qualify for the competitive exams of medical colleges. It is also suggested to select the students from the rural background due to the growing shortage of doctors in rural areas as it has been found in many studies that students who came from rural backgrounds are more likely to serve the same community willingly.^{12,13,14} For this, we have to upgrade our primary and secondary education system, in these communities, so that these students can compete with their peers from urban societies.

It was observed that mothers of female students were more likely to be educated than the mothers of male students. This observation has highlighted the need to disseminate education in our new generation by

making primary education compulsory for every child and giving extra value to female education.

In our study, the most fascinating factor about the medical career for the students was the rationale of the profession that is service to humanity followed by social and financial benefits, with the interest in the subject motivating only 16 students (about 10%), the observation coinciding with the findings of studies from other low-income population.^{11,15,16,17} But it has also been noticed that parents are more inclined towards the financial and social benefits of the job as compared to the students themselves, the finding similar to that observed by Saad et al.¹¹ About 26 students had no personal wish to pursue the career but sought admission entirely because of their parents' wish. These students were more likely to regret and ready to change careers than those who pursued medical careers totally because of their own will (OR 6.68 CI 2.38-18.74, P-value 0.0002). A similar conclusion was drawn by a Finnish national study which found applicants citing vocation as a motive were more satisfied with the medical profession, thus recommended selection based on the greatest vocational inclination towards a medical career.¹⁸ It has also been found that the passion may, later on, fade with experience and difficulties faced during the career¹¹, all these facts pointing towards the larger need for integrating the aptitude evaluation with the entry exam to select only those students who are motivated and willing to continue the career even in case of adverse circumstances. The use of a wider lens to view medical students and selecting students with a range of characteristics may help to overcome our workforce deficiencies in different specialties and low-income areas.¹⁹

We also explored the students' view about their satisfaction regarding the ways of medical education and curriculum and found that about half of the students were in view that the medical education needs improvement. To improve the medical curriculum and teaching strategies it is essential to tune ourselves with the novel ways of education and learning, like problem-based learning, group discussions, bedside teaching with hands-on training, and the use of simulators for skill development. In this regard faculty development with regular training of the faculty is as vital as the students' active participation and interest in peer teaching and group learning practices.²⁰

From this study, our recommendation is to revisit our medical college selection policy taking into consideration the diverse characteristics of the

students. Legislation and implementation of rules and regulations for obligatory initial education with particular emphasis on girls' education will be the first brick laid in the building of a well-motivated and passionate health workforce. Moreover upgrading the medical education system according to the new versatile ways needs regular training and audit.

Conclusion

In this study, we haven't found any significant difference in the motivation of students of private medical colleges from those of public sector institutions. Proper use of private sector institutions with regular legislation and monitoring may address the growing health workforce needs. Personal aptitude and motivation are vital to continue the tough and demanding career of medicine which may be sorted during the selection of students for medical colleges. To address the growing deficiency of the health care workforce in specific locations and specialties, it is essential to review our basic and medical education policy. In this regard, the government should devise and implement diverse legislation with regular monitoring and training of the staff to raise an effective workforce for the provision of health for all.

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