



# CAREER MOTIVATION AMONG STUDENTS OF DIFFERENT UNDERGRADUATE MEDICAL INSTITUTES: A REVIEW OF EXISTING PERCEPTIONS

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## ABSTRACT

**OBJECTIVE:** To explore future career prospects among undergraduate medical students from different institutes and to review existing perceptions among them.

**METHODS:** This descriptive cross-sectional study was conducted in six different medical colleges of Pakistan from January 2017 to June 2017 including two public and four private sector medical colleges. A structured and pre-validated questionnaire was used to collect the data. Data was analyzed using SPSS 21 and Epi info 7.

**RESULTS:** Out of 164 students, 75 (45.8%) were males and 89 (54.2%) were females. The public and private sector students distribution was 72 (43.9%) and 92 (56.10%) respectively. Mean age was  $22.63 \pm 1.99$  years. Out of 143 (87.2%) students responding to do specialization, 88 (53.7%) wanted to go abroad while 55 (33.5%) were interested in local training. Upon making rural work obligatory, 111 (68%) showed willingness to work with maximum ( $n=57/111$ ; 51.35%) wanted to serve the under-privileged community. Majority ( $n=139$ ; 85%) of the students had no intention to change the profession and maximum ( $n=55$ ; 33.54%) opted for the field of Medicine as specialization. In factors, own decision by students and gender-based impact on specialization in both sectors had a significant relationship with different motivational aspects ( $p\text{-value} = <0.01$ ).

**CONCLUSION:** The study revealed that majority of the students wanted to do specialization and preferred going abroad for specialization than opting for local training. About two-third of students were willing to join rural setting, if made obligatory and almost all wanted to be in medical profession throughout the life.

**KEY WORDS:** Students, Medical (MeSH); Specialization (MeSH); Career Choices (MeSH); Motivation (MeSH); Rural Health Services (MeSH); Education, Medical (MeSH).

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Furthermore, there is continuous exit of doctors from Pakistan to developed countries in search of better opportunities.<sup>4,5</sup>

According to the World Health Organization (WHO) Global Atlas of health worker 2016, Pakistan has about 8 doctors to 10000 people.<sup>4</sup> This low doctor population ratio is contributing to critical shortage of health care provision to rural and peri-urban population, with large number of quacks taking advantage of the situation and causing great damage to health of these communities. Evidence has shown that most of the young doctors and medical students have career and specialty preferences, but they may modify their attitudes as they pass through graduation, post-graduation and then proceed through various clinical rotations and postings.<sup>6</sup> With changes in life style and emergence of new trends there is also emergence of new diseases and change in pattern of existing ones.<sup>7</sup> It is the need of the day that attention is paid to career choices of young doctors and students, as no country can afford to lag behind in protecting the health of its citizens.

The Health care policy of a country is designed to provide optimal care to all classes of society. In this context of the growing need of input from devoted, well-motivated health professionals to upgrade health care system of Pakistan, it is imperative to review our medical education policies, which lead to the different career motivation among students. Medical colleges whether public or private sector, are factories of one of the most fundamental elements of our community. The attitude of these students and reasons for choosing a

## INTRODUCTION

According to world population review, the population of Pakistan has increased to more than 200 million individuals, making us the sixth most populous country in the world,<sup>1</sup> while the province of Khyber Pakhtunkhwa (KPK) has been populated with more than 30 million residents, with rural to urban proportion of about 5:1.<sup>2</sup> According to Pakistan Medical and Dental Council statistics, Pakistan has 109 Medical Colleges, including 41

public and 68 private sector institutions, with about 15000 doctors graduating each year. In KPK, twenty medical colleges, including equal number of private and public sector colleges are generating, more than two thousand doctors each year.<sup>3</sup> But in spite of this yearly yield of doctors, we are still facing unequal distribution of health care workers among various specialties and geographical areas.<sup>4</sup> Our rural health facilities have never been up to the mark as doctors prefer to work in specialized tertiary care institutions in urban areas.

**TABLE I: PROFESSIONAL YEAR WISE DISTRIBUTION OF STUDENTS (n=164)**

Professional Year	Gender	Institution	
		Public Sector (n=72)	Private Sector (n=92)
First Professional MBBS (n=6)	Female	4	2
	Male	0	0
Second Professional MBBS (n=29)	Female	27	1
	Male	0	1
Third Professional MBBS (n=37)	Female	10	4
	Male	0	23
Third Professional MBBS (n=37)	Female	7	1
	Male	6	1
Final Professional MBBS (n=77)	Female	2	31
	Male	16	28

**TABLE II: GENDER WISE DISTRIBUTION OF STUDENTS FOR SELECTION OF DIFFERENT SPECIALIZATION FIELDS**

Specialization field (n=164)	Public Sector Institution (n=72)		P-value*	Private sector Institution (n=92)		P-value*
	Female (n=50)	Male (n=22)		Female (n=39)	Male (n=53)	
Medicine (n=55)	14	8	0.008	12	21	0.004
Surgery (n=42)	8	8		5	21	
Gynecology & Obstetrics (n=22)	17	1		4	0	
Paediatrics (n=8)	3	0		3	2	
Eye (n=4)	0	3		0	1	
ENT (n=1)	0	0		1	0	
Radiology (n=1)	1	0		0	0	
Psychiatry (n=1)	0	0		1	0	
Public Health (n=1)	0	0		0	1	
Basic Sciences (n=2)	0	0		1	1	
Not Decided (n=27)	7	2		12	6	

\*Fisher exact test

specific career are significant for policy makers to devise a layout beneficial for students upcoming life.<sup>8</sup> The career choices of medical students are influenced by self-motivation, financial support, personal interests and peer pressure.<sup>9</sup> Determining the career preferences and attitudes are very relevant in planning provision of health services, career counseling, and policy formulations.<sup>10</sup> Keeping in consideration all these dynamics, we designed a study to evaluate future career aspirations of young doctors in public and private medical colleges, their willingness to work in rural areas in short or long terms and various demographic and motivational issues influencing the future career preferences.

## METHODS

This cross-sectional descriptive study was carried out from January 2017 to June 2017 in six different medical colleges of Pakistan, including 1) Khyber Medical College, Peshawar, 2) Khyber Girls Medical College, Peshawar, 3) Kabir Medical College, Peshawar, 4) Pak International Medical College, Peshawar, 5) Rehman Medical College, Peshawar, and 6) Rawal Institute of Health Sciences, Rawalpindi (RIHS). Among these six medical colleges, two were public sector and four were private sector medical colleges.

Non-probability convenient based sampling was used to enroll the sample

from all academic years. A sample of 164 students was calculated from the total population of 3750, keeping confidence interval of 95%, and margin of error as 7.5% and using formula for

$$\text{finite population as } \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \frac{z^2 \times p(1-p)}{e^2 N}}$$

(CI=95%, p=0.05, e=0.05, N = 3750). Students of both gender, any age, and from any professional year were included while student not willing to take part or having any psychological illness or submitting incomplete performa were excluded from the study.

A self-structured questionnaire was developed, which was approved and validated by the technical and ethical board of RIHS. The questionnaire included the dependent variables for career motivation and independent variables like socio-demographic information. After taking informed written consent and assurance of confidentiality, the questionnaire was distributed. A total of 164 questionnaires were distributed initially, in which 16 got excluded as per set criteria and for which 16 more students were enrolled making a total of 180 enrolled samples in the study. Data was extracted from a pre-designed performa, which was analyzed through SPSS 21 and Epi info 7. Descriptive statistics were applied for categorical and numerical variables while for inferential statistics chi square or fisher exact test was applied where needed.

## RESULTS

Out of 164 students, 75 (45.8%) were males and 89 (54.2%) were females. The study included 72 (43.9%) public sector students and 92 (56.10%) private sector students. Mean age was  $22.63 \pm 1.99$  years.

Majority of students (n=77/164; 47%) were from Final Professional MBBS, followed by Third Professional MBBS (n=37/164; 22.6%) [Table I].

Most common specialization opted by students for future was medicine (n=55; 33.5%); surgery (n=42; 25.6%) and Gynecology/Obstetrics (n=22; 13.4%). Among all opting Gynecology & Obstetrics, 95.5% were female students

**TABLE III: FUTURE ASPIRATIONS OF STUDENTS (n=164)**

Aspirations/Reasons		Number of students				
		Public sector Institution (n=72)		Private sector Institution (n=92)		n (%)
		Female (n=50)	Male (n=22)	Female (n=39)	Male (n=53)	
Willing to work in a rural area for two years immediately after graduation (if made obligatory as first appointment in government service)	Yes	41	8	25	37	111 (68%)
	To serve underprivileged community	25	3	8	21	57
	To gain experience	4	2	9	8	23
	Earn money	2	1	2	1	6
	Unwillingly for progression of career	7	1	2	3	13
	Love to live in rural area	4	1	3	4	12
	No	9	14	14	16	53 (32%)
	Specialization in tertiary care hospital.	7	9	5	7	28
	Poor amenities	2	5	9	9	25
Where to specialize	Abroad	28	18	18	24	88 (53.7%)
	To learn novel practices and skills	15	14	11	14	54
	To have foreign degree	2	1	2	3	8
	Better life standards	11	3	5	7	26
	Pakistan	17	4	9	25	55 (33.5%)
	To serve own country	9	2	3	11	25
	Better practical experience	3	1	4	7	15
	Family ties	4	1	2	3	10
	Difficult to go abroad	1	0	0	4	5
	Not decided	5	0	13	3	21 (12.8%)
Any intention to change profession if given better choice/due to family pressures/adverse circumstances	No	44	16	33	46	139 (85%)
	Yes	6	6	6	7	25 (15%)

**TABLE IV: DIFFERENT FACTORS AFFECTING RURAL EMPLOYMENT**

Factors	Willing (n=111)	Unwilling (n=53)	P value
Monthly family income <PKR200,000/-	70 (63.1%)	32 (60.4%)	0.11
Government medical college	49 (44.1%)	23 (43.4%)	0.94
Presently living in rural area	26 (23.4%)	9 (17%)	0.41
Own decision	96 (86.5%)	35 (66%)	0.004

from both public and private sector medical colleges. About 16.5% (n=27) students had not decided about the future specialization [Table II].

Overall, 111 (68%) students showed willingness to work in a rural area for two years immediately after graduation (if made obligatory as first appointment in government service). It included both male and female students of public and private sector medical institutions. Majority (n=57/111; 51.35%) wanted to serve the under-privileged community (Table III). Students were asked about different future career prospects and 143 (87.2%) students responded to do

specialization, in which 88 (53.7%) wanted to go abroad while 55 (33.5%) had interest in local training. In the sample, about 139 (85%) of the students had no intention to change the profession.

Different factors were related with rural employment and results revealed a significant relationship in regard to own decision of taking medicine as field with the rural employment having a p-value of 0.004 (Table IV).

## DISCUSSION

In the background of rapidly growing industry of medical colleges in Pakistan,

the study explored the motivation and aspiration of future medical doctors, to highlight the caveats, where further improvement or change may help to address the growing need of quality health care provision to our underserved remote areas. Medical students begin their training and teaching programs with impartial minds. As students gain experience and training progresses, career choices may change highlighting the influence of curriculum and environment.<sup>11</sup> In this study personal aptitude was a significant factor predicting progression of career and willingness to accept rural appointment. Only students' gender was found to have a significant impact on the choice of field of specialization otherwise in most of the aspects, there was no significant difference of opinion between students of private and public sector medical institutions.

Students from all classes of medical colleges participated in our study, showing that from the time, students enter medical

school they are interested in choosing different career options available, the observation that is similar to other studies.<sup>12</sup>

As reported in other studies,<sup>13,14</sup> most of the students (82%), aimed to specialize in different fields of medicine. Gender influence on the choice of medical specialty was stronger in the specialties of Obstetrics/Gynecology and General Surgery for females and males respectively, the result supporting previous reports from different countries.<sup>15-17</sup> Interestingly, girls of government institutions were more likely to have an interest in Obstetrics/Gynecology (34%) that may be explained by the financial state and ability to work hard in government college students. Cultural considerations, influence from teachers and personal interest are known to be the main factors influencing these preferences, thus emphasizing the need of role modeling and career counseling with special emphasis on continuous support in specialties currently having work force shortage.<sup>15,18</sup>

About two third of the students included in the study intended to serve in rural community. But contrary to other studies,<sup>19-21</sup> there was no overall significant difference in preference for rural service between private and government medical students (when gender was not considered) and no trend was noted according to the family income and present address. On the other side students who seek medical career by their own wish, were more likely to accept rural post than those who were compelled by their parents to select medical career (P value=0.004). Thus, it is widely debated that emphasis on conditional selection of students from under privileged or rural background may address the growing need for rural health work force enhancement. We ought to review our policy of high academic attainment in medical entry criteria and should include other dynamic qualities and achievements along with aptitude criteria in our admission process as is followed in many developed countries including United Kingdom (UK).<sup>22-24</sup> These results differ from a study carried out in Madhyapardash India where less than half of the students participating in the study were willing to work in the rural areas and students of public medical colleges were more willing to serve in rural communities.<sup>13</sup>

The main reason behind unwillingness to

work in rural community in our study was to start postgraduate residency earlier in tertiary care hospital. Other reasons for declining rural service were lack of facilities and poor hospital management there. These views were similar to the students in the study by Budhathoki SS, et al. which highlighted poor infrastructure and hospital management along with excessive work load as the main factors behind the demotivation of the students to work in rural areas.<sup>20</sup> Hence, it is the need of the time to devise concrete health policies to upgrade primary and secondary health care system offering special incentives with continuous training to those who are appointed in rural community. In this resort making rural service obligatory for certain period of time before initiating any post graduate training can be valuable to combat the health needs of this community.

Overall 53.7% of the students were planning to go abroad for specialization, this group included more students graduating from public medical colleges but no difference was noted as per gender. Out of those, 2/3<sup>rd</sup> planned to return and serve their country. The proportion of students planning to go abroad was quite higher in this study as compared to other developing countries,<sup>21</sup> thus underlining the need for devising solid policies and rules to provide quality training and growing opportunities for our young doctors along with strict legislation and service rules. Furthermore, career counseling should be offered to medical students regarding opportunities and specialty choice to meet country's demand for specific specialties.

To summarize, integrating socio-demographic indicators and various dynamic qualities including personal aptitude, to other admission criteria for medical colleges, may help in raising the workforce building on a strong base. Further, generation and then implementation of concrete legislation and policies regarding rural appointment and postgraduate training, along with career counselling and mentoring may be the initial steps to have future generation of well-trained motivated doctors. In this perspective, private medical colleges may compliment public health institutions but constant monitoring of their performance is vital; thus preventing health profession to become just a productive business. There were certain limitations to the study as all medical colleges except one were located in Peshawar city. Students of

other provinces could have other characteristics and views. Larger sample size could have been more conclusive.

## CONCLUSION

Current study highlighted the fact that students who had personal interest to seek medical career were more committed in progression of their career and willingness to accept rural appointment, if made obligatory. Students' gender had an impact on the choice of field of specialization. In most of the aspects, there was no significant difference of opinion between private and public sector medical institutions.

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## AUTHORS' CONTRIBUTIONS

Following authors have made substantial contributions to the manuscript as under:

**BS:** Conception and study design, acquisition, analysis and interpretation of data, drafting the manuscript, critical review, final approval of the version to be published.

**GS, TM & SAK:** Acquisition, analysis and interpretation of data, drafting the manuscript, final approval of the version to be published.

*Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.*

## CONFLICT OF INTEREST

Authors declared no conflict of interest

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