Original Article

Career Preferences of Final Year Medical Students: A Multi-Institutional Study

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ABSTRACT

Objective: To investigate the various factors influencing the preference of the career in the medical students.
Study Design: Quantitative Cross Sectional Study
Place and Duration of Study: This study was conducted at the AJK Medical College (AJKMC) Muzaffarabad, Mohtarma Benazir Bhutto Shaheed Medical College (MBBSMC) Mirpur AJK, Federal Medical and Dental College (FMDC) Islamabad and Islamic International Medical College (IIMCT) Rawalpindi from October 2018 to July 2019.
Materials and Methods: Quantitative cross-sectional study was conducted by survey method to collect information by using a questionnaire developed after thorough literature search and expert validation. The reliability of the research items was tested using Cronbach's Alpha statistic. The normality of the dataset was analyzed using histograms, measures of skewness and measures of kurtosis.
Results: The results showed that 45.5% of the students preferred medicine and 16.3% of the students preferred surgery as their post-MBBS career. The preferences for other careers decreased in the following descending order: ENT, Pediatrics, Obstetrics and gynecology, Orthopedics, Anesthesia, Radiology, Eye, Pathology, Community Medicine, General Practice/Family medicine and Medical Education.
Conclusion: The findings of the study reveal that the preference of post-graduate specialization is highly skewed in favor of a few areas substantiated by the fact that 80 percent of students tend to prefer Medicine, Surgery, ENT, Pediatrics, Obstetrics and Gynecology. The study delved into the factors contributing to the preferences and choices. The identification of these factors will be helpful for the universities in formulating strategies to motivate the students to choose the ignored fields.
Key Words: Career choices, medical students, factors influencing career choices

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INTRODUCTION

Specialty career choice is a critical decision for medical students. This decision is not spontaneous for most of the students. For most, this decision is an ongoing process throughout their undergraduate schooling.

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Although some students know what specialty they want to pursue at the time of entrance, most are influenced by internal and external factors throughout their schooling. It was discussed that career choices are dynamic and likely to change over time; however, if the bias in favor of a few subject remained so, a treat of scarcity of teachers in the pre- and para-clinical departments.[1-3] It *was* identified that the career choices of medical students are biased in favor of a few departments. However, a combination of factors before, during and even after the medical course may affect the choice of a career.[4,5] It was argued that different factors persuade medical students' choice of eventual career; career inclination at the time of admission to the medical course has been a vibrant reason in this regard.[6-7] it was revealed that the students tend to select hospital medicine over general practice. It was reported that the career choices are influenced both by the graduate's inclination before starting medical school as well as the exposure during training in medical school.[8-10] Experiences in chosen specialties during training as well as the social milieu of the medical university, the teaching program and role models can influence career preferences. Societal appreciation of specialty,

specialists, response of specialty patients to treatment, and the role of specialty teachers we have conducted a multi-institutional study to identify the career choices of the final year medical students from Pakistan. Two colleges were from the public sector and two from the private sector, interestingly two are following Integrated system and the other two are following discipline based teaching system. This study is unique in a way that it is first ever conducted in the primitive area of Azad Jammu and Kashmir. We have explored some important factors influencing the future specialty preferences of these students. These identified factors can play important role in policy formation to motivate the students to choose recently ignored fields. The investigation of these identified factors when these students will start their house job or when they become medical officers needs to be followed up.

MATERIALS AND METHODS

The students surveyed belonged to four different medical colleges; AJK Medical College (AJKMC) Muzaffarabad, Mohtarma Benazir Bhutto ShaheedMedical College (MBBSMC) Mirpur AJK, Federal Medical and Dental College (FMDC) Islamabad and Islamic International Medical College (IIMCT) Rawalpindi. The students were first asked to rank the importance of different factors influencing their future career choices. Participation was voluntary and applied only to the students who were present in class on that day. The questionnaire was developed after thorough literature search and pilot testing was steered after seeking experts' validation. Students were also asked to rank the top three career choices from among 15 possible options of career specialization. They were also requested to rate the 19 chosen factors influencing their future career choices. The data was coded using like rt scale. SPSS and Microsoft Excel were used to analyze the collected data. The Cronbach's Alpha was used to measure the reliability of the research items. The level of reliability was found to be sufficient with Cronbach's Alpha value 0.691. The normality of the dataset was investigated using graphical and numerical methods. In graphical methods we used histograms of the datasets, while skewness and kurtosis measures have been used for numerical investigations. Based on these methods, it was assessed that the data are not normal. Therefore, we used non-parametric statistics such as chi square and Cramer's V statistics to analyze the impacts of the factors influencing the preference of the future profession.

RESULTS

Out of 302, 66.2% were female and 33.8% were male. 6.7% of the students were from the age group 18-20 years, 53% were from the age group 21-23 years, 38.7% were from the age group 24-26 years and 1.7% of the students were from the age group 27-29 years. On the other hand, 28.1% of the students were from Federal Medical and Dental College (FMDC), 27.8% of the students were from AJK Medical College (AJKMC), 22.5% of the students were from Mohtarma Benazir Bhutto Shaheed Medical College (MBBSMC) and 21.5% of the students were from Islamic International Medical College (IIMCT). The reliability of the questionnaire was tested using Cronbach's Alpha statistic. The Cronbach's Alpha value 0.691 indicated that the results obtained using the said questionnaire were quite reliable (Tables 1-4, Fig. 1).

Table No.1: Tendencies towards preferred careers

Preference of Career	First Choice		Second Choice		Third Choice	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Medicine	137	45.4	28	9.3	21	7
Surgery	49	16.2	50	16.6	11	3.6
Orthopedics	13	4.3	19	6.3	13	4.3
ENT	23	7.6	33	10.9	10	3.3
Eye	6	2	24	7.9	21	7
Pediatrics	22	7.3	35	11.6	28	9.3
Obstetrics and gynecology	17	5.6	22	7.3	22	7.3
Anesthesia	7	2.3	16	5.3	14	4.6
Pathology	4	1.3	14	4.6	21	7
Radiology	7	2.3	10	3.3	32	10.6
Community Medicine	1	0.3	7	2.3	13	4.3
General Practice/Family Medicine	1	0.3	4	1.3	19	6.3
Medical Administration	0	0	3	1	9	3
Medical Education	1	0.3	3	1	14	4.6
Other	13	4.3	5	1.7	17	5.6
Total	301	99.7	273	90.4	265	87.7
Non-response	1	0.3	29	9.6	37	12.3
Overall Total	302	100	302	100	302	100

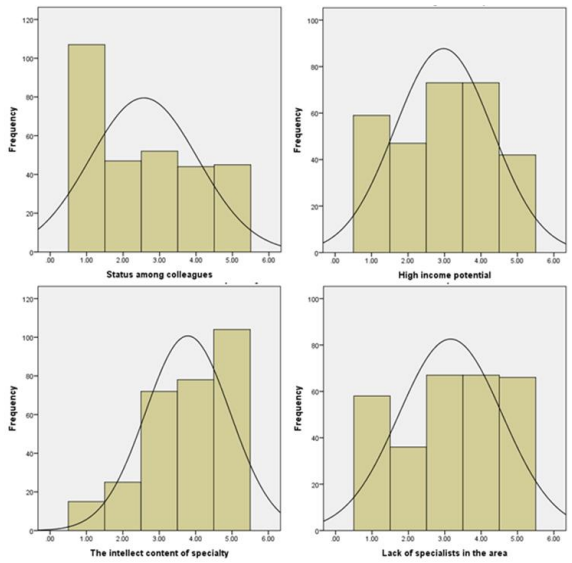

Figure No.1: Histrograms for observing normality of the datasets

Table No.2: Skewness and Kurtosis Measures to Test the Normality of the Datasets

Factors	Skewness	Kurtosis
Gender	-0.690	-1.535
Age	-0.039	-0.282
College	0.174	-1.311
First Choice	1.785	2.749
Second Choice	0.826	0.224
Third Choice	-0.016	-0.929
Status among colleagues	0.377	-1.289
High income potential	-0.097	-1.149
The intellect content of specialty	-0.684	-0.360
Lack of specialists in the area	-0.227	-1.221
Advice from parents	-0.088	-1.467
Inspired from a role model	-0.285	-1.271
Work-life balance	-0.047	-1.164
Health promotion	-0.469	-0.703
Focus on patients in community	-0.535	-0.707
Long term relationship with patients	-0.169	-1.213
Focus on urgent care	-0.522	-0.902
Results of the interventions immediately available	-0.263	-0.927
Prefer medical to social problems	-0.262	-0.931
Variety of patient problems	-0.450	-0.668
Interest in research	-0.459	-0.982
Adequate exposure to surgery	0.256	-1.949
Satisfaction of the patients undergoing surgery	0.820	-1.338
Whether surgery performance is interesting	1.161	-0.656
Change in attitude towards surgery and allied	0.806	-1.360

Table No.3: Cramer's V Statistic Values and Corresponding Interpretations

Cramer's V Statistic Values	Interpretation
below 0.15	insignificant relationship
0.15-0.20	moderate relationship
0.20-0.25	moderately strong relationship
0.25-0.30	strong relationship
0.30-0.35	very strong relationship
above 0.35	perfect strong relationship

Table No.4: Measure of significance and strengths of relationships

Preference Vs the Factors	Chi Square Statistic	Cramer's V Statistic	P-Value
First Choice Vs High income potential	70.812	0.246	0.042
First Choice Vs The intellect content of specialty	74.223	0.252	0.023
First Choice Vs Inspired from a role model	51.451	0.211	0.048
First Choice Vs Work-life balance	70.828	0.247	0.042
First Choice Vs Long term relationship with patients	64.139	0.232	0.042
First Choice Vs Focus on urgent care	71.925	0.246	0.035
First Choice Vs College	82.049	0.301	0.000
First Choice Vs Gender	23.721	0.281	0.034
First Choice Vs Adequate exposure to surgery	11.889	0.213	0.045
First Choice Vs Satisfaction of the patients	12.343	0.219	0.042
First Choice Vs Interest in surgery	22.912	0.297	0.028
First Choice Vs Change in attitude towards surgery	26.280	0.319	0.010

DISCUSSION

The surgery got second rank in the preferences as the future career followed by ENT, pediatrics, Obstetrics and gynecology, Orthopedics, Anesthesia, Radiology, Eye, Pathology, Community Medicine, General Practice/Family Medicine and Medical Education. Simply indicates a matter of concern for the other medical fields. However, in case of second option for the future career the trends have changed to a significant extent (Table 1).

It was indicated that a difference in career choice often occurs after students have completed their residency.[10-12] I have suggested that the student experiences in some subjects could be modified as an opportunity to influence students' career choices.[13-15] The more details regarding the choices of the future specialty of the medical students can be found from the contributions of the references cited therein.[16-20]

In order to ascertain the relationship between the various factors and choice of specialization, we first tested the normality of the data. Normality tests are helpful in determining if a data set is well-modeled by a normal distribution and it is the basic assumption to apply different parametric procedure to analyze those relationships. In figure.3, the histograms for the datasets regarding four factors have been presented. From this figure.3, it can be deduced that datasets are far from normality curves. The trends for the other factors were also of the similar kinds, hence not reported here individually. There are situations in which the graphical results may not clearly indicate the behavior of the data. In such situations, the numerical results are necessary to decide the normality of the data. So, we also considered the measures such as skewness and kurtosis to decide about the normality of the data. For normal dataset, the measure of skewness should be zero or close to zero and measure of kurtosis should have a value three or around three. However, from the table-2, it can be seen that there is no any combination of these measures giving values zero and three for skewness and kurtosis respectively. Therefore, these measures also indicated that the datasets are non-normal.

The table-4 shows the list of significant factors influencing the choice of the area of specialization. The significance has been interpreted in terms of the *p*-values. From the results, it is evident that all identified factors are significantly related to the varying choices of specialization. This is due to the fact that for all of the said factors the *p-values*, corresponding to the respective chi square statistic, are less than 0.05. In addition to this, we measured the strengths of influences of these factors using the Cramer's V statistic. Using Cramer's V statistic, we observed that the relationships are strong or moderately strong in most of the cases. Whereas, couple of cases provided very strong relationships.

CONCLUSION

The findings of the study reveal that the preference of post-graduate specialization is highly skewed in favor of a few areas substantiated by the fact that 80 percent of students tend to prefer Medicine, Surgery, ENT, Pediatrics, Obstetrics and Gynecology. The study delved into the factors contributing to the preferences and choices. The identification of these factors will be helpful for the universities in formulating strategies to motivate the students to choose the ignored fields.

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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