ORIGINAL ARTICLE

Preference of Specialty in medical students of Private and Government medical colleges

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ABSTRACT

Background: The pursuit of a medical profession requires rigorous study and a precise choice of a specialty. The study of students' inclination and preferences toward various specializations such as pediatrics, surgery, cardiology, gynecology, gastroenterology, and neurology is useful. It is speculated that this preference is influenced by gender, interest, the current year, and college Category (i.e. government or private) of the undergraduate.

Methods: This cross-sectional observational study was carried out from July -2019 to Jan- 2020 In first to third year undergraduate (MBBS). Data from 588 questionnaires was analyzed using Statistical Package for Social Sciences version 21.0, Shapiro-Wilk test, modified Schwartz Method and Chi square test. A p-value less than 0.05 was considered statistically significant.

Results: Top trended specialties of the survey were pediatrics, surgery, cardiology, gynecology and neurology. Surgery was in the leading trend for specialization irrespective of gender or the Category of college. The primary reason for the specialty selection was personal interest.

Conclusion: Results have depicted that surgery is a well preferred and admired specialty on Medical undergraduates. The choice of Internal medicine as a specialty is common to both Genders: however, female's preference is more oriented in pediatrics and gynecology.

Keywords: Medical students, Specialization, Medical institute, Specialty selection

INTRODUCTION

The basic prerequisite, prior to the provision of adequate medical and therapeutic services, is to take certain outstanding decisions related to medical and surgical education. The graduate students at medical colleges relatively have distinct intentions and certain interests upon why they decide to enter any specific and specialized practical field of medicine. It is a matter of great momentous, especially for policymakers and public health care communities, around the globe concerning the selection of an explicit career by medical students.

In fact, career selection by medical students is perceived to be very venerable because it provides them an opportunity for serving mankind especially health care services in a magnitude that is not surpassed by any other profession[3] .It requires proper counseling and full guidance in terms of perfect specialization selection. The student is and guided to a specific profession.

In South Asian countries, including Pakistan, the completion of a Bachelor of Medicine and a Bachelor of Surgery (MBBS) education (5-year programme) is considered compulsory for the entrance to specialized medical fields. There are various reasons behind the selection of specialized field which influence not only student's career but also affect the country's health care programs and medical performances. Some major reasons include parents and family professional backgrounds, academic performance, medical college environment, personal priorities and interactions, financial outcomes, future security and reputation[7]. In the meantime the gender of medical graduates also affects the selection of the profession. Females usually prefer pediatrics, gynecology, and obstetrics, while males are involved in surgical and family medical specialisations[8].

This study aims to identify trends of specialty selection in MBBS Medical students after graduation, to compare if there is a difference in this preference in students of private and Government medical colleges and to speculated whether this preference is influenced by gender, interest, the current year, and college category (i.e., government or private) of the undergrad.

METHODS

This study was a cross sectional study. The study was performed in the Department of Physiology, CMH Lahore Medical College, for a period of 6 months. The study was approved by the ethical review committee of the institution. The participants were members of CMH Lahore Medical College in Lahore, Punjab, and undergraduate students (MBBS) from Fatima Jinnah Medical University.

Inclusion criteria for the research were male and female medical students form private and Government medical college of Pakistan. Exclusion criteria were to be BDS students (i.e., dentistry students). Written informed consent was taken from the participants. The data was recorded on a predesigned proforma. Data collected was

analyzed using Statistical Package for Social Sciences version 21.0.The normality of the data was analyzed using the Shapiro Wilk test. The Shapiro-Wilk test is based on the correlation between the data and the corresponding normal scores. The Shapiro-Wilk test is recommended by some researchers as the best choice for testing data normality. Normality should be evaluated both visually and through normality tests, of which the Shapiro-Wilk test provided by the SPSS software is highly recommended [9].Modified Schwartz method was used to classify the specialties as having either a controllable or uncontrollable lifestyle. With a confidence interval of 95%, In statistics, a confidence interval (CI) is a type of estimate computed from the statistics of the observed data.

Specialties with uncontrollable lifestyles included surgery, pediatrics, internal medicine, obstetrics and gynecology. The remaining medical specialties were grouped into controllable lifestyle careers. Chi-square test was used to evaluate differences between the choices of preference of specialties along with a choice of controllable and uncontrollable lifestyle careers among the public and private medical college students. A p –value less than 0.05 was considered statistically significant.

RESULTS

A total number of 660 questionnaires were administered, 588 (98%) were completed and returned comprising more female respondents 54% compared to males. Among the private medical students out of 201 only 08(4%) were non-Muslims with south Asian ethnicity. In the government medical college 23 (6%) students were non-Muslims while 16(4%) students were from African and middle east decent and association was noted in the choice of selection of specialty with ethnicity and religion The response rate was more (65.8%) by the students of Government medical colleges the reason being, greater number of students in public sector colleges compared to the private sector. The prime reason for the specialty selection was personal interest, comprising more than half of the students in all the groups preferred to choose their specialty on their interest basis while almost 19 percent of the students were not sure for the reason behind their choice of selection and responded to any other/unsure category as shown in (Fig. 1).

On comparing the Government and Private medical schools, a statistically significant difference Was noted in specialties selected by both the first year Table 1 (Frequency distribution and comparison among first year government and private college students for specialty selection using Chi Square test and third year medical students(p value 0.008) . Whereas in Table 2, Frequency distribution and comparison among third year government and private college students for specialty selection using Chi Square test. (p value 0.000) . A highly significant difference was noted in the preference of selection among the two genders, as shown in Table 3. (p value 0.000) .Schwartz in 1989 first introduced the terminology of controllable lifestyle that initially was defined as "control of work hours" and was associated with selection of specialty. Based on the work performed by Schwartz , the 23 specialties were categorized as being either a controllable or uncontrollable lifestyle with obstetrics/gynecology, pediatrics, internal medicine including cardiology, pulmonology, nephrology, gastroenterology, neurology, endocrinology, oncology and surgery were included in uncontrollable lifestyle specialties with the rest classified as controllable lifestyle specialties. This classification has been done by keeping the following characteristics: personal time free from practice, total working hours and night calls a controllable lifestyle with the following features: personal time free of leisure, family, and avocational criteria for practice and management of total weekly hours spent on professional responsibilities. This represents both the average hours worked and the number of nights on call, and is linked to the amount of time left for tasks outside of medical practice. The only element uncontrollable is vice versa, .No significant association for the selection of specialty with the gender was noted in any of the groups.

The top trending specialty amongst students were surgery, cardiology, neurology, gynecology, Pediatrics and general medicine. The interpretation of specialty selection amongst the first year And third year student, a statistically significant p-value (p-value =0.005) was noted only among. The students of Government medical colleges and no significant difference was seen among the private medical colleges (Figure 2)

Table 1: Frequency distribution and comparison among first year government and private College students for specialty selection using Chi Square test.

Speciality	**1st year gov. college (n=202) 67%**	**1st year pvt college (n=120) 33%**
Pediatrics	20	9
Surgery	39	29
General medicine	20	8
Cardiology	34	25
Nephrology	8	0
Pulmonology	4	0
gastroenterology	5	1
Neurology	22	10
Psychology	4	2
Dermatology	3	12
Hematology	2	1
Endocrinology	4	1
Gynecology	15	13
Physiology	3	0
Psychiatry	0	2
Oncology	3	4
Forensic	1	0
Anesthesiology	6	0
Ophthalmology	1	1
Medical teaching	0	1
Radiology	2	1
ENT specialty	2	0
Pathology	4	0

P value 0.008

Based on the work performed by Schwartz et al, the 23 specialties were classified as having either a controllable or uncontrollable lifestyle. No significant association for the selection of specialty with the gender was noted in any of the groups. Obstetrics / gynecology, pediatrics, internal medicine, cardiology, pulmonology, nephrology, gastroenterology, neurology, endocrinology,

oncology and surgery were included in uncontrollable lifestyle specialties and the rest were classified as controllable lifestyle specialties. A greater inclination towards the uncontrollable lifestyle specialties were noted. A highly significant difference was noted among the first year and 3rd year students of the government college among the controllable and uncontrollable lifestyle specialty selection with a p-value equal to 0.000. (Figure 3)

Table 2: Frequency distribution and comparison among third year government and private college students for specialty selection using Chi Square test.

Speciality	3rd year gov. college (n=185) Frequency (%)	3rd year pvt. College (n=81) Frequency (%)
Pediatrics	15(8.1)	3(3.7)
Surgery	35(18.9)	21(25.9)
General medicine	41(22.2)	12(14.8)
Cardiology	15(8.1)	10(12.3)
Nephrology	2(1.1)	2(2.5)
Pulmonology	0(0)	6(7.4)
gastroenterology	6(3.2)	0(0)
Neurology	4(2.2)	8(9.9)
Psychology	6(3.2)	1(1.2)
Dermatology	2(1.1)	8(9.9)
Hematology	0(0)	0(0)
Endocrinology	0(0)	0(0)
Gynecology	24(13)	4(4.9)
Physiology	0(0)	0(0)
Psychiatry	0(0)	3(3.7)
Oncology	0(0)	2(2.5)
Forensic	5(2.7)	0(0)
Anesthesiology	5(2.7)	0(0)
Ophthalmology	7(3.9)	0(0)
Medical teaching	0(0)	0(0)
Radiology	3(1.6)	4(4.9)
ENT specialty	5(2.7)	0(0)
Pathology	10(5.4)	0(0)

P value 0.000

Table 3: Frequency distribution and comparison among genders for specialty selection using Chi Square test.

Speciality	Male students n = 270 Frequency (%)	Female students n = 318 Frequency (%)
Pediatrics	14(5.2)	33(10.4)
Surgery	63(23.3)	61(19.2)
General medicine	47(17.4)	34(10.7)
Cardiology	59(21.9)	25(7.9)
Nephrology	5(1.9)	7(2.2)
Pulmonology	6(2.2)	1(0.3)
gastroenterology	7(2.6)	5(1.6)
Neurology	30(11.1)	14(4.4)
Psychology	4(1.5)	9(2.8)
Dermatology	6(2.2)	19(6)
Hematology	1(0.4)	2(0.6)
Endocrinology	0(0)	5(1.6)
Gynecology	1(0.4)	55(17.3)
Physiology	0(0)	3(0.9)
Psychiatry	1(0.4)	4(1.3)
Oncology	2(0.7)	7(2.2)
Forensic	3(1.1)	3(0.9)
Anesthesiology	4(1.5)	7(2.2)
Ophthalmology	6(2.2)	3(0.9)
Medical teaching	1(0.4)	0(0)
Radiology	3(1.1)	7(2.2)
ENT specialty	2(0.7)	5(1.6)
Pathology	5(1.9)	9(2.8)

P value 0.000

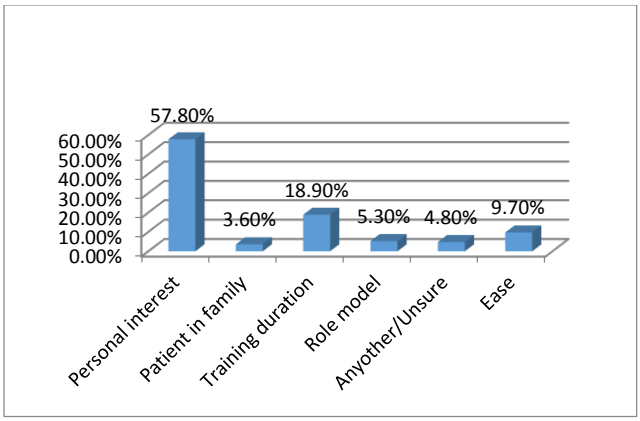

Figure 1: Frequency distribution for reason of selection of the specialty

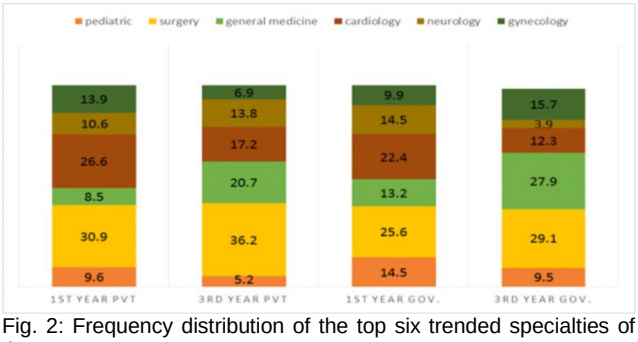

Fig. 2: Frequency distribution of the top six trended specialties of the survey

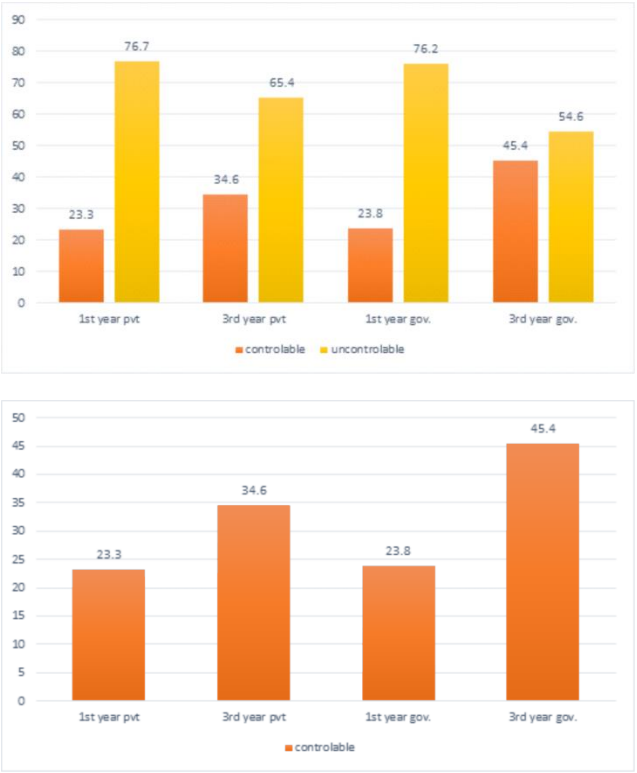

Figure 3: Frequency distribution of controllable and uncontrollable lifestyle specialties among the groups

DISCUSSION

The medical profession is one of the most respected professions in communities all over the world. The goal of this research is to examine the preferences of these professionals with regard to the specialization they want to follow. The objectives of our research are to identify medical students' choice of specialty and the factors considered most important by medical students in Pakistan when choosing their specialty. The analysis of the data brings to light that medical students are cautious about their Specialization from the point they enter this field. The preference of choice for first and third year medical students did not vary significantly, however there was a disparity in inclination towards the profession for these two groups of students. Factors which are a driving force for this selection are studied worldwide. The early clinical practices in hospitals with maximum income and higher reputation are the major factors leading to the selection of specialized career in United States of America (USA) [10] .The key reasons for Australian medical undergraduates and postgraduates include the community and environmental conditions of realistic clinical hours and individual involvement in the medical discipline[11] .The factor of culture is also observed in Pakistan, but this needs further studies. The most influencing factors within the medical students of New Zealand are renowned faculty members of medical colleges and their personal posting experiences[12].The personal interest of a student entering a profession is valued because the high performance is experienced when you trust what you do.

In addition, the most common specialized professions in New Zealand include medicine and surgery, gynecology and obstetrics, as well as pediatrics. Our research has also shown the interest of medical students in the same fields. The family medicine or physician career is preferred among Canadian medical students due to parental medical lifestyle and hospital oriented wide range scope[13] .In Pakistan, parental medical lifestyle also influences many students. China, the major factors including intelligence and IQ level, job opportunities and personal abilities are much influenced during specialized field selection[14].The intellectual ability, personal competency, maximum income and specialty's prestige are important factors during choice of medical specialty in Jordan Meanwhile, the significance fields of specialization of Jordan's students are pediatrics and surgery, gynecology and obstetrics as well as internal medicines[15] .These factors are to be studied for medical students in Pakistan. In Japanese medical graduates, major reasons behind it are preclinical practices and reputed role models professor doctors counted during career selection[16] .Three important factors, including prestige, maximum income and individual interests, are considered to be the most important factors in this regard in Turkish medical school graduates[17].The interests in research and teaching, attractiveness of lifestyles and demographic factors are main reasons behind career selection in UAE medical students[18].In short, the main reasons for specialty opinions are the overall anticipated income, role model influences, specialty preferences prior to medical graduation, maximum job prospects, doctor-patient experiences and study intentions, full feedback and encouragement in terms of specialty preferences. Health policy makers should take suitable decisions to make less attractive specializations such as basic medical sciences and family physicians more preferred to build homogenous syste[19].Medical profession being most fascinating and respectable, predisposes majority of the students to decide on to pursue being doctors as their destination, their dream and their ambition[20,21]. The study was confined to one province (i.e. Punjab) of the country. A slight variation might be expected in other provinces of Pakistan. Only one government and private college each were selected for data collection, this may also draw limitations to the result. This limitation would not be as significant because the colleges selected for this research are renowned colleges with a significant strength[22]. In addition, the high response rate obtained by this survey is also a significant strength. Additional research is needed to encapsulate other variables that affect the choices made. Other specialties, like family medicine, emergency medicine, Otolaryngology can also be explored with a wider range of study extending the south Asia. This research has disclosed that most students were motivated towards pediatrics, surgery, internal medicine, cardiology and gynecology. It emphasizes those fields which are hardly chosen by the students. Every field in its respect is important and for the medical field to flourish significant contribution is required from all fields. This research can be a gateway to explore the reason for resistance against opting specialization in subjects like hematology, endocrinology, and medical teaching. There is certainly a shift in the mindset of students as they continue their experience as a first year student as they reach the third year.

CONCLUSION

Results have depicted that surgery is a well preferred and admired specialty in the early year of a medical students. As the years advance, there is an inclination towards medicine. The choice of medicine as a specialty is common to both genders; however, female preference is more oriented towards pediatrics, medicine and gynecology. Thus, gender, interest, the current year and college, category (i.e. government or private) of the undergraduate Influence the choice of specialization.

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