

Medical Students' Awareness and Interest towards Family Medicine at a Private Medical College in Karachi

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ABSTRACT

Background: Family physicians constitute the fundamental core of the health system in many parts of the world. However, medical students' diminishing interest in Family Medicine remains a challenge worldwide.

Objective: To assess medical students' awareness of the Family Medicine specialty and their interest towards selecting Family Medicine as a career.

Methods: This cross-sectional study was conducted among medical students of a private medical university in Karachi from January 2021 to June 2021. A total of 333 students from all 5 years of Medicine were given a structured self-administered questionnaire assessing their awareness of Family Medicine, and their interest in it as a future career choice.

Results: Response rate was 100%. 91% of students had heard of Family Medicine, 80.8% knew it as a recognized specialty. 91.6% knew family physicians treat individuals of all ages and gender. 88.9% knew family physicians provide comprehensive coordinated care. 82.9% agreed Family Medicine should be taught in the undergraduate curriculum. 95.5% think family physicians can change the healthcare system of Pakistan, and 54.1% have interest in Family Medicine as a future career choice. Among the top three specialty choices, General Surgery ranked first, Emergency Medicine ranked second and Family Medicine ranked third.

Conclusion: To attract students to choose a career in Family Medicine, it needs to be an essential part of undergraduate medical education. Career counselling, mentorship and role modelling can help foster interest among students in this field.

Keywords: Medical students, career choice, family physicians, health system.

INTRODUCTION

Family Medicine is a medical specialty that manages common and long-term illnesses in children and adults focusing on overall health and well-being [1]. In Pakistan, an overview of healthcare status demonstrates a great need for highly trained family physicians. Nearly 40% of the population lives below the poverty line [2]. Despite the need for well-trained family physicians in Pakistan, most medical colleges in the country still lack mandatory family medicine rotations in their undergraduate curriculum [3]. In such a scenario, family physicians are at the forefront of delivering personalized, holistic and cost-effective care to patients and their families. Evidence suggests that countries with a strong primary care infrastructure have better healthcare indicators [4]. The worldwide shortage of family physicians contributes directly to the difficulties in providing adequate medical care in rural and remote areas in both developed and less developed countries [5]. In Pakistan, there is an urgent need to develop strategies to implement Family Medicine health services. This will require sufficient numbers of trained family physicians. Family Medicine, being a relatively new specialty in Pakistan, has yet to gain more popularity among students as a career choice because of the attraction of disciplines involving high

technology and greater financial rewards [6]. Moreover, Family Medicine at the undergraduate level is still not fully introduced in Pakistan, even though the Pakistan Medical Council recognizes it as an important subject to be taught at the undergraduate medical education (UGME) level [7]. It is necessary for students to have early exposure to this medical specialty because, through Family Medicine rotations, medical students can develop a better understanding of how a Family physician works in the community to run a family care facility, and how they manage and collaborate with other health care professionals to formulate a holistic care plan for the patient. Students' clinical rotation in Family Medicine also enables them to develop their approach to initial undifferentiated patient presentations and assume ongoing responsibility for their care [8]. That is why it is essential to teach all our medical students the discipline of Family Medicine at an early phase of their medical education to have a better understanding of this important discipline and how it immensely contributes to the society and public at large. Greater and earlier undergraduate exposure to Family Medicine can result in increasing medical students' knowledge of the scope of the family specialty and can positively influence students' career choice of Family Medicine as their future specialty [9]. Family Medicine clerkships enhance students' perceptions of family practice by dispelling the negative impression of Family Medicine being a non-specialty and by providing medical students with a more accurate portrayal of the nature of this primary care specialty [10].

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The rationale of this study was to assess the impact of the Family Medicine rotation on the views of the medical students regarding this specialty and their interest in pursuing it as a future career. Our study objective was to assess medical students' awareness and interest towards the Family Medicine specialty. Our study also aimed to help in fostering the interest of the students towards Family Medicine. We expect that the results would contribute immensely to the development of the undergraduate programme in Pakistan.

METHODOLOGY

Our study was conducted among medical students of the Bahria University Medical and Dental College, Karachi from January 2021 to June 2021. The study design was a cross-sectional survey. Medical students from all five years were approached to participate in the study. Dental students (BDS) and students from the Department of Physical Therapy (DPT) were excluded from the study. The study sample size of 300 was determined via the WHO software for sample size calculation [11]. From prior studies, we found that the highest prevalence of awareness of students' regarding family medicine was 70% [12], therefore with a 4% margin of error at a 95% confidence interval and a population size of 750 (total number of medical students), our sample size came out to be 302 which was further inflated to 10% to address for non-responders. The calculated sample size came out to be 333. Ethical approval was obtained from the Ethical Review Committee of the institution (ERC number 10/2021). The study instrument was a predesigned structured questionnaire that was provided to all medical students who consented to participate in the study. The contents of the questionnaire were based on similar studies conducted elsewhere [13-15]. We designed an online questionnaire on Google documents; it was divided into three sections. Section one included the informed consent. Section two comprised the students' demographic data and section three consisted of eight questions on medical students' awareness and interest towards Family Medicine. The questionnaire was piloted among 10 participants and necessary changes were incorporated as needed. The study questionnaire is attached as a supplementary file. The questionnaire of this study was self-administered to reduce the chances of interviewer bias.

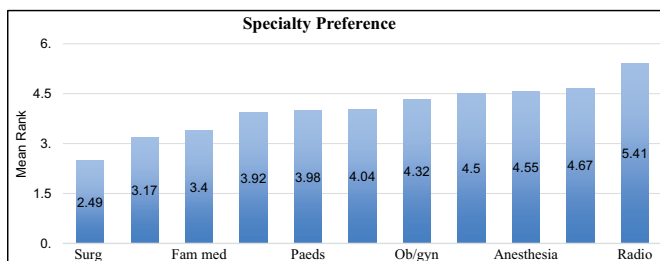


Fig. (1): It is a bar diagram showing medical students' career choice specialties ranked in order of their preference. The most preferred specialty among medical students was General surgery, followed by Emergency medicine, Family medicine, Internal medicine, Paediatrics, Ophthalmology/eye, Obstetrics/gynaecology, Otolaryngology/ENT, Anaesthesia, Psychiatry and Radiology.

Data were stored and analyzed using IBM-SPSS version 23.0, Counts with percentages were reported for baseline characteristics of data, and mean with standard deviation were given for specialty preference by students. The comparison with gender was made using the Mann Whitney U test and the comparison with year of study was made using the Kruskal Wallis test. A p-value of less than 0.05 was considered statistically significant. Normality of quantitative characteristics was checked via histogram and Shapiro-Wilk's test of normality, providing which indicated the data to be non-normal. Hence, median with interquartile ranges was reported. A graphical representation of data is shown.

RESULTS

Table 1 reports the baseline characteristics of the studied samples. There were three hundred and thirty-three participants. Among them 61.9% were females and 42.3% belonged in 1st year. The median age was 20.0 (IQR 2.0) years.

Table 2 shows medical student responses to a total of 7 items of the questionnaire regarding medical students' awareness and interest towards Family Medicine (n=333).

Table 3 reports the mean rank for the specialty preference by male and female gender, results showed the mean specialty preference (male/female) for anesthesiology was (3.91/4.94), for emergency medicine (3.14/3.18), for

Table 1: Baseline Characteristics of students (n=333).

Characteristics	N	%	
Gender	Male	127	38.1
	Female	206	61.9
MBBS Class	1 st year	141	42.3
	2 nd year	11	3.3
	3 rd year	138	41.4
	4 th year	10	3.0
	5 th year	33	9.9
Age (years)	Median age (IQR)	20	(IQR 2.0) years

Table 2: Medical student responses on Family Medicine awareness and interest (n=333).

Stem	Response	n	%
Have you heard of Family Medicine?	Yes	303	91
	No	30	9
Is Family Medicine, a recognized specialty?	Yes	269	80.8
	No	64	19.2
Family physicians treat individuals of all age groups and gender	Yes	296	88.9
	No	37	11.1
Family physicians provide comprehensive and coordinated care	Yes	305	91.6
	No	28	8.4
Do you think Family Medicine should be taught in the undergraduate curriculum?	Yes	276	82.9
	No	57	17.1
In your opinion, can Family physicians change the healthcare system of our country?	Yes	318	95.5
	No	15	4.5
Do you have any interest in Family Medicine, as a future career choice?	Yes	180	54.1
	No	153	45.9

Table 3: Mean comparison of specialty preference with gender.

Specialty Preference	Gender				p-value
	Male		Female		
	Mean	SD	Mean	SD	
Anesthesiology	3.91	3.08	4.94	3.73	0.069
Emergency Medicine	3.14	2.75	3.18	2.58	0.484
Family Medicine	3.16	2.58	3.55	2.61	0.058
General Surgery & Allied	2.15	1.96	2.69	2.63	0.172
Obstetrics/Gyneacology	4.65	3.49	4.10	3.43	0.055
Internal Medicine Allied	3.70	2.97	4.05	2.99	0.189
Ophthalmology (EYE)	3.75	2.92	4.21	2.91	0.057
Otolaryngology (ENT)	4.31	3.27	4.60	3.05	0.201
Pediatrics	4.06	3.04	3.93	2.96	0.571
Psychiatry	4.59	3.47	4.71	3.62	0.918
Radiology	4.83	3.74	5.77	3.89	0.03*

*p<0.05 was considered statistically significant using Mann Whitney U test

Table 4: Mean comparison of specialty preference with the year of study.

Specialty Preference	MBBS Class										p-value
	1 st year		2 nd year		3 rd year		4 th year		5 th year		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Anesthesiology	4.55	3.57	1.82	.60	4.26	3.36	6.40	3.75	6.12	3.82	<0.01*
Emergency Medicine	3.34	2.81	1.73	1.35	2.96	2.46	3.30	2.45	3.69	2.93	0.10
Family Medicine	3.05	2.41	3.45	2.42	3.60	2.71	2.30	1.42	4.38	3.00	0.08
General Surgery & allied	2.18	2.20	1.18	.60	2.33	1.99	4.90	3.63	4.19	3.54	<0.01*
Obstetrics/Gynecology	3.90	3.19	3.36	2.77	4.50	3.66	4.00	3.13	5.72	3.74	0.08
Internal Medicine Allied	4.46	3.30	3.36	2.16	3.49	2.55	2.90	2.13	3.91	3.41	0.20
Ophthalmology (EYE)	3.95	2.87	2.45	.69	3.79	2.77	5.20	2.53	5.66	3.64	0.01*
Otolaryngology (ENT)	4.72	3.18	2.82	1.17	4.25	3.06	3.90	2.77	5.34	3.59	0.28
Pediatrics	4.14	2.96	2.55	1.75	3.78	3.12	4.80	3.39	4.37	2.69	0.11
Psychiatry	4.35	3.39	4.27	3.20	4.62	3.59	6.50	3.78	5.78	4.00	0.14
Radiology	5.59	3.93	3.00	2.10	5.15	3.86	7.20	3.65	6.00	3.74	0.11

*p<0.05 was considered statistically significant using the Kruskal Wallis test

family medicine (3.16/3.55), for general surgery & allied (2.15/2.69), for obstetrics/gynecology (4.65 / 4.10), for internal medicine allied (3.70/4.05), for ophthalmology

(Eye) (3.75/4.21), for Otolaryngology (ENT) (4.31/4.60) for pediatric (4.06/3.93), for Psychiatry (4.59/4.71) and radiology (4.83/5.77). Mann Whitney U test showed a significant difference in preference for radiology between male and female gender with p=0.03, indicating that female students gave more preference to Radiology as compared to male students.

Table 4 reports the mean comparison of specialty preference with a year of study. Our results showed that 2nd-year students gave more preference to Anesthesiology, General Surgery and Ophthalmology (Eye) since the mean preference of these was considered statistically significant with p<0.05.

DISCUSSION

In our study, 54% of medical students had an interest in Family Medicine as a future career choice, which is a relatively favourable outcome when compared to other studies in Pakistan. Nishat *et al.* reported that only 18% considered it as a future career path [13], while another study found that only 24% of medical students showed

interest in Family Medicine [14]. A study conducted among newly inducted medical students found only 7.8% of students were interested in Family Medicine [15]. This may be due to a lack of awareness regarding Family Medicine in the early preclinical years, as most medical colleges have this discipline introduced much later in their curriculum. In the medical college where our study was conducted, Family Medicine is based on a longitudinal clerkship with a total of 100 contact hours. Starting from year 1 through year 5 of MBBS, every year of study has 25 contact hour sessions which include lectures, small group discussions and clinical/practical teachings.

A recent study from Pakistan comparing private and government college students' interest in the field reported that only 2% of the students from both groups considered Family Medicine as a future career path [16]. A family physician constitutes the fundamental core of the health system in many parts of the world. However, medical students' diminishing interest in pursuing Family Medicine as a career is a challenge worldwide. A study conducted by Ehsan *et al.* showed that the most common reason among students for not choosing Family Medicine as a future profession was the lack of awareness about

the scope of Family Medicine [17]. Many international studies have also concluded that inadequate exposure to Family Medicine in medical schools could be leading to a perception that Family Medicine is a field of less monetary gains and lower social prestige. Moreover, poor marketing of the specialty is also a factor that contributes to discouraging students from choosing this discipline as a future career choice [18]. A study conducted in Saudi Arabia found that while the majority of the students considered Family Medicine to be an integral part of the healthcare system in the country, it was one of the least preferred specialties among students. A major reason for not choosing Family Medicine was inadequate awareness of the field and its scope. Personal interest and family influence were other contributing factors [19]. Similar trends were reported in a study from Nepal, in which most medical students affirmed the need for a good salary [20]. Proper infrastructure and facilities, scholarships and career development opportunities are likely to enhance students' interest in Family Medicine. A study from India concluded that even though there was a significant lack of awareness and inadequate exposure among medical students toward family medicine, the majority of medical students (98%) had expressed a desire to learn more about the specialty, and a need to introduce it in the undergraduate medical curriculum [21]. In a study from Japan, only 18.8% of medical students had chosen Family Medicine as a future career option. Students with the intent for rural practice and wanting to achieve work-life balance were more inclined to choose this discipline [22]. A study from Israel reported that Students with greater interest in bedside and direct long-term patient care were interested in specialising in Family Medicine while students uninterested had preconceived ideas about the discipline having lesser academic opportunities and poor remuneration.

In the study, only 19% of medical students considered Family Medicine as a future area of specialisation [23]. Evidence shows that learning experiences from clerkships in Family Medicine are instrumental in improving medical students' awareness and interest towards the field. A study conducted in Islamabad reported that among medical students, following a Family Medicine clerkship, the proportion of students who considered Family Medicine as a specialty of preference increased from 3% to 37% [24]. A study from Saudi Arabia also demonstrated that a clinical training rotation in Family Medicine can be highly beneficial for medical students in improving their awareness and interest in Family Medicine. Observations of Physician-patient interactions, Family Medicine faculty members' attitudes and compassion, and the enjoyment of the Family Medicine rotation were factors that had inspired medical students to include Family Medicine in their future career plans [25]. A Spanish study also reported a significant increase in the proportion of students who considered Family Medicine as a specialty of preference

after a Family Medicine course. The observed increase was from 38.6% to 70.4% [12]. A study from the USA reported that 27% of students initially undecided about Family Medicine as a career became interested after the clerkship [26]. Moreover, a systemic review by Turkeshi *et al.* [27] reported that students were highly satisfied with the content and process of teaching during these clerkships as they enhanced their problem-solving and communication skills and provided them with unique learning on the management of common acute and chronic conditions, disease prevention and health promotion.

Another finding of our study was that 91% of medical students had heard of Family Medicine, which is a considerably better finding as compared to studies carried out in other institutions in Pakistan. A study conducted in 5 medical colleges in Pakistan, reported that only 37.7% of medical students had heard about Family Medicine [13], while another study from Islamabad reported that 47% of the students were aware of this specialty [28]. Early and repeated exposure of medical students to Family Medicine in the form of lectures, workshops and clinical rotation should be incorporated into the medical curriculum to increase the awareness of medical students regarding the field of Family Medicine and its scope. In our study, 82% of students had agreed that Family Medicine should be taught in the undergraduate curriculum, this finding is corroborated by many local and international studies [15-18, 20, 23, 24, 26-29]

Sohail *et al.* reported that in places where medical students and healthcare professionals from different specialties were exposed to Family Medicine through a workshop, the results showed that 85% of medical students and 94% of healthcare professionals believed that family physicians could change the future of healthcare in Pakistan [28].

CONCLUSION

In our study, almost all of the medical students had awareness of Family Medicine and the majority were interested in pursuing it as a future career choice. It was the third most preferred specialty among students after General Surgery and Emergency Medicine. In order to attract students to choose a career in Family Medicine, it needs to be an essential part of undergraduate medical education. Career counselling, mentorship and role modelling can help foster interest among students in this field.

LIMITATIONS

The study is limited to only one medical university in Karachi so the findings may not be truly representative of all medical students in Pakistan, which could be considered one of the limitations of our study. Another limitation of our study is that only a limited number of medical students belonged to the final year of study which could affect the results of the study.

ETHICS APPROVAL

Ethical approval was obtained from the Ethical Review Committee of the institution (ERC number 10/2021) before the study's commencement. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the Helsinki declaration.

CONSENT FOR PUBLICATION

Written informed consent was taken from the participants after explaining to them the purpose of the study and the protocol involved.

AVAILABILITY OF DATA

Authors confirm that data supporting the results of this study are available in the article.

FUNDING

Our study involved no funding.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORS' CONTRIBUTION

SP developed the protocol of the study, formed the questionnaire, carried out data collection and prepared the manuscript. NS developed the questionnaire on Google forms and performed the data analysis. FG assisted in data collection. SAJ supervised the entire project.

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