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# Assessing Medical Students' Interest in Community Medicine/Public Health as a Career Path: A Cross-Sectional Study at Sahiwal Medical College, Sahiwal, Pakistan

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## ABSTRACT

Public health should be the priority of underdeveloped countries like Pakistan to have better management plans for combating diseases. But it was observed that medical students are less interested in a career as a public health specialist, and they are less inclined towards community medicine. **Objectives:** To determine the preferences of the undergraduate medical students towards the choice of subject for specialization and to determine their attitude towards community medicine as a future career. **Methods:** A cross-sectional questionnaire-based study was conducted at a public sector medical college of Punjab using a convenient sampling technique.After receiving approval and having informed consent from the 315 study participants, we shared the questionnaire via WhatsApp in the form of Google Forms. The data were then analyzed using SPSS version 26.0. **Results:** Out of the total 315 participants, 170(54%) were females and 145 (46%) were males.The majority (96%) of the students were inclined towards opting for clinical sciences after graduation. Surgery 139 (44.1%) and Medicine 84 (26.6%) were the most preferred fields for specialization, only 9(2.8%) students preferred community medicine (p-value=0.001). When asked for the reason for not choosing community medicine, the majority, 189 (60%), said that they are not impressed by this subject. Career dissatisfaction was identified as the second main reason (14.6%) for not opting for this subject as a future career path. **Conclusions:** It was concluded that appropriate teaching methodology should be adopted and the curriculum should be designed in such a way that it may increase students' interest in community medicine.

## INTRODUCTION

The decision-making process behind medical students' specialization choices is crucial for both the students and the healthcare system. Specialization determines the future career pathways for medical students and significantly impacts the distribution of physicians across the various medical fields. This distribution is essential for ensuring that all areas of healthcare are adequately staffed, thereby promoting balanced and comprehensive healthcare delivery [1]. There are striking differences in the popularity of speciality fields in many countries. Fields such as surgery, internal medicine, pediatrics, obstetrics and gynecology tend to attract a large proportion of medical students, while specialities such as community medicine, anesthesia and clinical medicine are not generally preferred. This unequal division can result in shortages in essential services, particularly in the underrated fields like community medicine, which is crucial in the provision of public health and preventive care [2]. Medical students usually enter their medical colleges /universities with a career plan that often evolves

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throughout their studies. Recent studies have shown that medical students are more often interested in becoming a hospital-based clinical specialist and are less interested towards community medicine as a career option [3]. Factors that can influence specialization choices by the medical students may include their interests, perceived competence, and personal values and beliefs about the medical profession. External factors, including job opportunities, financial incentives, work-life balance, and public perceptions of medical diversity, can also influence the speciality selection process [4]. Gender also plays an important role in this, with studies showing that male and female students tend to lean towards different majors/specialities due to social and cultural influences [5]. Females usually prefer pediatrics and obstetrics and gynecology, and men usually go for surgical specialities [6]. In the United Kingdom, social factors, such as working hours and social considerations, significantly influence student decision-making. In contrast, economic incentives and prestige are more important in Turkey, while personal interests and psychological issues are the main motivators in Saudi Arabia, Taiwan, Pakistan and India [7]. In Pakistan, due to the lack of career guidance services, many students are opting for medicine and surgery but are less inclined towards community medicine or public health. The majority of the medical students are leaving the country and going abroad for professional excellence [8]. There is also a shortage of doctors working in the rural areas of the country. Despite the importance of community medicine in preventive care in public health, it has generally received little attention from medical students. This is of great concern because community medicine plays an important role in addressing public health issues, promoting health education and preventing disease [9]. The perception of the students that community medicine is a profession with little prestige or economic value has contributed to its decline in popularity.Student perceptions of community medicine and an understanding of factors that may prevent them from choosing it as a profession will help policymakers and stakeholders to design interventions to promote this important profession [10]. The findings of this study will provide valuable insights into the primary preferences of medical students and the main factors that influence their decisions regarding the selection of their future speciality field.Understanding these aspects can help medical schools and policymakers to develop strategies to encourage a more balanced distribution of future physicians across all specialities, including community medicine.This will improve the overall health system's effectiveness and responsiveness to meet medical needs.

This study aims to assess the preference of future undergraduate medical students towards speciality and particularly their attitudes towards community medicine and public health as a career option, and also to identify barriers to choosing this speciality.

## METHODS

After taking approval from the institutional review board (IRB) letter (S. No 104/IRB/SLMC/SWL), a cross-sectional study was conducted during the year 2024 (May-September) at Sahiwal Medical College, a public sector medical college of Punjab, Pakistan. For data collection, a convenient sampling technique was used, and a questionnaire that was taken from a recently published research paper [11] was validated through peer review and pilot testing. Cronbach's alpha was applied to check the reliability (value=0.807).As this study mainly focused on students' preference regarding the community medicine subject, so excluded the 3$^{rd}$ year as they have not studied this subject yet.1$^{st}$ year and 2$^{nd}$ year classes in the respective institutes are being taught this subject in a modular system. 3$^{rd}$ year, 4$^{th}$ year and final year are being taught via traditional systems. In the traditional system, community medicine is a subject in the 4$^{th}$ year. So, the 4$^{th}$ year and final year were also familiar with this subject. The above-mentioned reason made 1$^{st}$, 2$^{nd}$, 4$^{th}$ and final year students fit the inclusion criteria.The following sample size was calculated. Sample size=Z1-a/2 2 p(1-p) / d2. Z1-a/2 =1.96, p=0.32, d=0.05.The p-value was calculated from the reference paper [11].Sample size=315.Confidentiality index=95%.After taking informed consent from all the study participants, the questionnaire [11] was shared with them via WhatsApp in the form of Google Forms, and the data were collected.The response rate was 100%, 315 forms were shared, and all were filled out by the students and were included in the analysis.The data were analyzed via IBM SPSS version 26.0, results were derived in terms of frequencies and percentages.The qualitative variables were compared using the Chi-square test and Fisher's test where cell counts <5.A p-value less than 0.05 was considered significant.

## RESULTS

Out of the total 315 participants, 170 (54%) were female and 145 (46%) were male. 258 (81.9%) were hostilities and 57 (18.1%) were day scholars. 94 (29.8%) students were from the 1st year, 85 (27%) students were from the 2nd year, 103 (32.7%) students were from the 4th year, and 33 (10.5%) students were from the final year. After graduation majority, 303 (96.2%), said to proceed in clinical sciences rather than basic sciences(Table 1).

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**Table 1:** Inclination of undergraduate medical students towards opting for basic and clinical sciences after graduation and the likely determinants contributing to this choice

| Determinants | | After Graduation, Where Do You Like to Proceed? | | p-value |
|---|---|---|---|---|
| | | Basic Sciences (n=12) | Clinical Sciences (n=303) | |
| Gender | Female | 06 (1.9%) | 164 (52%) | 0.503* |
| | Male | 06 (1.9%) | 139 (44.1%) | |
| Residence | Day Scholar | 05 (1.5%) | 52 (16.5%) | 0.047* |
| | Hostel-lite | 07 (2.2%) | 251 (79.6%) | |
| Parents' Profession | Doctor | 02 (0.6%) | 24 (7.6%) | 0.260** |
| | Other | 10 (3.1%) | 279 (88.5%) | |
| House Locality | Urban | 11 (3.4%) | 243 (77.1%) | 0.288** |
| | Rural | 01 (0.3%) | 60 (19%) | |
| Year of Study | 1st Year | 02 (0.6%) | 92 (29.2%) | 0.349** |
| | 2nd Year | 03 (0.9%) | 82 (26%) | |
| | 4th Year | 04 (1.2%) | 99 (31.4%) | |
| | Final Year | 03 (0.9%) | 30 (9.5%) | |

(*p-value was calculated by Pearson chi-squared test. **p-value was calculated by Fischer-Freeman-Halton Exact test as the cell count was <5)

Gender-wise choice of specialities for pursuing the specialization was calculated (Table 2).

**Table 2:** Gender-wise choice of specialities for pursuing the specialization

| Variables | Gender | | Total (n= 315) | p-value |
|---|---|---|---|---|
| | Female (n= 170) | Male (n= 145) | | |
| Surgery | 69 (21.9%) | 70 (22.2%) | 139 (44.1%) | 0.001 |
| Medicine | 40 (12.7%) | 44 (13.9%) | 84 (26.6%) | |
| Gynecology and Obs. | 24 (7.6%) | 01 (0.3%) | 25 (7.9%) | |
| Radiology | 06 (1.9%) | 04 (1.3%) | 10 (3.1%) | |
| Community Medicine | 04 (1.3%) | 05 (1.6%) | 09 (2.8%) | |
| Orthopedics | 04 (1.3%) | 03 (0.9%) | 07 (2.2%) | |
| Others | 23 (7.3%) | 18 (5.7%) | 41 (13.0%) | |

(*p-value calculated by Fischer-Freeman-Halton Exact test as the cell count <5)

class/medical year-wise choice of specialities for pursuing the specialization was analyzed in 1st, 2nd, 4th and 5th year students (Table 3).

**Table 3:** Class/Medical Year-Wise Choice of Specialties for Pursuing the Specialization

| Variables | Class | | | | Total (n= 315) | p-value* |
|---|---|---|---|---|---|---|
| | 1st Year (n=94) | 2nd Year (n=85) | 4th Year (n=103) | 5th Year (n=33) | | |
| Surgery | 56 (17.8%) | 39 (12.3%) | 36 (11.4%) | 08 (2.5%) | 139 (44.1%) | 0.004 |
| Medicine | 15 (4.7%) | 23 (7.3%) | 34 (10.8%) | 12 (3.8%) | 84 (26.7%) | |
| Gynae & Obs. | 05 (1.6%) | 07 (2.2%) | 07 (2.2%) | 06 (1.9%) | 25 (7.9%) | |
| Radiology | 05 (1.6%) | 01 (0.3%) | 04 (1.3%) | 00 (0%) | 10 (3.2%) | |
| Community Medicine | 01 (0.3%) | 02 (0.6%) | 04 (1.3%) | 02 (0.6%) | 09 (2.9%) | |
| Orthopedics | 03 (0.9%) | 03 (0.9%) | 01 (0.3%) | 00 (0%) | 07 (2.2%) | |
| Others | 09 (2.9%) | 10 (3.2%) | 17 (5.4%) | 05 (1.6%) | 41 (13.0%) | |

(*p-value calculated by Fischer-Freeman-Halton Exact test as the cell count was <5)

Determinants for choosing community medicine as a career option were analyzed (Table 4).

**Table 4:** Determinants for Choosing Community Medicine as A Career Option

| Determinants | | Choose (n=9) | Don't Choose (n=306) | p-value* |
|---|---|---|---|---|
| Gender | Female | 4 (1.3%) | 166 (52.7%) | 0.402 |
| | Male | 5 (1.6%) | 140 (44.4%) | |
| Residence | Day scholar | 3 (0.9%) | 54 (17.1%) | 0.211 |
| | Hostellite | 6 (1.9%) | 252 (80%) | |
| Parents' Profession | Doctor | 2 (0.6%) | 24 (7.6%) | 0.165 |
| | Other | 7 (2.2%) | 282 (89.5%) | |

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| | | | | |
|---|---|---|---|---|
| House Locality | Urban | 9 (2.8%) | 245 (77.8%) | 0.140 |
| | Rural | 0 (0%) | 61 (19.3%) | |

(*p-value calculated by Fischer-Freeman-Halton Exact test as the cell count <5).

Assessing the reason why our study participants did not choose the community medicine subject/ public health as a future career option (Table 5).

**Table 5:** Reason for Not Choosing Public Health as A Future Career Option

| Reasons | Frequency (%) |
|---|---|
| I am not impressed by the subject | 189 (60%) |
| career dis-satisfaction | 46 (14.6%) |
| Lack of growth opportunities | 36 (11.4%) |
| Lack of acceptance of public health workers in society | 12 (3.8%) |
| This subject is not projected well by the faculty/PG | 08 (2.5%) |
| Unable to earn well by choosing this field | 06 (1.9%) |
| I can't earn name and fame by choosing this field | 03 (01%) |
| Nobody has performed satisfactorily in this field | 03 (01%) |
| PG/faculty of this field feels dissatisfied | 02(0.6%) |
| Public health specialists are not acknowledged by others | 01 (0.3%) |
| I will choose Community Medicine in future. | 09 (2.8%) |

Scopes of community medicine/ public health specialists as per the perception of students were analyzed. 315 responses were measured (Figure 1).

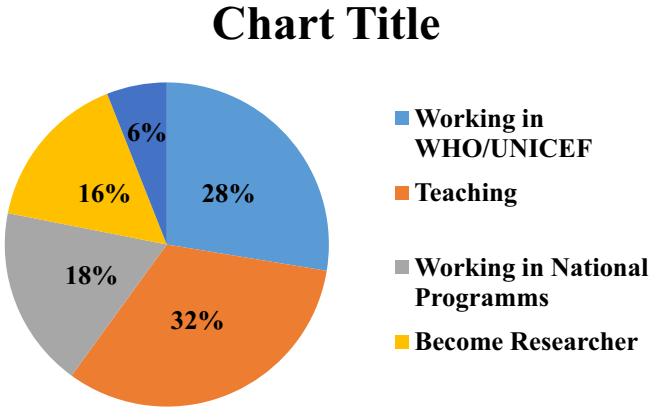


**Figure 1:** Community Medicine/ Public Health Specialists as Per the Perception of Students

## DISCUSSION

Majority (96.2%) of the students were inclined towards choosing clinical sciences after graduation. The most preferred subject for specialization is surgery, with 44.1% of the respondents indicating it as their choice. This high percentage might be because students are fascinated by hands-on practice [12]. Following Surgery, Medicine is the second most popular choice, with 26.7% of respondents expressing a preference for this field. The reason for preferring medicine is the diversity and broad scope of internal medicine. Also, doctors in medicine come across a variety of diseases that make it an interesting field [13]. Gynecology and obstetrics and Radiotherapy follow 7.9% and 3.2% of preferences by students, respectively. Most of the female undergraduate students prefer gynecology as it's a highly rewarding field and focuses mainly on women's health issues, while Radiology's relatively lower percentage might indicate a niche yet crucial field that appeals to those interested in cancer treatment and imaging technologies [14]. The 'Others' category, comprising 13% of the responses, Community Medicine and Orthopedics, with preferences of 2.9% and 2.2% respectively, are the least chosen fields. The same results were there in a recent study [15]. Our collected data highlights the barriers in choosing community medicine as a speciality by the students and also their perception regarding community medicine. A majority (60%) of the respondents were not impressed by the subject, and that was the reason for their lack of interest in community medicine. This could be because of the non-procedural and perceived less dynamic nature of the field in comparison to compared to Surgery and Medicine, both of which have a bunch of high-impact specialities [16]. The second and third major reasons for not choosing community medicine (public health), as cited by a substantial portion (26%) of respondents, were poor career satisfaction (14.6%) and lack of growth opportunities in this field (11.4%), respectively. This is more likely because of concerns of respondents about job opportunities, career growth, and the long-term viability of this field [17]. This perception regarding this particular field may be because of limited exposure to the diverse career paths available within public health and community medicine. Other major reasons associated with less percentage of students inclined towards community medicine were their perceived inability to earn significant money (1.9%) or recognition (3.8%). These factors indicate that financial incentives and good societal status in promising fields are more often preferred by the students [18]. The comparatively lower financial rewards and lower societal recognition in community medicine could deter graduates from pursuing this path. Another notable reason is the perception that community medicine is not projected by faculty or postgraduate programs (2.5%). This reflects a potential issue with how the field is presented and supported during medical training. Insufficient encouragement and visibility from faculty may contribute to a lack of enthusiasm and support for Community Medicine [19]. Our study reveals that 1.0% of respondents believe nobody has done well in this field, which depicts that there is a lack of successful role models in this subject speciality. This belief could be based on lack of information about the achievements and impacts of professionals in Community Medicine. The small percentages of respondents citing factors like "not acknowledged by others" (0.3%) or "PG/faculty feels dissatisfied" (0.6%)

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suggest that peer and faculty opinions might have minimal impact compared to other, more significant factors. However, these responses still highlight the importance of a supportive educational environment and positive role modelling [20]. Overall, this data indicates a strong need for increased efforts to enhance the appeal of Community Medicine. Addressing the lack of interest and perceived career prospects could involve improving educational exposure, showcasing successful professionals in the field, and highlighting the importance and impact of community health initiatives. Efforts to increase recognition and financial incentives could also play a role in making Community Medicine a more attractive career choice. The most favoured career scope for Community Medicine specialists, as per students' perception, is teaching, as indicated by 32.4% of respondents. Community Medicine specialists can use their expertise to educate medical students, the community, and junior public health professionals regarding preventive care and health promotion [21]. The second most popular career path, as per the perception of 15.9% of respondents, is becoming a researcher. As the methodology of doing research is being taught in community medicine and students are also asked to do research as a part of the curriculum of community medicine; that's why the students are perceiving that community medicine specialists have a scope in research [22]. Working in national programs is another significant career path, selected by 18.1% of respondents chose working in a national program as a perceived scope of community medicine specialists. They can play a vital role in managing and organizing public health programs and awareness campaigns, and seminars at the national level [23]. The option of working with international organizations such as the WHO or UNICEF is preferred by 27.6% of respondents. Community medicine specialists can work with international organizations to influence public health at a global level [24]. Becoming an administrator is considered a viable option by 6.0% of respondents. Administrative roles in community medicine are crucial for managing public health programs at a mass scale.

## CONCLUSIONS

It was concluded that in our study, a few students, 9 (2.8%), were interested in community medicine/ public health in specific reference to choosing it as a future speciality. Amendments should be made in the curriculum, and lectures should be integrated with clinical ward rotations so that students can have a clear understanding of the prevalent community diseases. This will surely encourage students to adopt it willingly as a future speciality because we, being developing countries, are in dire need of enthusiastic public health professionals so that we can fight the communicable and non-communicable diseases.

## Authors Contribution

Conceptualization: M
Methodology: M, MH[2], HI, MIUH
Formal analysis: M, MH[1]
Writing review and editing: MH, MHR, MIUH

All authors have read and agreed to the published version of the manuscript

## Conflicts of Interest

All the authors declare no conflict of interest.

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