
SPECIALIZATION AMONG DOCTORS IN PAKISTAN IN THE ERA OF CENTRAL INDUCTION: A CROSS-SECTIONAL STUDY ON THE VIEWS OF POSTGRADUATE TRAINEES

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ABSTRACT

The present study was intended to determine the specialty choices among doctors of Pakistan with respect to gender and training program. Data pertaining to postgraduate trainees enrolled in both FCPS and MS / MD programs was gathered from administrative staff of 3 teaching hospitals of Rawalpindi which were Holy Family Hospital (HFH), Benazir Bhutto Hospital (BBH) and DHQ Hospital through informed consent. Data was collected regarding number of male and female trainees enrolled in each training program. Data was analyzed by using MS Excel 2016. Chi-square test was applied to measure the gender and program-wise (FCPS / MS / MD) difference in opting Medicine versus Surgery & Allied training programs for postgraduation. $P < 0.05$ was considered significant. About 57.1% and 42.9% trainees were enrolled in FCPS part-II training and MS / MD programs respectively. Most (55.1%) were females. Of the total 635 trainees, 189 were enrolled in Surgery & Allied programs while 160 were registered in Medicine & Allied specialties. About 99 were enrolled in Gynecology & Obstetrics and relatively less trainees were registered in Pediatrics, Anesthesia, Radiology, ENT and Ophthalmology.

Difference in opting FCPS or MS /MD program for Medicine and Surgery & Allied disciplines among trainees was statistically insignificant ($P > 0.20$). More males were enrolled in Surgery and Allied programs ($P < 0.05$). Recommendation is relaxing the selection criteria of Central Induction in Punjab for getting more doctors trained in our country in sub-specialties and hence improvement of healthcare outcome of the nation.

KEYWORDS

Specialty choices, postgraduate trainees, Medicine, Surgery, Central Induction

INTRODUCTION

Choosing the specialty for postgraduation by our medical doctors is of paramount significance in comprehensive planning and outlining discipline-wise needed healthcare workforce (Sarikhani, 2021). Those with an inherent desire to promote community-oriented healthcare practice are more likely to do general practice while specialty focused doctors opt for learning advanced technical and procedural skills pertaining to sub-specialties (Muacevic, 2018). Adjustment of medical specialties in accordance with healthcare needs of the community is inevitable in order to prevent the collapse of healthcare system (Walsh, 2016).

Postgraduate trainees are now getting enrolled in healthcare system for training in compliance with Central Induction Policy (CIP). Trainees get opportunity to apply for residency either in FCPS or MS / MD programs. Moreover, training in MCPS or diploma programs in government institutes of Punjab has also been centralized. Foreign candidates and doctors from other provinces can also apply for residency in Punjab against quota seats (CIP).

Although terms and conditions in addition to eligibility criteria have been clearly notified on the website for transparency of selection (PRP); yet despite the merit-based selection, trainees have some reservations like need to revise the standards for consideration of research work and opting the training program at their own will (Nadeem, 2021). Rawalpindi medical University being a public sector medical university is affiliated with three tertiary care hospitals (RMU). Being a chartered institute of Government of Pakistan, many postgraduate trainees are undergoing training on selection through central induction. (HEC). As its teaching hospitals are well-equipped with all essential equipment and trained staff deemed necessary for continuation of postgraduate training, hence; level-III training program in accordance with Pakistan Medical & Dental Council regulations (PM&DC, 2023). Apart from major specialties, sub-specialties have also been chosen by trainees of both FCPS and MS /MD programs. Trend of becoming specialist among our doctors seems to be associated with innovation in medical technology as well as medical education

(Flexner, 1910). A few decades back, an unethical practice was observed to recruit the general practitioners for the post of specialized healthcare professionals due to limited opportunities but scenario has substantially been reversed nowadays (Cassel, 2011). Although postgraduate trainees not only have to pass their entrance exam for getting into training; but their previous academic achievements were also considered for finalizing the selection merit. CIP implementation in May 2016 was meant to ensure fairness of trainees' selection and to overcome the specialists' shortage in respective healthcare disciplines (Zuberi, 2016). Some trainees were dissatisfied with CIP due to difficulty in opting specialty of their choice and delay in training. All the trainees interviewed were not having same opinion (Nadeem, 2021). The present study is therefore intended to determine the specialty choices among postgraduate trainees opting FCPS/MS/MD program working in 3 teaching hospitals affiliated with Rawalpindi Medical University Namely Holy Family Hospital (HFH), Benazir Bhutto Hospital (BBH) and DHQ Hospital Rawalpindi. This was meant to foresee the gender and program-based distribution of trainees in clinical as well as basic sciences in compliance with Central Induction Policy (CIP). This study would certainly enable the policy makers to perceive the fulfilment of specialists' need in all healthcare dimensions.

LITERATURE REVIEW

Selection of medical specialty by our doctors as career needs considerable attention by our policy makers as adequate resources in terms of patients, equipment, staff and infrastructure is to be arranged for proper training and learning (Kaliyadan, 2015). Although choice of field for postgraduation among doctors across the globe are attributed to multiple factors like personal interest in specialty and job satisfaction in addition to cultural traits (Hauer, 2008); yet policies worldwide can prove beneficial in ensuring the smooth execution of healthcare related responsibilities (Al-Fouzan, 2012).

A mixed method survey carried out among UK medical graduates revealed that they were confronted with certain issues in choosing the specialty for postgraduation that were insufficient exposure to variety of specialties and requirement of vast experience for training. Moreover, doctors also complained of the lack of career counseling in their set up. (Lachish, 2018). Effectiveness of one-to-one career counseling of students can best be estimated by pre and post counseling analysis. This in long run seems to have positive impact in terms of improved quality of life of the individuals and their families (Masdonati, 2009). Nowadays, counseling for career as well as mental health are done in integration across the globe for having better lifestyle in addition to improved well-being (Tang, 2021). An online google survey among undergraduate medical students of Saudi Arabia during era of COVID-19, apart from overwhelming of self-interest among 78.5% of students, about 76.2% still accepted the advice of family members in career choice. Most influencing factor seemed to be had mothers

as medical doctor (Elgasim, 2021). On the other hand, a cross-sectional study among medical students of Sudan revealed absolute loss of interest in medicine as career among majority due to certain social and academic issues that must be brought to the attention of concerned authorities on priority basis (Bashir, 2023). One of the social issues drastically deteriorating the academic performance of students in addition to their career choice is financial constraints (The Conversation, 2015). Students should definitely be facilitated for securing optimal monetary aid for adequate fulfilment of their academic requisites and career building.

A descriptive study done among early career doctors of Pakistan during 2019 from both public and private sector institutes revealed their least interest in the field of Oncology despite the escalating trend of cancer cases in Pakistan (Aemaz ur Rehman, 2019). Establishing career in an innovative field is likely to offer young doctors more opportunities for getting recognition and acknowledgement of their work worldwide due to less saturation in such specialties. Likewise, family medicine was also speculated as less preferable specialty among our future doctors due to unfamiliarity about its scope and its forthcoming implications in terms of diminished healthcare expenditure (Ehsan, 2018). Another cross-sectional study done by Saravanan R et al among medical postgraduate aspirants of an Indian teaching hospital illustrated that although majority of the Indian doctors wanted to be the surgeons and physicians; yet greater interest of the doctors later diverged towards the fields of Community Medicine and Infectious diseases in pandemic era because of their subjection to violence (Saravanan, 2022). Similarly, another study among allopathic medical students of United States concluded the change in career choice among 20.2% of the students amidst COVID-19 pandemic. Even the delay in clinical rotations during medical schooling also provoked them to think for spending one more year to become a qualified doctor (Byrnes, 2020). Apart from resultant socio-economic disruption, COVID-19 pandemic has led to subtle shortage of doctors in healthcare facilities and increased workload on those who kept working for the suffering humanity without thinking for their own lives and families. This sudden havoc also influenced the desire of opting medicine as future career among our future generation (Standout Medical Careers, 2022).

A longitudinal study among final year Irish medical graduates emphasized the importance of work-life balance in addition to interest in medical specialty among 90% of the study participants (Cronin, 2020). Health Professions Education (HPE) has recently been identified as an emergent field that has preferably been chosen as career by majority of our dentists due to saturation in dentistry. Moreover, ease at managing the family and rapid acknowledgment as specialist are other attractions of this discipline (Aziz, 2020). A study done among students from 6 medical colleges of Pakistan revealed the intention of mainstream to go abroad for specialization although

all of the respondents were willing to practice medicine in future (Shaheen, 2020). Another national study attributed the intention among our doctors to go abroad to socio-economic disruption and political instability (Tahir, 2011). No doubt, foremost aim of our healthcare professionals is to serve the humanity, but they also need better earnings for better standard of living (Deressa, 2012). WHO global atlas of health worker 2016 brought this bitter reality to the attention of our strategic planners that only 8 doctors in Pakistan are available to cater about 10,000 population (WHO). WHO global health workforce network also served as the foundation to ensure universal health coverage and attainment of Sustainable Development Goal 3 by providing employment prospects to our young doctors (WHO).

RESEARCH OBJECTIVES

1. To determine specialty choices among doctors in central induction era.
2. To assess gender-based difference in opting the training programs
3. To measure program-wise (FCPS / MS / MD) difference in choosing Medicine versus Surgery & Allied training

RESEARCH QUESTIONS

1. What is the effect of central induction on specialty choice among doctors for postgraduation?
2. Was there any gender-wise difference in opting a training program?
3. Was there statistically significant difference in choosing FCPS / MS / MD training program for Medicine versus Surgery and Allied training?

RESEARCH METHODOLOGY

Data about postgraduate trainees enrolled in both FCPS and MS / MD programs was retrieved from administration of 3 teaching hospitals of Rawalpindi namely Holy Family Hospital (HFH), Benazir Bhutto Hospital (BBH) and DHQ Hospital through informed consent. Data was collected pertaining to number of male and female trainees enrolled in each training program by means of structured questionnaire. Data was procured about 635 trainees.

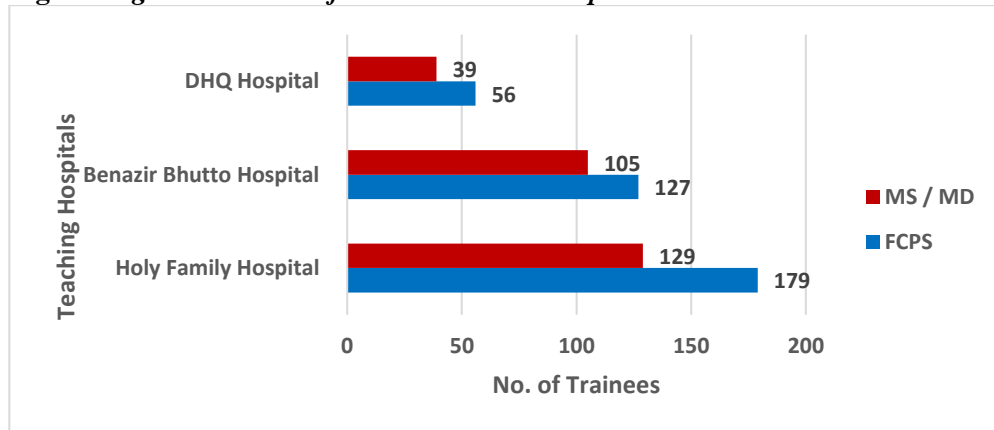
Data analysis was done by using MS Excel 2016. Chi-square test was applied to measure the gender and program-wise (FCPS / MS /MD) difference in opting Medicine versus Surgery & Allied training programs for postgraduation. $P < 0.05$ was taken as significant.

DATA ANALYSIS AND RESULTS

Of the total 635 trainees undergoing postgraduate training in public sector teaching hospitals of Rawalpindi, most 57.1% were enrolled in FCPS part-II training while rest of the 42.9% were getting training in MS and MD postgraduate training programs.

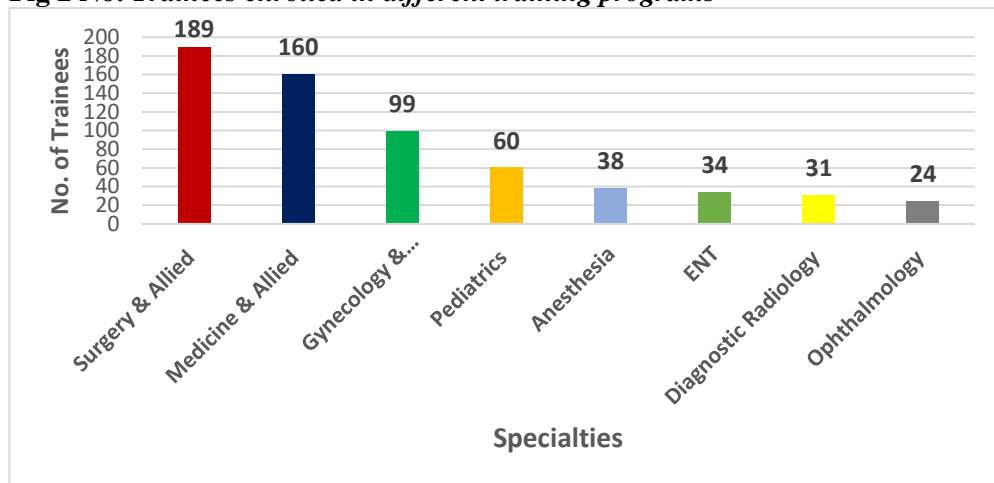
Depending on bed strength, infrastructure and teaching faculty, the greatest number of trainees were undergoing FCPS part-II training at Holy Family Hospital Rawalpindi as shown below in Figure 1.

Fig 1: Program-wise No. of trainees in each hospital



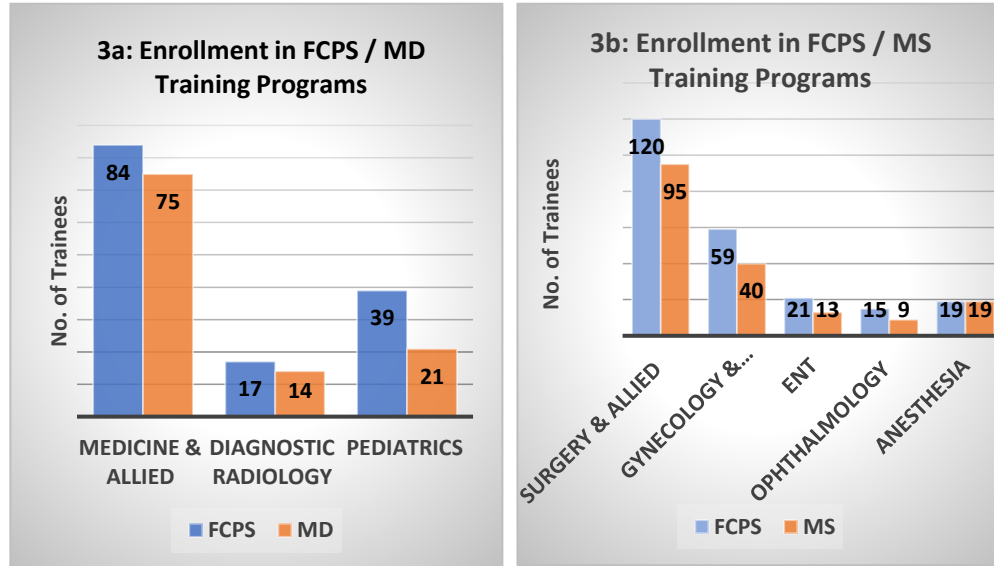
About 44.9% and 55.1% were male and female trainees respectively. Majority (189) trainees were enrolled in Surgery and Allied program as illustrated below in Fig 2.

Fig 2 No: Trainees enrolled in different training programs



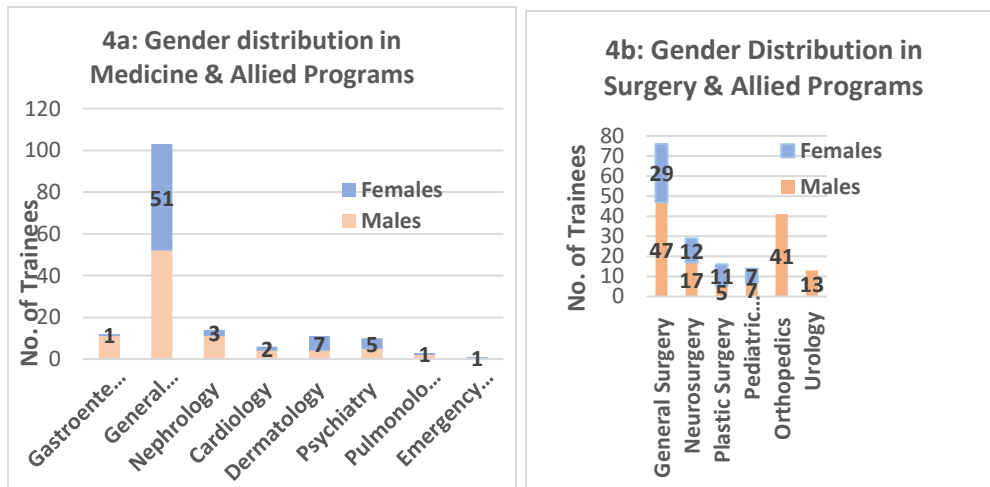
Relatively more trainees in our hospitals were doing training in FCPS programs as depicted below in Fig 3.

Fig 3a & 3b: Comparison of trainees enrolled in FCPS / MS / MD training programs



Gender distribution of postgraduate trainees in Medicine & Allied and Surgery & Allied departments is illustrated below in Figure 4a and 4b.

Fig 4a & 4b: Gender-wise distribution of trainees in various training programs



Difference in opting FCPS or MS /MD program for postgraduate training with respect

to Medicine and Surgery & Allied disciplines among trainees was statistically insignificant ($P > 0.20$). On the other hand, gender-based difference among trainees in getting enrolled in Medicine & Allied specialties than those of Surgery & Allied programs was statistically significant ($P < 0.05$) as shown below in Table 1.

Table 1: Gender-based difference in opting Medicine / Surgery & Allied specialties

Gender	Training Programs		Total
	Surgery & Allied	Medicine & Allied	
Males	130	89	219
Females	59	71	130
$X^2 = 6.4$		$P < 0.05$	349

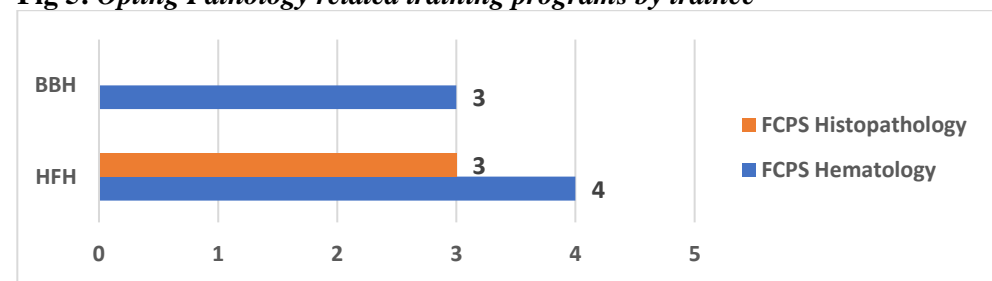
Table 2: Gender distribution of trainees enrolled in Programs other than those of Medicine / Surgery & Allied

Training programs	Males	Females	Total
Gynecology & Obstetrics	1	98	99
Pediatrics	11	49	60
ENT	20	14	34
Ophthalmology	9	15	24
Diagnostic Radiology	9	22	31
Anesthesia	16	22	38

From 286 trainees doing postgraduate training in other programs, about 99 (34.6%) were enrolled in Gynecology and Obstetrics followed by 60 (21%) trainees of Pediatrics.

Considering the specialties of basic sciences, 5 female trainees were enrolled in FCPS Community Medicine Program while 6 female and 2 male trainees were undergoing FCPS part-II training in Physiology. About 10 trainees were enrolled in Pathology related subspecialties as depicted below in Fig 5.

Fig 5: Opting Pathology related training programs by trainee



DISCUSSION

From 41 orthopedic surgeons undergoing training in teaching hospitals of Rawalpindi, all were males (Fig 4). Likewise, Association of American Medical Colleges (AAMC) on surveying in 2018 illustrated the presence of very few female orthopedic surgeons there (Kalter, 2018). Of the 76 general surgery trainees in our study, females constituted more than one third. This scenario is quite optimistic as this field in the past was subjected to gender discrimination because of lack of mentoring and cultural barriers (Inam, 2020). Working collectively for gender equality with respect to surgeon will prove profitable in long run with improved health prospects of our female patients (Lim, 2021).

In current study, out of 99 Gynecology & Obstetrics trainees only 1 was male. Likewise, majority of the female medical students in United States joined Obstetrics and Gynecology for residency with minimal number of male doctors. Gender biasness here should adequately be addressed to ensure equal participation of both genders in managing maternal and child healthcare (Chang, 2010). Similarly, another survey revealed interest of only 2.7% male doctors in Obstetrics and Gynecology after clerkship that those of 16% female students (Hammoud, 2006). Male students opined that their bad clerkship experience was primarily attributed to their gender. In addition, they were able to take history and do physical examination of insignificant number of patients (Chang, 2010). No doubt, this specialty is associated primarily with childbirth and various reproductive system related disorders; male doctors across the globe are also opting this specialty now to work as fertility specialist in future. Similarly on reviewing Physician specialty data report of AAMC, about 86.4% of female residents were enrolled in Gynecology & Obstetrics residency program (AAMC, 2023).

Although infant mortality rate of Pakistan is 56.9 deaths / 1000 live births that depicts about 1.9% decline than that of 2021 (Macrotrends, 2022), yet vigorous pediatric and neonatal healthcare facilities are deemed necessary for achievement of relevant Sustainable Development Goals (SDGs) by 2030 (WHO). Number of trainees enrolling in Pediatrics despite the availability of 3 teaching hospitals is quite meager. Even the pediatricians getting residency across the globe showed a drastic reduction during 2015-2020 (Vinci, 2021). Only 14 pediatric surgery residents till now are getting trained in our set up and more or less 70% seats of pediatric subspecialties during 2020 were filled for postgraduation in USA (Vinci, 2021). Strategies need to be devised to enhance the trainees in this discipline for improvement of infant neonatal and child healthcare.

Out of 635 total trainees from RMU affiliated teaching hospitals, about 57.1% were doing FCPS part-II training in various specialties. Getting enrolled in FCPS part-II training in Pakistan has been deliberated on various forums quite tedious due to

difficulty in fulfillment of selection criteria in addition to scarcity of CPSP approved supervisors. No doubt College of Physicians and Surgeons Pakistan (CPSP) is offering quality training through its recognized institutes, however; it is imperative to increase the FCPS part-I validity to 5 years in addition to relaxing the criteria for CPSP supervisors in order to ensure the enrollment of candidates against allotted number of seats (Sidhu, 2022). Despite the obstacles in getting FCPS part-II training, our teaching hospitals are having proportionately more CPSP enrolled trainees that negates the objection raised by Sidhu SM et al in the editorial.

Although FCPS trainees in our clinical programs are relatively more than those of MS / MD residents; yet equal number of trainees were registered for both FCPS and MS Anesthesia program. Structured MS / MD programs were launched at Rawalpindi Medical University in 2017 for its smooth execution in all 3 teaching hospitals and achievement of desired objectives (RMU). In current study, newly commenced training program in Medicine & Allied programs are those of MD Emergency Medicine and Pulmonology meant to get acquisition of the trainees with all essential skills (Fig 4b).

In a cross-sectional study among final year students of Medical and Dental University of Lahore disclosed the intention of students to avail career opportunities in western and gulf regions of world after graduation. The predominant reason for the migration abroad was country-wide economic distress. Some also blamed CIP for brain drain (Shaikh, 2018). Likewise, another cross-sectional study among medical students as well as house officers for unveiling the problems associated with postgraduate medical training were quite disappointing (Riffat, 2020). This pessimistic state of the affairs should formally be discussed for betterment in future.

RECOMMENDATIONS

Less number of trainees enrolled in Pediatrics, Anesthesia, radiology, ENT and Ophthalmology despite more than one unit available for training. One of the criteria for finalizing the merit in Central induction of trainees in Pakistan is the experience of periphery the fulfillment of which might be quite cumbersome specially for female candidates. Managing the prevailing inflation and relaxing the selection criteria as specified in Central Induction Policy of Punjab can serve the purpose by enrollment of more trainees in our teaching institutes particularly in neglected disciplines and hence diminution of brain drain.

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