



Original Article



Gender Predilection in Post-Graduation among Dental House Officers in a Public Tertiary Care Hospital

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ABSTRACT

Pakistan is characterized as a developing nation with 25000 registered dentists. Confronting issues as the demand and dental needs are rising, so grasping the knowledge for career choices is vital. **Objectives:** To determine the Post-graduate career choices and factors involved in career selection by gender among dental house officers in a public tertiary care hospital. **Methods:** This cross-sectional study was conducted at the Dow University of Health Sciences, Karachi, for six months using a convenient sampling technique by Self-administered questionnaire after consenting from the administration and house officers while maintaining privacy and approval from the Ethical Review Board. A sample size of n=82 was calculated at 50% proportion keeping the confidence limit at 10 using Open Epi Software Version 3.01. House Officers were inducted except those who had a gap of more than one year after graduation. Using SPSS version 28.0, the mean and standard deviation for numerical data were calculated for categorical data. **Results:** There were 11 (13.1%) male and 73 (86.9%) female. Male 10 (90.9%) and female 64 (87.7%) opted for post-graduation. Both genders opted for Oral Surgery and Restorative dentistry. In male, 11(100%) wanted clinical dentistry while 52(71.3%) female wanted it, 9 (12.3%) health management, 3 (4.1%) academics, 2(2.7%) business rest were undecided. **Conclusions:** Clinical dentistry and FCPS exams were chosen irrespective of gender and marital status. Among female Oral Surgery and Restorative Dentistry while in males Oral Surgery, Restorative Dentistry and Orthodontics departments were favoured.

INTRODUCTION

Over time dental students' career choices are sprouting. Studies have demonstrated and recommended earlier that factors for career selection among dentists modify by time and among nations, and understanding the current aspirations and perceptions of students is vital for the healthcare system leading to health policies for education and post-graduation [1]. In Karachi, 810 students pass out amongst 13 colleges. Information on dental graduate's inclination towards specialization is still scanty [2]. In many developed countries in the past quarter of the century

female gender has considerably increased in the field, especially in Germany, Finland and Turkey where more than half were female [3]. Research in Saudi Arabia that more than half of both genders wanted to continue postgraduate studies [4]. However large dental cohort alone is not an assurance towards high quality dental care system until proficiencies and expertise are attained [5]. Studies in Australia and New Zealand reinforce previous research with this concept that practice and experience an essential step for graduating dental students [6]. In Turkey



equilibrium is maintained when it comes to specialization among dentists as female opt equally for it [7]. In China, no difference was seen by gender to specialization [8]. Another study in Karachi in private and public institutes showed that intentions to specialize after graduation and choice of specialization are diverse. Cultural factors in the locality affect these choices among graduates [9]. A study in Saudia displayed that in male Endodontics, Prosthodontics and Orthodontics have favoured choices while in female's Restorative Dentistry, Prosthodontics, Orthodontics and Surgery were popular [1]. Persuasion by close family members and less rigid working hours, lower on-call requirements and maintaining work-life balance were some of the major factors considered by female to continue into dentistry [10]. A study in Turkey showed gender differences where 33% of male but 67% of female wanted to continue humanitarian service [7]. Due to the massive number of females in the field who were prospectively viewing their careers based on family life hence adjustable work timings for specialization was another dominant factor quoted by a study in South Africa [11]. It is of supreme significance to recognize what motivates dental students while accelerating their career pathways, which specializations they prefer to choose and their satisfaction with this field [12]. Researching these house officers their assessment, and gender differences professionally is essential for academic palaces and those in policy-making to attenuate the hurdles faced by dentists. This will safeguard the dental cohort and keep them enthused, prepared and stimulated for their career-related endeavors [13]. Less studies have been conducted locally and internationally on future career choices and their determinants [1]. It is superlative to conceive the attitude by gender to propel institutes and policy settings for attenuating barriers among dentists. This will assure a future professional cohort that is equipped to handle health system dynamics [13].

Despite the increasing number of dental graduates in Pakistan, limited local evidence exists regarding gender- and marital status-based differences in postgraduate career preferences among dental house officers, particularly in public sector institutions. Previous studies have inadequately explored how sociocultural, professional, and personal factors shape specialization choices in this population. Therefore, this study aimed to assess gender-wise postgraduate career preferences, specialty choices, and influencing factors among dental house officers to support workforce planning and policy development.

METHODS

A cross-sectional study was conducted for six months from 31 Oct 2023 to 31 Mar 2024. among dental house officers

working at Dow University of Health Sciences, Karachi. Approval was taken from the Ethical Review Board with reference no: DME/2023/DCE/G-09761. Prior informed consent was taken from all participants. The principal researcher visited the respective hospital departments after consenting from the administration and arranging time with the participants. Data were collected by utilizing a convenient sampling technique however individuals who were absent and completing house jobs after a gap of more than one year of graduation were excluded along with undergraduates. Both male and female house officers who were graduates only from the respective Public Medical colleges were included in the study. Basic objectives were detailed to the participants and they were assured that privacy will be maintained and how the research will be used. Sample size was calculated at 50% proportion keeping the confidence limit at 10 using Open Epi Software Version 3.01. After taking a 20% dropout rate our total sample size was 82 house officers. The relevant researches were downloaded, consulted and in the light of accepted scientific literature questionnaire was formed. Students rated the factors on a three-point Likert scale; Agree, neutral or disagree. The responses from the participants were entered into a Microsoft Excel worksheet and then coded, cleaned, double-checked and analyzed using SPSS (Statistical Package for Social Sciences) Version 28.0. The normality of the distribution of continuous variables was tested by the Shapiro-Wilk test. Univariate analysis was carried out to present an overview of the findings from the study. Frequency and percentages were used for categorical data. For association chi square was used. p-value less than 0.05 was taken as significant.

RESULTS

Out of the total 84 participants, 11 (13.1%) were male house officers and 73 (86.9%) were female house officers. When seen by marital status 8 (9.5%) were married and 69 (82.2%) were unmarried and 7 (8.3%) were engaged. Among male, 11 (100%) had started searching for programs while among female, 59 (80.8%) had begun while 14 (19.2%) had not. p-value=0.012 Among the married, 4 (50%) had begun searching while the remaining had not, in unmarried 60 (87%) had started it while 9 (13%) had not, in engaged 6 (85.7%) had begun while 1 (14.3%) had not. p-value=0.124. Specialization preference by gender is displayed in table 1.

Table 1: Postgraduate Specialty Preference by Gender

Variables	Male	Female	p-value
	n (%)		
Special Care Dentistry	1 (9.1%)	4 (5.5%)	0.001
Oral Surgery	6 (54.5%)	37 (50.7%)	0.811
Orthodontics	6 (54.5%)	10 (13.7%)	0.001
Pediatric Dentistry	2 (18.2%)	9 (12.3%)	0.592
Endodontics	5 (45.5%)	19 (26%)	0.184

Periodontics	2 (13.3%)	13 (17.8%)	0.976
Prosthodontics	3 (27.3%)	11 (15.1%)	0.311
Restorative Dentistry	6 (54.5%)	28 (38.4%)	0.308
Dental Public Health	3 (27.3%)	10 (13.7%)	0.246
Oral Medicine	4 (36.4%)	9 (12.3%)	0.040
Oral and Maxillofacial Pathology	3 (27.3%)	12 (16.4%)	0.642
Dental and Maxillofacial Radiology	2 (18.2%)	4 (5.5%)	0.295

When seen by gender with regards to future career side it was seen that among male, 11 (100%) wanted to move to Clinical dentistry while none of them chose for Academic side, Health Management, Business or undecided option. Among female, 52 (71.3%) went for clinical dentistry, 9

(12.3%) health management, 2 (2.7%) business, 3 (4.1%) academics and the rest were undecided. p-value=0.481. Among married, 5 (62.5%) wanted Fairfax County Public Schools (FCPS) remainder were taking foreign exams. Among unmarried, 39 (56.5%) voted for FCPS, 7 (10.1%) were undecided, and 23 (33.4%) were attempting foreign exams. In female, 41 (56.2%) were willing for hospital jobs, 13 (17.8%) in private practice, 10 (13.7%) in government jobs, 8 (11%) NGO and 1 (1.4%) in basic sciences. Reasons for Post-Graduate Specialization by gender have been displayed in table 2.

Table 2: Reasons for Postgraduate Specialization

Reasons	Male			Female			p-value
	Agree	Neutral	Disagree	Agree	Neutral	Disagree	
	n (%)			n (%)			
Financial	5 (45.4%)	3 (27.3%)	3 (27.3%)	29 (39.7%)	25 (34.3%)	19 (26%)	0.235
Clear in Career	5 (45.4%)	3 (27.3%)	3 (27.3%)	37 (50.7%)	28 (38.4%)	8 (10.9%)	0.363
Advised by Family	4 (36.4)	4 (36.4%)	3 (27.3%)	30 (41.1%)	17 (23.3%)	26 (35.6%)	0.838
Family and Friends Expectations	6 (54.5%)	5 (45.5%)	0 (0%)	32 (44%)	23 (31.4%)	18 (24.6%)	0.064
Work Independence	7 (63.6%)	3 (27.3%)	1 (9.1%)	43 (59%)	24 (32.8%)	6 (8.2%)	0.966
Personal Interest	5 (45.5%)	4 (36.4%)	2 (18.1%)	57 (78.1%)	9 (12.3%)	7 (9.6%)	0.04
For Community	7 (63.6%)	4 (36.4%)	0 (0%)	44 (60.2%)	18 (24.7%)	11 (15.1%)	0.357
Talent in the Field	5 (45.5%)	2 (18.1%)	4 (36.4%)	38 (52.1%)	27 (37%)	8 (10.9%)	0.013
Social Status	6 (54.5%)	3 (27.3%)	2 (18.2%)	34 (46.6%)	29 (39.7%)	10 (13.7%)	0.942
Rewards	6 (54.5%)	2 (18.2%)	3 (27.3%)	34 (46.6%)	22 (30.1%)	17 (23.3%)	0.497
Low Stress	2 (18.2%)	2 (18.2%)	7 (63.6%)	21 (28.8%)	22 (30.1%)	30 (41.1%)	0.202
Flexible work schedule	6 (54.6%)	2 (18.2%)	3 (27.2%)	33 (45.2%)	23 (31.5%)	17 (23.3%)	0.851
Early Settlement	5 (45.5%)	3 (27.3%)	3 (27.3%)	29 (39.7%)	28 (38.4%)	16 (21.9%)	0.207
Job Availability	4 (36.4%)	2 (18.2%)	5 (45.5%)	32 (43.8%)	23 (31.5%)	18 (24.7%)	0.01
Good Opportunities	4 (36.4%)	4 (36.4%)	3 (27.2%)	34 (46.6%)	28 (38.4%)	11 (15%)	0.615

Findings depict the future career preference among married, unmarried and engaged participants. When seen by Marital status in future career preference, results are shown in figure 1.

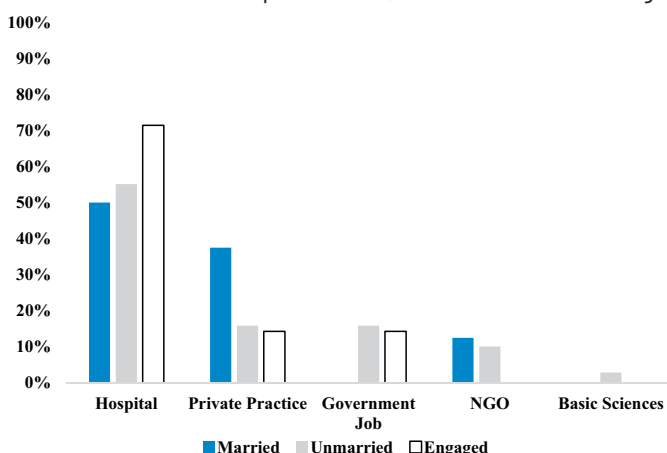


Figure 1: Future Career Preference by Marital Status (%)

When inquired if the rising number of medical colleges is a threat, 11 (100%) male agreed while in female, 50 (68.5%) agreed. The remaining 23 (31.5%) disagreed. p-value=0.05. When investigated regarding continuation immediately post house job, 11 (100%) male was affirmative whereas, in

female, 67 (91.8%) agreed while 6 (8.2%) negated. p-value=0.324. Regarding the need for career counselling among male, 9 (81.8%) agreed while 2 (18.2%) disagreed. While female, 62 (84.9%) accepted it and 11 (15.1%) did not feel the need for it. p-value=0.790. When assessed if sufficient postgraduate perspectives were present among male, 4 (36.4%) agreed while 7 (63.6%) denied it. In female 22 (30.1%) perceived it while 51 (69.9%) denied it. p-value=0.677. When asked about field saturation, 9 (81.8%) males stated it while 2 (18.2%) gave contrary answers. When seen by marital status among unmarried, merely 2 (2.8%) stated parents will not approve Post-graduation while 67 (97.2%) did not have this issue. Among married, 8 (100%) and engaged 7 (100%) denied any such issue. (p-value=0.979) When inquired if disapproval for post-graduation would come from in-laws, 8 (100%) married and 7 (100%) engaged denied any such issue. (p-value=0.896). The same results among married and engaged were received when husband disapproval was inquired. (p-value=0.954).

DISCUSSION

If the dental workforce is to be managed it needs a thorough understanding of graduating student's perceptions and presumptions about post-graduation, specialization and career as recommended by previous studies [1]. The choice of career in the long term affects the behaviour, outlook, earnings and societal interactions [14]. Specialization selection is significant for the maintenance of dental pools [15]. In our study most participants were female. A study on dental students in Germany, Finland and Turkey demonstrated that 55.2% in Germany, 61.5% in Finland, and 69.2% in Turkey were female students [3]. A recent study in Saudia showed that 62% of the participants were female, which demonstrates that female were more likely to opt for this field [16]. The study in Rawalpindi also reflected the same with three-quarters of female participants [17]. However, a study in Trinidad found no connection of gender with post-graduate career selection [11]. This was similar to our research where no statistically significant association was found. Both genders agreed that Post-graduation is a necessity similar findings were seen by marital status. Likewise, most participants irrespective of gender and marital status planned for post-graduation. A study in Turkey stated resembling results with 69% stating post-graduation a necessity [7]. Another research showed a similar ratio of male and female intended to go into a speciality [8]. In our study, both genders mostly preferred Clinical Dentistry. Female, showed a predilection for Health Management and Academics side as well. In both genders, Hospital jobs were most preferred followed by private practice and government jobs. In China study revealed career selection varies among genders [8]. Research in Pakistan demonstrated that in the Public sector, university jobs and research females were more inclined than male in Private practice, defence and Healthcare Management [13]. A study in Turkey showed that 64.1% of male and 69.4% of female intended to work in some institute or hospital or someone else work workplace, whereas 22.9% male and 12.7% female planned to start their clinical practice [7]. In our study male's Oral Surgery, Orthodontics and Restorative surgery while female's Oral surgery, Restorative surgery and endodontics were favoured choices. Simulating findings came from a study in China where among males 63.6% wanted to go for Prosthodontics, 52.3% for Maxillofacial and Oral surgery and 43.2% for Orthodontics. In female 58.6% chose Orthodontics, 56.6% planned for Prosthodontics and 40.7% Periodontics [8]. Another research in Saudia segregated by gender choices that among female 17.8% chose Restorative dentistry, 13.8% chose Orthodontics, Prosthodontics and surgery. Lowest on the list were Oral biology and Radiology. In male, endodontics was favored by 19%, 18.1% Stated Prosthodontics and 14.6% Orthodontics. Oral Biology, public health and Pathology were the lowest on the list [1]. Among male work independence, serving the

community and social status were the most quoted reasons for continuation while in female's interest, serving the community and work independence were the most dominant reasons. This was similar to a study where females narrated altruistic reasons more compared to male as the basis for continuation [7]. Further study elicited that a prominent reason for continuation was minimum on-call duty [10]. and family-related obligations [18]. Job security was another factor affecting career choice [11]. In another study in Saudia, patient affiliation was observed in both genders equally, one-third were convinced by close ones and time duration of training, and community benefit were other prominent reasons stated by both genders. Males mentioned more job benefits, salary, adjustable timings and personal skills as compared to female [1]. The majority of female in our study agreed to the influence of a mentor. A recent study in Turkey also found the same that personal liking was the main reason, however, influence by mentors, parents, senior professionals and supervisors was also noted [7]. Another study added an interesting angle where most female 68% wanted to do their work on the same gender whereas 97.7% of male did not show any gender predilection for performing dental procedures [16]. Research at Cornell University pointed that male overrated their working capabilities and female undervalued their performance at work [19]. This is further evidenced when a study displayed that male even with less than standards or requisite criteria went for jobs or promotions and female only did it if they fulfilled all criteria [20]. Our study had an imbalance of gender although the entire batch was inducted. However, this has been an issue in recent studies [18]. Single public tertiary care hospital was included which limits generalizability along with the cross-sectional nature of the survey. To our knowledge, very few studies have been conducted based on gender and marital status when viewing career selection. Data was personally collected by the primary investigator. Perceptions and determinants for future post-graduation will provide information to academicians and policy setters about educational framework, students satisfaction, their plans and requirements [21]. Once factors affecting career decisions are known policy policymakers can fix, carve and develop the essentials for curriculum and training. This will form a conduit among the house officers and the professional arcade [8]. Upgradation of the health system cannot be achieved unless equivalent steps are taken for research, curriculum and education irrespective of gender. Further studies and research need to be done to cover gender prejudices, financial gains, job promotions, specializations, job needs and mentorship available in the market [16]. Studies have suggested that new graduates in dentistry should be observed for a long time as it gives an idea of the working personnel and for future planning [16]. This study was limited by its single-center design, small sample size, convenience sampling, and significant female predominance, which may restrict generalizability to

broader dental populations. The cross-sectional nature also limits understanding of long-term career progression and changing preferences over time. Future multicenter longitudinal studies with larger, more balanced samples are recommended to explore evolving career trajectories, mentorship access, financial influences, and systemic barriers affecting postgraduate specialization decisions among dentists.

CONCLUSIONS

It was concluded that by gender and marital status most opted for FCPS exam and hospital-based jobs, clinical dentistry while in female health management was also of interest, Oral Surgery and restorative dentistry were opted for by both while Orthodontics by male.

Authors' Contribution

Conceptualization: AS, SHD

Methodology: AS, SHD, AKH

Formal analysis: AKH

Writing and Drafting: AS, SHD, NF, FP, AM

Review and Editing: AS, SHD, NF, FP, AM

All authors approved the final manuscript and take responsibility for the integrity of the work

Conflicts of Interest

All the authors declare no conflict of interest.

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