

EXPLORING POTENTIAL CAREER CHALLENGES AND ASSOCIATED FACTORS INFLUENCING DENTAL STUDENTS, HOUSE OFFICERS AND RESIDENTS IN A PUBLIC SECTOR UNIVERSITY, KARACHI PAKISTAN - A CROSS-SECTIONAL STUDY

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ABSTRACT

Objectives: To find out dental students' opinions about their future career challenges in the dental profession, and to recognize factors associated with career challenges faced by dental students, house officers, and residents in a public sector university, Karachi.

Materials and Methods: A cross-sectional study was conducted at Sindh Institute of Oral Health Sciences on dental undergraduate, graduate, and postgraduate students currently enrolled at Jinnah Sindh Medical University in November and December 2023. Participants were asked to complete a closed-ended questionnaire on a 5-point Likert scale specifically designed to record relevant items about their career challenges. The data was then analyzed through SPSS version 24.

Results: A total of 163 people participated in the study with the majority being females (63.8%, n=104), the majority from second-year BDS (23.9%, n=39) with most scoring below 80% academically. Both parents had a university education (52.5%, n=171) and a monthly income of more than 80,000/=PKR (58%, n=94). The majority reported facing difficulty in securing a job in the government sector (74.2%), local postgraduate course (77.9%), postgraduate courses abroad difficult and expensive (68.1%) and quackery may affect their job prospects negatively (69.3%). The factors that showed positive association included "facing competition for government sector jobs" and "the difficulty of obtaining a job as a lecturer" at p-value=0.05.

Conclusion: Young dentists perceive finding jobs in the public sector and getting admission to postgraduate courses as difficult in comparison to getting hired at a private clinic. All these hindrances can be avoided by arranging job fairs and career counseling sessions for students and graduates.

KEYWORDS: Career Choice, Motivation, Goals, Specialization, Workforce

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INTRODUCTION

Dentists are an important member of the licensed health care workers. ¹ It is essential for dental students to comprehend their career goals and expectations so that, when possible, students can be used in the delivery of

healthcare. ² Most of the prior research has indicated that dentists seldom alter their careers. ³ Both the decision to choose dentistry as a career and the practice of dentistry hold a significant place in the service of society. This choice could be crucial in a person's life and could have an impact on his or her own social and economic standing. ⁴

Dentistry is a popular profession choice due to its ease of employment, self-employment, and well-compensation in comparison to other fields, but this might not be as simple as it seems. Several studies showed that when healthcare professionals first enter the workforce, they commonly encounter several challenges. ⁵⁻⁷ Any stage of

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a dentist's career can be challenging in terms of making career decisions, but at the moment, young dentists may be particularly worried about the lack of primary care jobs and the ongoing changes to hospital career pathways.⁸

A study was conducted in China, in which only a small proportion of final-year students, specifically 4.7%, expressed a high level of confidence in securing an ideal job opportunity upon graduation.

On the other hand, 40.9% stated that they did not find it challenging, while a majority of students, amounting to 54.4%, considered it difficult to find their desired job immediately after completing their studies. When asked about the main reasons for facing job search difficulties, the leading factor was the limited availability of employment opportunities, cited by 43% of respondents. Following closely was the lack of work experience, mentioned by 40.9% of students.

Having only an undergraduate degree was also the most significant obstacle, with 26.8% of students acknowledging its impact.⁹ Similarly a study conducted among dental students at the University of Jordan, participants were asked whether they would pursue dentistry again as a career given a second chance. The findings revealed that 33.3% of the students, particularly those in their fifth year, expressed their reluctance to join the dental profession. The primary reasons cited for this decision included limited job prospects, high levels of stress, insufficient social interaction, and the challenging coursework associated with dentistry.⁷

Several studies in Pakistan have studied the attitudes and motivation of students to pursue dentistry as a career showing that the decision and career choice of the parent play a major role in selecting dentistry as a career.¹⁰⁻¹³ Other than that stable job, the ability to help others and the nature of dentistry being challenging and interesting motivated students to follow it.¹¹

Furthermore, two studies explored the challenges of fitting in and motivating dental students. They found that 51% of the students suffered from the imposter phenomenon leading to anxiety and depression. In contrast, the other study assessed the motivation to follow dentistry as a career reporting that 51.5% showed interest in further adding postgraduate degrees in dentistry.^{12,13}

This shows the knowledge gap that exists regarding the career development of dental professionals in Karachi, Pakistan. Existing studies lack specificity, and details and fail to capture local background dynamics leading

to de-motivation, burnout, and depression in dental students. To address this, a cross-sectional study will explore potential career challenges and associated factors faced by dental students, house officers, and residents and will bridge the knowledge gap that existing limited research has formed about challenges faced by them in the local context.

The study's insights will inform tailored career development strategies that will aid the students and residents in choosing a relevant path for professional growth and career choices.

MATERIALS AND MATHODS

A cross-sectional study was conducted at Jinnah Sindh Medical University, Karachi during November, and December 2023 through a structured questionnaire to collect data from the undergraduate dental students, house officers, and residents of the constituent dental institute, Sindh Institute of Oral Health Sciences (SIOHS).

The determination of the sample size for this study involved the application of selected statistical methods. The total target population at the Sindh Institute of Oral Health Sciences (JSMU) is 282 individuals.

To calculate the prevalence of potential career challenges and associated factors influencing dental students, house officers, and residents, which is estimated at 50%,⁽¹⁷⁾ while maintaining a margin of error of 5% and a confidence level of 95%, a sample size of 163 participants was calculated using the reputable online calculator provided by Open Epi.

Inclusion criteria comprised undergraduate dental students (all 4 years), dental house officers, and dental residents of SIOHS of male and female genders aged between 18 to 30 years from any religion, caste, creed, and socio-economic background. While the teaching and non-teaching dental faculty were excluded. Furthermore, non-willing participants and interns graduating from other institutes were also not included.

The questionnaire consisted of section one of the questionnaire had screening questions related to the career challenges and associated factors influencing dental students, house officers, and residents will be included in section two of the questionnaire. The questionnaire consists of closed-ended questions.

It was developed after studying two articles published on the same topic.^(5,17) A five-point Likert scale was used for these items. In addition, the questionnaire

inquired about the demographic data from study participants. Reliability and validity were calculated from the pilot study on 10% (16 participants) sample population after getting permission from the IRB. The face validity was adequate and Cronbach's Alpha was calculated to be 0.69 which was good.

Convenience sampling was followed, and students were approached in the departments of posting and classes and informed about the aims, and objectives of the study. Those who consented were asked to complete the questionnaire. Incomplete forms were removed as part of the protocol. Data was entered in the SPSS ver.26. and analyzed.

RESULTS

The study encompassed 163 participants aged 18 to 31, with a predominant representation of females (63.8%, n=104) with male to female ratio of 1:2. In terms of academic progression, a notable proportion was in the second year (23.9%, n=39), and the majority were single (88.3%, n=144). Academic performance predominantly fell within the below 80% range (50.9%, n=83), while a significant portion had parents with university education (52.5%, n=171). Monthly income distribution revealed a substantial majority earning more than 80,000 PKR (58%, n=94) (Table 1).

Table 2 shows the responses of dental students. The survey responses reflect various sentiments among participants regarding their career prospects in dentistry. Notably, a significant portion (74.2%) expressed concerns about facing competition in securing a job in the government sector. Likewise, a substantial number (77.9%) perceived the process of enrollment in postgraduate training programs (residency) in Pakistan to be highly competitive. Additionally, a notable majority (68.1%) believed that obtaining admission into a postgraduate program abroad would be both competitive and expensive.

On the other hand, participants were less apprehensive about certain aspects, with 71.8% expressing confidence that lack of experience would not pose a significant obstacle in finding a new job. However, concerns about the potential negative impact of quackery on job opportunities for dentists were shared by a considerable proportion (69.3%).

Table 3 shows the association of different factors faced as career challenges by students, and graduates shows that there is a substantial increase in the perception of facing competition for government sector jobs

from the first to the second year (44% to 82%, $p=0.05^*$). Similarly, the belief in the difficulty of obtaining a job as a lecturer showed a significant increase in the second year compared to the first (41% to 54%, $p=0.05^*$). While trends were indicating increased difficulty in finding jobs and establishing private clinics in later academic years, these differences did not reach statistical significance.

DISCUSSION

Dentistry is a skill-based profession requiring hard work over the years. Motivation and will to invest prime time of your life for progress and promotion in the field is the driving force. Previous, studies have discussed the motivational factors that affect their choice of this field. In the current study, we have explored the perceptions of students regarding problems they may face after joining dentistry which includes the job prospects, postgraduation opportunities, and work and life balance. Other than that, we have also, asked them about their opinion on the gender stereotypes in the field.

We found that most of the students thought that finding a job in a private clinic is relatively easy (59%) than securing one in the public sector (74%) or as an academic lecturer (54%). Furthermore, they thought that establish-

Table No 1: Demographic data of the participant

Variable	Distribution of Participants
Age	18-31 years of age(n=163)
Gender	Males=36.2% (n=59)
	Females=63.8% (n=104)
Year of study	First Year=16.6% (n=27)
	Second Year=23.9%(n=39)
	Third Year=17.8% (n=29)
	Fourth Year=15.3%(n=25)
	House Officers=17.2%(n=28)
	Residents=9.2%(n=15)
Marital Status	Single=88.3%(n=144)
	Married=2.5%(n=4)
	Engaged=9.2%(n=15)
Academic scores	Below 80%(n=83)
	b/w 80-90%(n=57)
	Above 90%(n=23)
Education of Parents	No school education=8(n=326)
	School education=32(n=326)
	College education=102(n=326)
	University education=171(n=326)
Monthly income	Less than 30,000 PKR=1%(n=3)
	30,000-50,000 PKR=12%(n=19)
	50,000-80,000 PKR=29%(n=47)
	More than 80,000 PKR=58%(n=94)

Table No 2: Comparison of responses from different career stages

Item	Positive Responses (%)	
	Agreed	Disagreed
Q1. I think I will have difficulty in finding a job in a private hospital / clinic	41.1	59
Q2. I will face competition in getting a job in the Government sector	74.2	25.8
Q3. It will be tough to get the job of a lecturer in any academic institute	54	46
Q4.It will be a challenge to establish my own private dental practice / clinic	63.8	36.2
Q5.The level of competitiveness is very high to get enrolled in the post graduate training program (residency) in Pakistan	77.9	22.1
Q6.It will be very competitive and expensive to get an admission into a post graduate program abroad	68.1	31.9
Q7. It will be very hard to get an internship in a reputable hospital.	38	62
Q8.It is difficult to achieve the balance of work and life	39.9	60.1
Q9.I perceive that financial instability may act as an obstacle while pursuing a career in dentistry	60.1	39.9
Q10.I believe societal expectations and stereotypes will influence gender disparities in the field of dentistry.	48.5	51.5
Q11.I believe that lack of experience in the field of dentistry will be a big obstacle in finding a new job	71.8	28.2
Q12.I believe the rise of quackery will negatively impact job opportunities for dentists.	69.3	30.7

Table No 3: Association between different factors affecting

Item	Positive Responses (%)						p-value
	1st Yr	2nd Yr	3rd Yr	4th Yr	House Officers	Residents	
Q1. I think I will have difficulty in finding a job in a private hospital / clinic	6	8	7	7	8	5	0.946
Q2. I will face competition in getting a job in the Government sector	7	20	15	13	12	7	0.001**
Q3. It will be tough to get the job of a lecturer in any academic institute	7	13	10	7	10	6	.101
Q4.It will be a challenge to establish my own private dental practice / clinic	8	17	13	11	9	6	0.274
Q5.The level of competitiveness is very high to get enrolled in the post graduate training program (residency) in Pakistan	10	19	15	12	14	7	.139
Q6.It will be very competitive and expensive to get an admission into a post graduate program abroad	7	17	12	12	13	6	.009*
Q7. It will be very hard to get an internship in a reputable hospital.	7	10	7	5	7	2	.789
Q8.It is difficult to achieve the balance of work and life	6	7	7	8	8	4	.633
Q9.I perceive that financial instability may act as an obstacle while pursuing a career in dentistry	9	16	10	10	10	6	.690
Q10.I believe societal expectations and stereotypes will influence gender disparities in the field of dentistry.	9	7	11	7	11	4	.05*
Q11.I believe that lack of experience in the field of dentistry will be a big obstacle in finding a new job	12	15	14	12	12	6	.838
Q12.I believe the rise of quackery will negatively impact job opportunities for dentists.	12	14	13	11	13	7	.785

ing a private clinic was relatively difficult (64%). In comparison, to the previous study conducted in the Kingdom of Saudi Arabia, they reported the preference of students to work in jobs in different areas. The results show that the majority wanted to work as dentists in the public sector (39.5%) followed by dentists in the private sector (24%).

¹⁴ Another study from KSA showed that students felt they

would have difficulty in finding a job in the Ministry of Health (62%) and Armed Forces hospitals (61%) and establishing their clinic (64%). ⁵

When asked about their chances to get admission in postgraduate courses we found that 78% agreed that it is difficult. Similarly, the previously mentioned studies

report the same.^{5,14,15} One of the important findings from India from a study conducted during the COVID pandemic was the graduates wanted to switch their fields to business administration (47%) due to a reduction in employment opportunities (65%).¹⁵

The other findings from our study included that the participants did not feel that there was a disparity due to gender (51.5%) which hindered anyone from pursuing a career in dentistry. While majority agreed with the notion that experience is a required essential to thrive in the field (72%) and financial stability may hinder their choice to work in the field (60%). Furthermore, a majority agreed that quackery affects job opportunities in the field negatively (69.3%).

The second objective was to find out the factors associated with the opinions across different stages of the career and we found that only 2 items showed association significant at the level of 0.05 and 1 at the level of 0.001. The item "I will face competition in getting a job in the Government sector" showed the highest responses from 2nd-year students (n=20) which was significant at the level of 0.001. "It will be very competitive and expensive to get an admission into a post-graduate program abroad" and "I believe societal expectations and stereotypes will influence gender disparities in the field of dentistry" also showed positive association at the level of 0.05. These results cannot be compared with any previously published literature due to the scarcity of available material.^{5,14,15}

The results from the current study showed that the students consider government jobs hard to secure along with postgraduate opportunities abroad. The financial limitations may hinder them to further pursue careers including postgraduate courses to upgrade their current skills. The same can be the reason behind establishing a private clinic. Another reason can be the lack of experience in the field to run a clinic as per their replies.

As indicated by our study several factors may result in a challenge for the newly graduated dentist. Thus, they require career counseling to help them work their way through the problems. They should be explained about local and international postgraduate programs, available and possible abroad job opportunities, and placement processes. They should also be informed about the available scholarship opportunities, requirements, and procedures.¹⁶ This may also help them recognize the best specialty according to their interest.¹⁷ In a similar vein, students see guest speaker events favorably because they give students firsthand knowledge of the practical side of the industry through the sharing of personal experiences and career recommendations, and because they allow for real-world learning opportunities. (19) Similarly, career fairs are tactics that help students better understand their career goals, increase their chances of landing a job, and network with industry professionals. (20,21) As a result,

dental colleges should create career counseling programs, host guest speaker events, and plan career fairs to guarantee that their students are as prepared as possible for the workforce.

The outcome of all these efforts is skilled motivated professionals who can be part of the healthcare workforce providing quality treatment to the people at large. This will also decrease the burnout rate that dentists face which is the result of the professional being challenging and demanding with constant need to upgrade and improve your skills.²¹

CONCLUSION

The students in the current study perceive that it is difficult for them to secure a job in the public sector, set up their clinic, or secure an international postgraduate program. Though may get employed in local clinics lack of experience can affect all types of opportunities. To guide students to achieve success, career counseling can play a pivotal role. Hence, these services should be arranged for private and public sector students alike.

REFERENCES

1. Vigild M, Schwarz E. Characteristics and study motivations of Danish dental students in a longitudinal perspective. *Eur J Dent Educ*. 2001;5(3):127-33.
2. Sam G, Alghmlas AS, Alrashed MI, Alaskar ZA. Working environment and specialty of choice chosen by the dental students at Prince Sattam Bin Abdulaziz University, Saudi Arabia: A cross-sectional study. *J Int Soc Prev Community Dent*. 2016;6(1):S1-5. doi: 10.4103/2231-0762.181159.
3. Rad FH, Ghaffari T, Hoshyar E. Motivations for choosing field of study among medical and dental students of Tabriz University of Medical Sciences, Tabriz, Iran. *Research and development in medical education*. 2014;3(1):25-9. doi:10.5681/rdme.2014.007.
4. Orenuga OO, da Costa OO. Characteristics and study motivation of clinical dental students in Nigerian universities. *J Dent Educ*. 2006;70(9):996-1003.
5. Fita S, Alshuraim F, Almulhim A, AlHumaid J, Alhareky M, Nazir M. Possible Future Career Challenges and Associated Factors among Dental Students and Interns. *Int J Dent*. 2020;2020:9730125. doi: 10.1155/2020/9730125.
6. Hofler L, Thomas K. Transition of new graduate nurses to the workforce: Challenges and solutions in the changing health care environment. *N C Med J*. 2016 Mar-Apr;77(2):133-6. doi: 10.18043/ncm.77.2.133.
7. Al-Bitar ZB, Sonbol HN, Al-Omari IK. Reasons for choosing dentistry as a career by Arab dental students. *Eur J Dent Educ*. 2008;12(4):247-51.
8. Nayee S, Calvert AP, Gallagher JE. Dental careers: changes, choices and challenges. *Faculty Dental Journal*. 2014;5(4):164-71. doi: 10.1308/204268514X140966867262
9. Zhao L, Sun C, Lv H, Sun Z. Practice plans of and factors

- influencing graduating dental students in China. International dental journal. 2014 ;64(5):233-40. doi:10.1111/idj.12112
10. Kazi FM, Asghar S, Ahmed SA. Attitudes Of Final Year Dental Students Towards Postgraduate Specialization. JBUMDC 2018; 8(4):245-249.
 11. Lone MA, Lone MM, Lone MA, Shaikh MS, Khan F, Soomro AH. Motivational factors for pursuing dentistry as a profession in colleges of Karachi, Pakistan. JPMA. 2020;70:1393. doi:10.47391/JPMA.33126.
 12. Yousuf W, Kazmi SM, Quraeshi S, Khan M. Motivation and future intentions of dental students in Karachi, Pakistan. Pakistan Journal of Medical Research. 2019 ;58(1):26.
 13. Bhatti MU, Ahmed I. Impostor phenomenon: a cross-sectional study of students and house officers from dental teaching institutes of Lahore. Pakistan Oral & Dental Journal. 2019 ;39(3):262-6.
 14. Alnomay NS, Aldebassi B, Alghomlas AD, Alawad FI, Almutari WM. Choice of Dental Specialties among dental students and associated influencing and motivating factors in Saudi Arabia. Journal of Health Informatics in Developing Countries. 2018;12(2):1-20.
 15. Murthy GS, Aithal V, Khan Z, Kavitha M. Dental Interns's Motivation Towards their Professional Career and Perception of Career Path during the Pandemic (COVID-19) in India. International Journal of Drug Research and Dental Science. 2023;5(2):15-22. doi: 10.36437/ijdrd.2023.5.2.C.
 16. Garla B. Career aspirations and reasons for choosing dentistry as a career—a survey of dental students in Gandhi Dental College and Hospital, Bhubaneswar. Annals and Essences of Dentistry. 2011;3(2):108–110.
 17. Azad AA, Rahim S. Effect of career counseling on post-graduate education preferences of dental students. Pak Armed Forces Med J. 2015; 65(5):701–705.
 18. P. F. Merle and C. Craig, "Be my guest: a survey of mass communication students' perception of guest speakers," College Teaching, vol. 65, no. 2, pp. 41–49, 2017.
 19. Perkins DF, Davenport KE, Morgan NR, Aronson KR, Bleser JA, McCarthy KJ, Vogt D, Finley EP, Copeland LA, Gilman CL. The influence of employment program components upon job attainment during a time of identity and career transition. Int J Educ Vocat Guidance 23, 695–717 (2023). Doi: 10.1007/s10775-022-09527-1
 20. Hanifah, N., & Suhartini, S. Is job fair still effective? Enrichment: Journal of Management. 2023;13(3): 2021-2031. Doi:10.35335/enrichment.v13i3.1577
 21. Long H, Li Q, Zhong X, Yang L, Liu Y, Pu J, Yan L, Ji P, Jin X. The prevalence of professional burnout among dentists: a systematic review and meta-analysis. Psychol Health Med. 2023;28(7):1767-1782. doi: 10.1080/13548506.2023.2208364

Authors Contribution:

Following authors have made substantial contributions to the manuscript as under

Authors	Conceived & designed the analysis	Collected the data	Contributed data or analysis tools	Performed the analysis	Wrote the paper	Other contribution
Shah H	✓	✓	✓	✗	✓	✗
Ahmed S	✓	✓	✗	✓	✓	✗
Raza M	✗	✓	✗	✓	✗	✓
Irshad M	✓	✗	✓	✓	✗	✗
Muqri IA	✓	✓	✗	✓	✗	✗
Fatima E	✗	✓	✗	✓	✓	✗

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical Approval:

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