

## Original Article

# GENDER-DEPENDENT CAREER CHALLENGES AND THEIR IMPACT ON PERCEIVED WORK-LIFE BALANCE IN FEMALE DENTAL SURGEONS OF A PUBLIC SECTOR UNIVERSITY HOSPITAL, KARACHI, PAKISTAN

Hina Shah<sup>1</sup>, Sumbul Ayaz<sup>1</sup>, Ifrah Urooj<sup>2</sup>, Dua Ayoub<sup>2</sup>, Aqsa Mubasher<sup>2</sup>, Khansa Kanwal<sup>2</sup>

<sup>1</sup>Department of Community & Preventive Dentistry, Sindh Institute of Oral Health Sciences, Jinnah Sindh Medical University, Karachi, Pakistan

<sup>2</sup>Final Year BDS Students, Sindh Institute of Oral Health Sciences, Jinnah Sindh Medical University, Karachi, Pakistan

## ABSTRACT

**Objectives:** To determine the gender-dependent career development challenges faced by female dental house officers/interns and residents of Sindh Institute of Oral Health Sciences, Jinnah Sindh Medical University, Karachi and the association between these career development challenges and perceived work-life balance.

**Materials and Methods:** A cross sectional study was carried out at Jinnah Sindh Medical University, where a non-probability convenience sampling technique was used to survey the female dental surgeon. A sample size of 81 female dentists was computed to acquire a Confidence Interval (C.I) of 95% & a margin of error of 5%, using the online calculator OpenEpi. A modified, structured pre-tested questionnaire was used for data collection. Descriptive analysis aided in the calculation of frequencies, percentages, mean and median of categorical variables. The association between the independent and dependent variables was determined by using binary logistic regression.

**Results:** Our study revealed that environmental challenges were significantly related to work–profession balance (Odds ratio=2.018). Cultural challenges were associated with both work–profession (Odds ratio=1.171) and work–personal leisure balance (Odds ratio=1.230). Interpersonal challenges significantly influenced work–family (Odds ratio = 3.416) and work–personal leisure balance (Odds ratio=1.446).

**Conclusion:** In our society, female dentists do not face major barriers to career development. However, family responsibilities, pregnancy, childcare, and long working hours can still negatively affect their progress. Our study indicates that familial responsibilities and childcare influence career-related decisions among female dentists.

**Key words:** Gender disparities, Work-life balance, Career challenges, Female dentists, Occupational stress, Work-place barriers, Familial challenges.

**Cite as:** Shah H, Ayaz S, Urooj I, Ayoub D, Mubasher A, Kanwal K. Gender-dependent career challenges and their impact on perceived work-life balance in female dental surgeons of a public sector university hospital, Karachi, Pakistan. Journal of Khyber College of Dentistry Mar 2026, Vol. 16, No. 1. <http://doi.org/10.33279/jkcd.v16i01.1000>

## INTRODUCTION

Long working hours, on-call duties and rotating

### Correspondence:

**Hina Shah**

Associate Professor  
Sindh Institute of Oral Health Sciences Jinnah Sindh Medical University Karachi

Email: [hina.shah@jismu.edu.pk](mailto:hina.shah@jismu.edu.pk)

Date Submitted: December 2025

Date Revised: February 2026

Date Accepted: February 2026

shifts are common when working as a healthcare professional, a sacrifice most doctors make to prioritize patient's welfare over their own personal and familial responsibilities<sup>1</sup>. While the majority in medical schools are females, most end up not pursuing their careers<sup>2</sup>. In Pakistan, most healthcare professional graduates are females, but most abandon their careers due to societal stigma<sup>3</sup>.

Many healthcare professionals witness gender

inequity during their careers. However, females are more likely to encounter this discrimination<sup>4</sup>. Medical and dental students are prone to experience gender inequality at least once during their training, but females are affected the worst by this apparent disparity when compared to males<sup>5,6</sup>.

Numerous factors are responsible for the under-representation of females in academia. These include unfavourable environments, limited support from colleagues, harassment, gender disparity and stereotyping, inadequate mentorship and limited networking opportunities, all of which have a negative impact on career development<sup>7</sup>.

Society often marginalizes women in Pakistan, leaving a detrimental effect on their mental health<sup>8</sup>. This leads to stress, anxiety and depression, which is more commonly seen in women<sup>9</sup>. More female dental students dealt with anxiety and depression than male students, as reported in a study conducted in Karachi<sup>10</sup>. Similarly, female trainees were more susceptible to mental stresses, increasing the risk of poor mental health, appetite changes and sleep disturbances<sup>11</sup>.

An overwhelming amount of women encounter sexual harassment at work, but most remain silent due to concerns regarding their job security and professional reputation<sup>12</sup>. Harassment, whether verbal, physical or sexual, negatively impacts the psychological and bodily health of female workers, leading to reduced productivity, burnout and suicidal ideation<sup>13,14</sup>.

Many dentists find it difficult to harmonize patient care, administration and finance, a responsibility which often restricts their leisure time. Such stressors prevent them from pursuing their hobbies, resulting in burn-out<sup>15</sup>. Female dentists face more complex challenges in achieving a work-life balance. Their productivity and overall well-being is directly influenced by stress at work and familial responsibilities<sup>16</sup>.

The current approach for a well-balanced life is work-life integration. It is described as the integration of three main domains of one's life: family, work and leisure<sup>17</sup>.

A study found that childbearing had a negative influence on the career progression of women, an observation which validates women's worry about

balancing academics with parenting<sup>18</sup>. Moreover, pregnancy during residency extended the residency period and created more challenges in preparation for board exams, affecting career development during the post-graduation period<sup>19</sup>. The stigma surrounding pregnancy also served as a challenge in the development of the careers for childbearing residents<sup>20</sup>.

Several studies recommend that policymakers in healthcare sectors undertake the responsibility to improve the workplace environment for female doctors by addressing the various challenges faced by them<sup>21</sup>.

Females comprise the majority in dental schools. However, a large proportion abandon their profession due to societal pressure, a trend indicating that they face many challenges in developing their careers in dentistry. Despite this, a wide knowledge gap exists regarding these challenges faced by female dentists while developing their careers in dentistry and their impact on perceived work-life balance. Current literature has failed to capture the factors at play for this gender-dependent discrimination in the local context. This study helps to bridge the knowledge gap that existing limited research has formed about the challenges faced by them. The insights of this study will help put into perspective the challenges faced by female dentists in Pakistan.

This study aims to determine the gender-dependent career development challenges faced by female dental house officers/interns and residents of SIOHS, JSMU, Karachi and the association between career development challenges and perceived work-life balance among female dental house officers/interns and residents of SIOHS, JSMU, Karachi.

## MATERIALS AND METHODS

This cross sectional study was carried out at over a period of 4 months, from September 2025 to January 2026 at Sindh Institute of Oral Health Sciences, Jinnah Sindh Medical University, where a non-probability convenience sampling technique was used to survey the female dental surgeons. As this study was only meant to include females, male participants were not included. All dental undergraduates who were not currently seeking to develop their career were excluded. The dental faculty, whether teaching or non-teaching, was excluded from this study as they have already progressed fairly in their

careers. Female dentists not currently working at the institution or on long sabbatical leave were excluded because of their non-availability. Pregnant females were excluded to avoid confounding effects related to physiological and hormonal changes during pregnancy that could influence the study variables. Participants who did not consent to be included in the study were excluded.

The determination of sample size for this study involved the application of non-probability, convenience sampling technique. Based on the reputable online calculator Open Epi and a target population of approximately 110 female house officers/interns and residents, a minimum sample size of 81 was estimated to achieve 95% confidence level and 5% margin of error.

Ethical approval (JSMU/IRB/2025/1048) was obtained from the institutional review board of JSMU before the initiation of the study. In this study, only those participants that consented verbally and in written form were considered. Respondent's privacy and identities were protected and data was handled with confidentiality. Any personal identifying information (participant's name, residential information and mobile number) was not collected. A modified, structured pre-tested questionnaire was used for data collection. This modified questionnaire was divided into three units. The first unit consisted of three questions regarding the demographic data of the respondents. The second unit consisted of 14 closed-ended questions, further divided into four sections. These sections categorized the challenges faced by the female dentists into: familial challenges, interpersonal challenges, challenges relating to the environment and challenges due to culture. The last unit of the questionnaire consisted of 3 dichotomous questions related to the perceived work-life balance of the participants with the harmony of 3 interconnected spheres: personal leisure, family and professional life. For the second part of the questionnaire, a five-point Likert scale ranging from strongly agree to strongly disagree was used. To minimize the misinterpretation of the questions, a pilot study was done on 10% of our study population. The researchers distributed the hard copies of the questionnaire to the participants (dental house officers or interns and residents of SIOHS) in their free time after gaining their consent. To fill the questionnaire, the participants required 10 to 15 minutes.

Statistical Package for the Social Sciences (SPSS) version 27 was used for analysis of the collected data. Descriptive analysis aided in the calculation of the percentages, frequencies, mean and median of the categorical variables. For the determination of association between the independent variables (familial, interpersonal, environmental challenges and cultural challenges) and dependent variables (work-family, work-profession and work-leisure balance), binary logistic regression was used. To estimate the strength of the association and precision, a 95% confidence interval was used.

**RESULT**

The questionnaire was filled out by a total of 81 female dental surgeons, out of which the majority (72.8%, n=59) were house officers, with the mean age of 25.1 years.

Table 2(A) shows the responses regarding career development challenges among female dental surgeons. Most participants agreed that familial responsibilities influence career decisions (32.1%, n=26), while responses regarding childcare-related challenges were largely neutral (50.6%, n=41). A considerable proportion reported difficulties in hierarchical relationships (39.5%) and communication with senior colleagues (40.7%). Most respondents felt respected by male colleagues and patients. Responses to gender-based discrimination were mixed, with 34.6% remaining neutral and 29.6% disagreeing. About 37% reported salary satisfaction, while 40.7% disagreed that males dominated the workplace. Environmental challenges were largely not significant, whereas cultural challenges showed mixed responses, including lack of family-supportive policies (32.1%). A majority (61.7%) agreed that women bear greater responsibility for child up-

**Table 1: Socio-Demographic Information (Percentages & Frequencies)**

Indicators	Frequencies (%)
<b>Age</b>	
Mean (SD)	25.1 (1.9)
<b>Marital status</b>	
Single	64 (79.0)
Married	17 (21.0)
<b>Position</b>	
House office/ Intern	59 (72.8)
Resident	22 (27.2)

bringing. Table 2(B) indicates that most participants perceived a satisfactory work-life balance across all domains.

Table 3 indicates the logistic regression analysis for perceived work-life balance. Familial challenges showed no significant association, where as Environmental challenges were significantly associated with work–professional balance only with. Cultural challenges demonstrated association with work–professional and work–personal leisure balance, while interpersonal challenges significantly affected work–family and work–personal leisure balance in female dentists.

**DISCUSSION**

Career development occupies an integral part in

life irrespective of gender. However, females tend to struggle more often as society has conditioned them that they are responsible for taking care of their home and children, regardless of the fact whether they work or not. Therefore, most women active in professional roles manage work and familial responsibilities simultaneously. These burdens add up and affect their decisions when choosing career pathways<sup>1</sup>. Our study indicated that 32.1% of female dentists at SIOHS, JSMU agreed that responsibilities related to family played a role in their career choices. This observation aligns with a previous Saudi study which showed that about 33.3% of female doctors confirmed that familial duties impacted their medical career<sup>1</sup>.

Our society has designated specific roles be-

**Table 2: Career development challenges faced by female dental surgeons (frequencies & percentages)**

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>Familial Challenges</b>					
My Family responsibilities influence my career decisions	19 (23.5)	26 (32.1)	15 (18.5)	19 (23.5)	2 (2.5)
My job commitments affect my ability to care for children.	7 (8.6)	18 (22.2)	41 (50.6)	12 (14.8)	3 (3.7)
<b>Interpersonal Challenges</b>					
I experience challenges in navigating hierarchical professional relationships.	32 (39.5)	22 (27.2)	18 (22.2)	9 (11.1)	0 (0.0)
Communication with senior colleagues sometimes affects my confidence	28 (34.6)	33 (40.7)	15 (18.5)	2 (2.5)	3 (3.7)
I feel I am influenced by male dominance in the profession	8 (9.9)	14 (17.3)	21 (25.9)	33 (40.7)	5 (6.2)
My job is providing a satisfactory salary.	5 (6.2)	30 (37.0)	23 (28.4)	14 (17.3)	9 (11.1)
I believe there is gender discrimination in my work place.	11 (13.6)	12 (14.8)	28 (34.6)	24 (29.6)	6 (7.4)
I feel my male colleagues treat me with respect and professionalism.	33 (40.7)	32 (39.5)	15 (18.5)	1 (1.2)	0 (0.0)
My patients treat me respectfully as a female dentist.	26 (32.1)	29 (35.8)	23 (28.4)	3 (3.7)	0 (0.0)
<b>Environmental Factors</b>					
There are limited structured mentorship opportunities for female dentists.	6 (7.4)	27 (33.3)	14 (17.3)	30 (37.0)	4 (4.9)
I find it difficult to identify female mentors in dentistry	5 (6.2)	19 (23.5)	20 (24.7)	29 (35.8)	8 (9.9)
Public transport conditions sometimes affect my commute to work	16 (19.8)	14 (17.3)	23 (28.4)	24 (29.6)	4 (4.9)
<b>Cultural Challenges</b>					
Institutional policies could better support a balance between work and family life	5 (6.2)	26 (32.1)	31 (38.3)	18 (22.2)	1 (1.2)
Societal expectations often place more child-bearing responsibilities on women	50 (61.7)	28 (34.6)	1 (1.2)	0 (0.0)	2 (2.6)
<b>(B) Perceived Work-Life Balance (Frequencies &amp; Percentages)</b>					
	Yes			No	
Do you maintain a healthy balance between your work and family?	65 (80.2)			16 (19.8)	
Do you maintain a healthy balance between your work and profession?	61 (75.3)			20 (24.7)	
Do you maintain a healthy balance between your work and personal leisure?	66 (81.5)			15 (18.5)	

**Table 3: Associations of career challenges with perceived work-life balance**

<b>Perceived balance between work and family</b>		
Variables	Crude (O.R)	C.I (lower - upper)
Family Challenges	0.535	0.221 - 1.296
Interpersonal Challenges	3.416*	0.914 - 12.772
Environmental Challenges	0.799	0.355 - 1.801
Cultural Challenges	0.396	0.112 - 1.400
<b>Perceived balance between work and profession</b>		
Variables	Crude (O.R)	C.I (lower - upper)
Family Challenges	0.778	0.354 - 1.708
Interpersonal Challenges	0.162	0.042 - 0.622
Environmental Challenges	2.018*	0.933 - 4.364
Cultural Challenges	1.171*	0.440 - 3.118
<b>Perceived balance between work and personal leisure</b>		
Variables	Crude (O.R)	C.I (lower - upper)
Family Challenges	0.559	0.242 - 1.292
Interpersonal Challenges	1.446*	0.398 - 5.258
Environmental Challenges	0.710	0.321 - 1.568
Cultural Challenges	1.230*	0.459 - 3.298

\*Statistically significant

tween men and women, where men are expected to be the breadwinners of the family, while women are considered as caretakers. Men generally do not contribute much in childcare. This expectation from society pressurizes women to prioritize their family over their careers. Out of the 81 female doctors surveyed in this study, 50 (61.7%) agreed that society believed upbringing to be a greater responsibility on the women as compared to men, a finding which reflected a previous study performed in Riyadh where 51% of the female dentists reported that child care and upbringing heavily influenced decisions regarding career<sup>19</sup>.

Another challenge faced by female dentists is pregnancy. The most difficult period reportedly is the return to work after maternity leave. The longer the maternity leave, the greater it hindered the progress of female doctors. Most female dentists choose to leave their careers when deciding to start a family due to facing extreme difficulty in managing both work and children<sup>17,25</sup>. About 50.6% of the respondents in our study remained neutral that their job creates or will create problems in looking after children. This indicates that most participants are either uncertain or have not yet experienced the dual demands of professional and childcare responsibilities. Given that many of our participants were young and in the early part of their careers, this neutrality could

reflect a lack of direct exposure to these challenges rather than the absence of concerns. This is supported by the fact that similar findings were found among young, unmarried female dentists in Karachi, where there were fewer work-family conflicts due to limited household responsibilities<sup>17</sup>. However, previous research also suggests that these conflicts become more pronounced once these responsibilities increase<sup>1,25</sup>. In a survey conducted in America, up to 70% physicians responded that the best time to have a child is after the residency period, although 44% of these respondents got pregnant during their residency period<sup>20</sup>. Family planning is an aspect lacking in Pakistan. Moreover, society pressurizes couples to have children. Pregnancy during residency leads to more burnout and stress. Most pregnant postgraduate trainees faced hardships in managing long working hours of clinical practice and studying<sup>7</sup>. Another study reported that many female physicians left their career due to familial pressure<sup>3</sup>.

About 39.5% of our study population strongly agreed to having experienced challenges in navigating professional relationships, indicating that interpersonal dynamics are still significant barriers for female dentists. Many (40.7%) also reportedly agreed that communication with senior colleagues negatively impacted their confidence. These gender disparities are often amplified by the pre-existing

hierarchy present in medicine and dentistry, manifesting in female dentists as reduced confidence and difficulties in career progression<sup>6,21</sup>. Similar observations have been reported among female physicians and dentists in Saudi Arabia and Pakistan, where these interpersonal challenges hindered communication and professional development among female dentists<sup>7,8,23</sup>.

Interestingly, most (34.6%) remained neutral regarding the presence of gender discrimination in their workplace. This neutrality may reflect their hesitancy to acknowledge discrimination openly, a phenomenon often influenced by culture<sup>23</sup>. In South Asia specifically, subtle gender bias is often normalized, making it difficult to label discriminatory behavior<sup>6,8</sup>. Similar findings have been documented among female healthcare workers in Saudi Arabia and Pakistan, where respondents downplayed or remained uncertain about gender disparities despite acknowledging their indirect impact on career advancement<sup>1,25</sup>.

A high proportion of respondents agreed that they were treated with respect by both their patients and their male colleagues as female dentists. This finding gives hope that we live in a society that considers females to be blessings that are treated honorably and with dignity. Contrary to our findings, most countries face a gender inequity problem, a fact proven by studies conducted in Saudi<sup>11,23</sup> and in England<sup>14</sup>.

A large number of female dentists in our study rejected the idea that there was a lack of female role models and mentors, showing that women remained steadfast in developing their careers despite the challenges they faced<sup>24</sup>. Even though both society and culture marginalizes women, they are still becoming role models for the next generations. In other parts of the world, it was noted that most females quit their jobs due to environmental challenges faced by them<sup>23</sup>.

Our study indicates that among the independent variables, perceived balance between work and profession shows significant association (O.R = 2.018) with environmental challenges, which is consistent with the finding from Rajeh et al. 2019, which showed that organizational support played a critical role in job satisfaction<sup>23</sup>.

Our study also found that cultural challenges show association with both perceived work-profession balance and work-personal leisure balance, reinforcing the idea that societal expectations and gender roles often prioritize the domestic responsibilities of women over their professional ambitions<sup>1,25</sup>.

On the other hand, it implied that perceived work-family balance and work-personal leisure balance of female dentists is affected by interpersonal challenges, aligning with the pre-existing literature that suggests that professional relationships and gendered hierarchies increase psychological burden and reduce time and energy for personal or family life<sup>23</sup>.

## CONCLUSION

In our society, female dentists do not face major barriers to career development. However, family responsibilities, pregnancy, childcare, and long working hours can still negatively affect their progress. Our study indicates that familial responsibilities and childcare influence career-related decisions among female dentists. Professional bodies and academic institutions should implement family-friendly policies and create supportive environments that reduce the burden on female practitioners, encouraging shared parenting responsibilities to address this problem. Additionally, to promote better work-life balance, institutions should organize training sessions focused on time management and organizational skills to empower female dentists in managing both professional and personal demands.

## REFERENCES

1. Alahmadi BS, Alahmadi LS, Eltoum FM. Obstacles and Satisfaction to Balance Between Family Life and Medical Career Among Saudi Women Doctors. *Cureus*. 2023 May 9;
2. Ashraf F, Salahuddin A, Azam F e. Factors Affecting Pakistani Women Doctors' Decisions of Career Pursuance: A Study of Women doctors in Sialkot [Internet]. *ResearchGate*. unknown; 2022 [cited 2024 Oct 1].
3. Akhter N, Talukder MH, Alam K, Moon U, Chowdhury M, Hoque M. Views of the female graduate doctors regarding why not involved in health care services / health professional education : A qualitative study. *Centre for Medical Education Journal*. 2023 Dec 1;3(1).
4. Giglio V, Schneider P, Bond Z, Madden K, McKay P, Bozzo A, et al. Prevalence of gender-based and sexual harassment within orthopedic surgery in Canada. *Canadian Journal of Surgery*. 2022 Jan 27;65(1):E45-51.

5. Dawood MH, Roshan M, Muhammad Daniyal, Sohail S, Perveen H, Islam UU. Gender Inequity in Clinical Clerkships and its Influence on Career Selection: A Cross-Sectional Survey. *Journal of Medical Education and Curricular Development*. 2024 Jan 1;11.
6. Webster F, Rice K, Christian J, Seemann N, Baxter N, Moulton CA, et al. The erasure of gender in academic surgery: a qualitative study. *The American Journal of Surgery* [Internet]. 2016 Oct 1 [cited 2021 Oct 14];212(4):559–65
7. Malik M, Hussain A, Hashmi A, Saeed H, Azhar H, Abbasi AS. Barriers to gender equity for female healthcare academicians and researchers in Pakistan: Is it still an issue? *Frontiers in Public Health*. 2023 Jan 4;10.
8. Karam A, Khan MD, Khan BD, Rahman A, Aziz SS, Karam AS, et al. Gender discrimination in surgery: A cross-sectional study in a tertiary care hospital in Pakistan. *International Journal of Surgery Open* [Internet]. 2022 Dec 1 [cited 2022 Dec 10];49:100575.
9. Siddiqui MK, Taqi M, Naqvi S, Raza SA, Bawany H, Hasan Z. Levels of perceived stress according to professional standings among dental surgeons of Karachi: a descriptive study. *BMC Oral Health*. 2022 Jun 18;22(1).
10. Rehmani N, Khan QA, Fatima SS. Stress, Anxiety and Depression in students of a private medical school in Karachi, Pakistan. *Pakistan Journal of Medical Sciences*. 2018 May 24;34(3)
11. Fnais N, al-Nasser M, Zamakhshary M, Abuznadah W, Al-Dhukair S, Saadeh M, et al. Prevalence of harassment and discrimination among residents in three training hospitals in Saudi Arabia. *Annals of Saudi Medicine*. 2013 Apr;33(2):134–
12. R. Akila, R. Sasikala. Sexual harassment at workplace faced by women employees in private organization special referenceto Tamilnadu and Pondicherry regions – India. *AIP conference proceedings*. 2022 Jan 1;
13. Kheir OO, Khair HM, Mapayi B, Patwa YH. Prevalence of sexual harassment among female medical staff in Four Khartoum State tertiary hospitals. *The Pan African Medical Journal* [Internet]. 2023 May 15;45(30).
14. Hu YY, Ellis RJ, Hewitt DB, Yang AD, Cheung EO, Moskowitz JT, et al. Discrimination, Abuse, Harassment, and Burnout in Surgical Residency Training. *New England Journal of Medicine* [Internet]. 2019 Oct 31;381(18):1741–52.
15. Antoniadou M. Quality of Life and Satisfaction from Career and Work–Life Integration of Greek Dentists before and during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*. 2022 Aug 10;19(16):9865.
16. MONICA DBS, MARY. J MJ. Work life balance and career plans of female dentist entrepreneurs. *CIBG* [Internet]. 2020Aug.30 [cited 2024Oct.20];26(2):436-41.
17. Ahmed W, Aslam M, Bukhari FS, Shaikh T, Asim S, Irfan F. Work-life balance: A cross-sectional study among female dentists of Karachi. *Pak Oral Dent J* 2023; 43(4):205-210.
18. AlGhamdi T. Balance between career and family life among female doctors in King Abdul- Aziz Medical City, Riyadh, Saudi Arabia. *International Journal of Medical Science and Public Health*. 2014;3(2):203.
19. Sugimoto M, Bayrampour H. Experience of pregnancy during family medicine residency. *Canadian Family Physician*. 2022 May;68(5):356–63.
20. Attieh E, Maalouf S, Chalfoun C, Abdayem P, Nemr E, Kesrouani A. Impact of female gender and perspectives of pregnancy on admission in residency programs. *Reproductive Health*. 2018 Jul 5;15(1).
21. Bruce AN, Battista A, Plankey MW, Johnson LB, Marshall MB. Perceptions of gender-based discrimination during surgical training and practice. *Medical Education Online* [Internet]. 2015 Jan [cited 2019 Dec 29];20(1):25923.
22. Akram M, Rehman F, Rubab M, Aftab H, Sarwar M, Saeed Y, et al. Problems Faced by Female Doctors Regarding Career Development.
23. Rajeh M, Nicolau B, Qutob A, Pluye P, Esfandiari S. A Survey of the Barriers Affecting the Career Practice and Promotions of Female Dentists in Saudi Arabia. *JDR Clinical & Translational Research*. 2019 Jan 25;4(2):187–95.
24. Brown JB, Carroll J, Reid A. How family influences practice of obstetrics. Do married women family physicians make different choices? *PubMed*. 1996 Jul 1;42:1319–26.
25. Tahir S, Bashir A, Khan JS. Factors that hinder female dentists in pursuing their career. *Biomedica*. 2014;30(3):1-6.

CONFLICT OF INTEREST  
Authors declare no conflict of interest.  
GRANT SUPPORT AND FINANCIAL DISCLOSURE  
None declared.

#### AUTHORS' CONTRIBUTION

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: HS, SA, IU, DA, AM, KK

Acquisition, Analysis or Interpretation of Data: HS, SA, IU, DA, AM, KK

Manuscript Writing & Approval: HS, SA, IU, DA, AM, KK

All the 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.



Hina Shah, et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License, which permits unrestricted use, distribution & reproduction in any medium provided that original work is cited properly.