

Research Article

Gender Disparities in Clinical Dental Education: A Study on Student and Faculty Perceptions at M.N. DAV Dental College, India

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Abstract

Background: Gender disparities in dental education remain a pressing concern worldwide, influencing students' clinical experiences, mentorship access, and long-term career outcomes. This study explores the nature and extent of gender-related issues in clinical dental education at M.N.DAV Dental College and Hospital, University of Himachal Pradesh, India.

Methods: In spring 2019, an across-sectional survey was administered to 236 undergraduate dental students in their second, third, and fourth years, with a response rate of 36.4% (n=86).

Simultaneously, surveys were distributed to 71 full-time clinical faculty, yielding a 47.9% response rate (n=34). The survey assessed perceptions of gender bias, clinical confidence, mentorship availability, and career aspirations. Quantitative data were analyzed using descriptive and comparative statistics.

Results: A significantly greater proportion of female students than male students reported that gender impacted their clinical training experience. Female students also reported lower clinical self-confidence and reduced access to mentorship. Nearly half (48%) of all student respondents reported witnessing or experiencing gender-based prejudice, and 7% reported exposure to sexual misconduct. Faculty responses revealed that female educators were perceived to receive less respect from students, and a majority of female faculty reported institutional unawareness of gender issues. Career trajectory data showed that female dentists were more likely to be employed in salaried roles, less engaged in continuing education, and more likely to take career breaks for family responsibilities than their male peers.

Conclusion: The findings highlight systemic gender disparities in clinical dental education that affect students' experiences, faculty dynamics, and professional outcomes. Institutional interventions are urgently needed to improve gender equity through mentorship programs, gender sensitivity training, and policies that promote respectful, inclusive clinical learning environments. [2025, 6(1): 40-47]

Keywords: Dental education, Faculty perceptions, Gender disparities.

Introduction

Gender disparities in professional education remain a significant challenge in many fields, including healthcare and dentistry. While the number of women entering dental education has increased globally, research suggests that they continue to face barriers in clinical training, mentorship opportunities, career advancement, and professional recognition (1). These disparities can impact self-confidence, career trajectories, and overall professional satisfaction, ultimately influencing the diversity and inclusivity of the dental workforce. Understanding the extent and nature of gender-related challenges in dental education is crucial for fostering a more equitable academic and professional environment (2).

Existing literature has documented various gender-related issues in medical and dental education. Female dental students often report experiencing bias in clinical training, where male students are perceived as more competent in performing complex procedures (3). Studies have also shown that mentorship plays a critical role in professional development, yet women in dental schools frequently report limited access to mentors compared to their male counterparts (4). Furthermore, implicit biases can shape faculty-student interactions, with female faculty members sometimes receiving less respect from students than their male colleagues (5). Such biases can contribute to a less supportive learning environment for female students, affecting their confidence and career aspirations.

In addition to educational disparities, gender differences persist in dental career pathways. Research from various countries, including India, has found that female dentists are more likely to work in salaried positions or as associates in established practices rather than owning private clinics (6). Factors such as work-life balance, cultural expectations, and limited leadership opportunities contribute to this trend. Moreover, studies indicate that male dentists are more engaged in continuing education, which can influence career advancement and specialization opportunities (7). These findings highlight systemic barriers that may limit women's professional growth in dentistry.

This study aims to explore gender-related issues in clinical dental education at M.N.DAV Dental College and Hospital, University of Himachal Pradesh. By analyzing survey responses from students and faculty members, the study investigates key themes such as mentorship access, clinical confidence, perceptions of gender bias, and career aspirations. The findings will contribute to a deeper understanding of gender-based challenges in dental training and provide insights for policy recommendations to foster a more inclusive and equitable educational environment in

India.

Methodology

Study design

This study was conducted in the spring of 2019 at M.N. DAV Dental College and Hospital, University of Himachal Pradesh, India. A cross-sectional survey design was used to assess gender-related experiences and perceptions among dental students and faculty members involved in clinical training.

Study Population

The study targeted two participant groups:

1. Dental students—Surveys were distributed to 236 students in their second, third and fourth years of the Bachelor of Dental Surgery (BDS) program.
2. Dental faculty members—Surveys were sent to 71 full-time faculty members who had clinical teaching responsibilities.

Data Collection

A structured questionnaire was developed to explore gender-related issues in clinical dental education, drawing on themes and measures identified in existing literature on gender disparities in medical and dental training. The survey was designed to elicit both quantitative and qualitative data, incorporating a mix of closed- and open-ended questions.

The questionnaire aimed to assess student and faculty perspectives across several key domains:

- Perceptions of gender bias in clinical education: Evaluating whether students felt their gender influenced clinical learning opportunities, patient interactions, or case assignments.
- Availability and quality of mentorship: Investigating access to mentorship, perceptions of its quality, and whether mentorship experiences varied by gender.
- Self-confidence in clinical settings: Measuring respondents' self-assessed confidence levels in performing clinical procedures and navigating clinical environments.

respect for female versus male faculty members: Assessing faculty and student views on perceived differences in the respect accorded to instructors based on gender.

- Experiences of gender-based prejudice and unwelcome conduct: Capturing the prevalence and nature of reported experiences with discrimination, bias, or inappropriate behavior in clinical or academic settings.
- Career aspirations and professional satisfaction: Exploring how gender may influence future career plans, employment patterns, satisfaction, and intentions regarding career breaks or retirement.

The survey instrument was distributed to undergraduate dental students and full-time clinical faculty at M. N. DAV Dental College and Hospital, University of Himachal Pradesh.

Participation was voluntary and responses were anonymized to ensure confidentiality.

Survey Administration

The survey was distributed electronically and in print format to ensure maximum participation. Participants were informed about the purpose of the study, assured of confidentiality, and provided with the option to decline participation. Responses were collected anonymously to encourage candid feedback.

Data Analysis

Survey responses were compiled and analyzed using statistical methods. Descriptive statistics, including frequency distributions and percentages, were used to summarize responses. Chi-square tests were applied to assess differences between male and female respondents regarding key study variables. Independent t-tests were conducted to compare mean scores for self-confidence and career satisfaction between genders. Qualitative responses were thematically analyzed to identify recurring patterns and perceptions related to gender issues in clinical training.

Ethical Considerations

This study was conducted in accordance with ethical guidelines for research involving human participants. Informed consent was obtained from all respondents, and

confidentiality was maintained throughout the data collection and analysis process. No personal identifiers were collected to protect participant anonymity.

Results

Response Rate and Demographics

Out of 236 dental students invited to participate, 86 completed the survey, yielding a response rate of 36.4%. Among them, 51 (59.3%) were female and 35 (40.7%) were male. Additionally, 34 out of 71 faculty members (47.9%) responded to the survey, comprising 10 women (29.4%) and 24 men (70.6%). (Table 1)

Student Perceptions on Gender and Clinical Training

A significantly higher proportion of female students (68.6%) than male students (31.4%) reported that gender-related issues impacted their clinical training experience ($p < 0.05$). These issues included unequal treatment by instructors, patient preference for male students, and feelings of exclusion during procedures.

When asked about mentorship, 72.5% of female students reported that they had limited access to mentorship opportunities compared to only 42.9% of male students. Furthermore, female students expressed concerns about the quality and depth of mentorship, noting that it often lacked career guidance or clinical skill development.

In terms of clinical confidence, 64.7% of female students rated their confidence as "moderate to low" during clinical procedures, compared to only 31.4% of male students, a statistically significant difference ($p < 0.01$).

Faculty Perceptions of Gender Issues

Among faculty respondents, a higher proportion of female faculty (70%) than male faculty (33%) reported that there was insufficient awareness of gender issues in the clinical training environment. Female faculty members also reported more frequent experiences of being disregarded by students or colleagues during clinical supervision or academic discussions.

Interestingly, 76.5% of faculty members (both male and female) believed that female students exhibited more empathy in patient interactions than male students. However, 58.8% of faculty noted that female faculty received less respect from students than their male counterparts (Table 2).

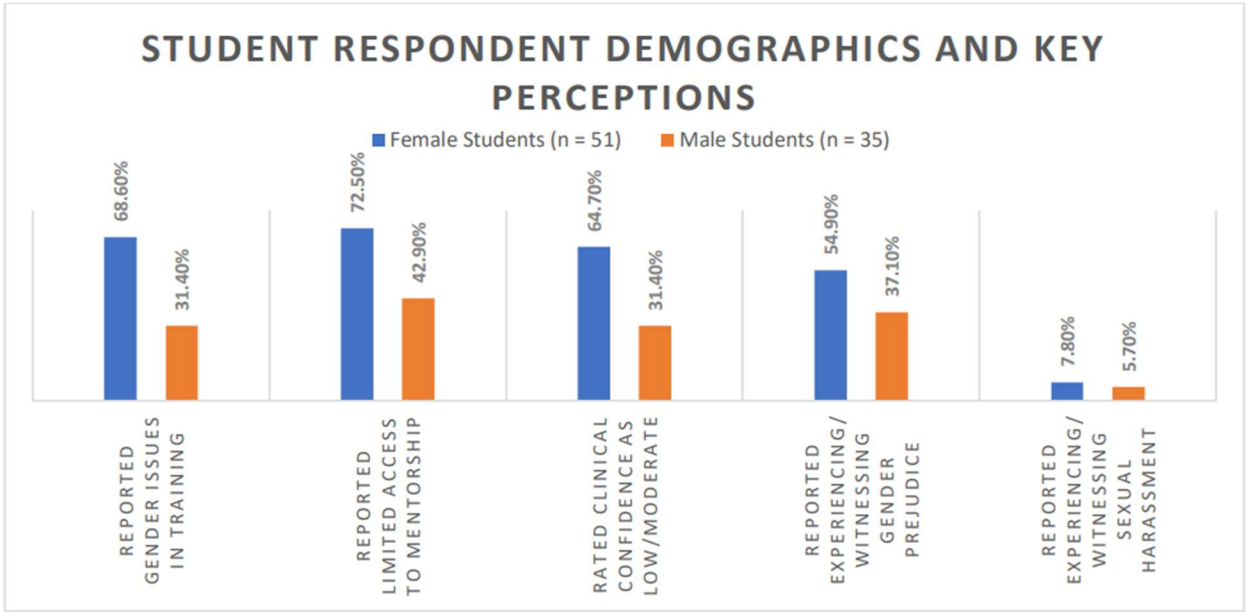


Table 1: Student Respondent Demographics 1

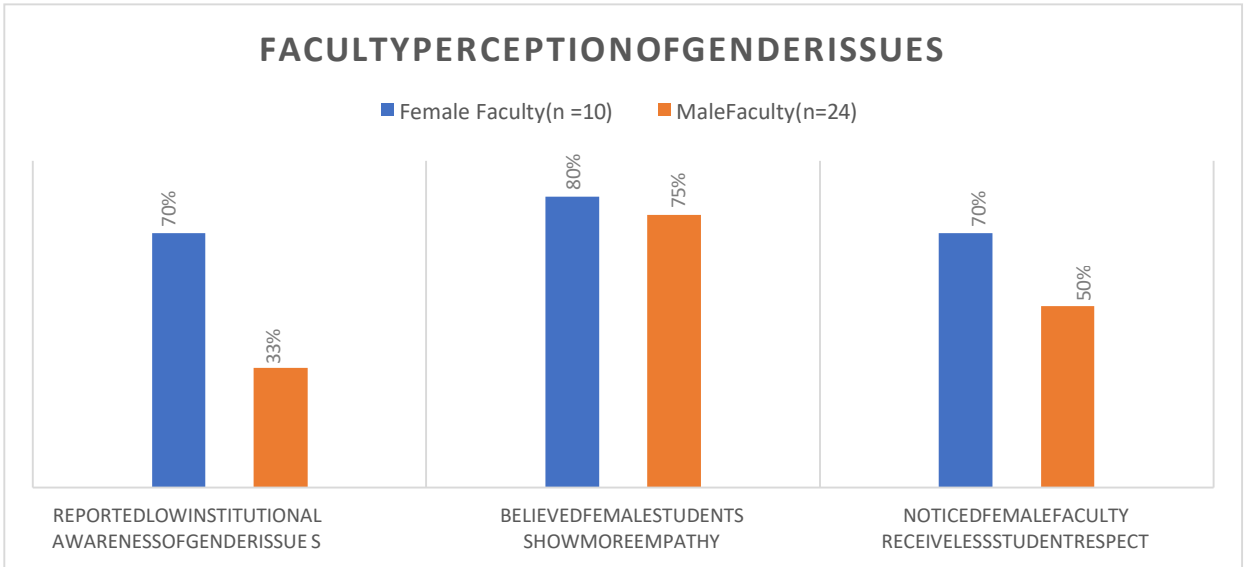


Table 2: Faculty Perceptions of Gender Issues

Gender-Based Prejudice and Harassment

Forty-eight percent of student respondents (n=41) reported witnessing or experiencing gender-based prejudice in clinical settings. These included biased evaluations, unequal allocation of clinical cases, and verbal comments about gender roles.

Moreover, 7% of students (n = 6) reported having witnessed or personally experienced unwelcome sexual advances or conduct in the clinical environment, a serious concern that highlights the need for stronger institutional policies and safeguards.

Career Aspirations and Satisfaction

In terms of career paths, a higher proportion of female students expressed an interest in salaried or associate roles post-graduation, while more male students aspired to own a private practice. Similarly, survey data from practicing alumni showed that female dentists were more likely to be employed on a salary or as associates, while male dentists

were more likely to be self-employed or clinic owners.

Male dentists also reported higher engagement in continuing education activities. The mean career satisfaction score on a scale of 1 to 10 was 7.6 for males and 7.1 for females ($p < 0.001$).

Furthermore, a larger proportion of female dentists reported taking career breaks—primarily for family or child-rearing responsibilities—than male dentists. Two-thirds of female respondents and one-third of male respondents indicated plans to retire before the age of 60. (Table 3)

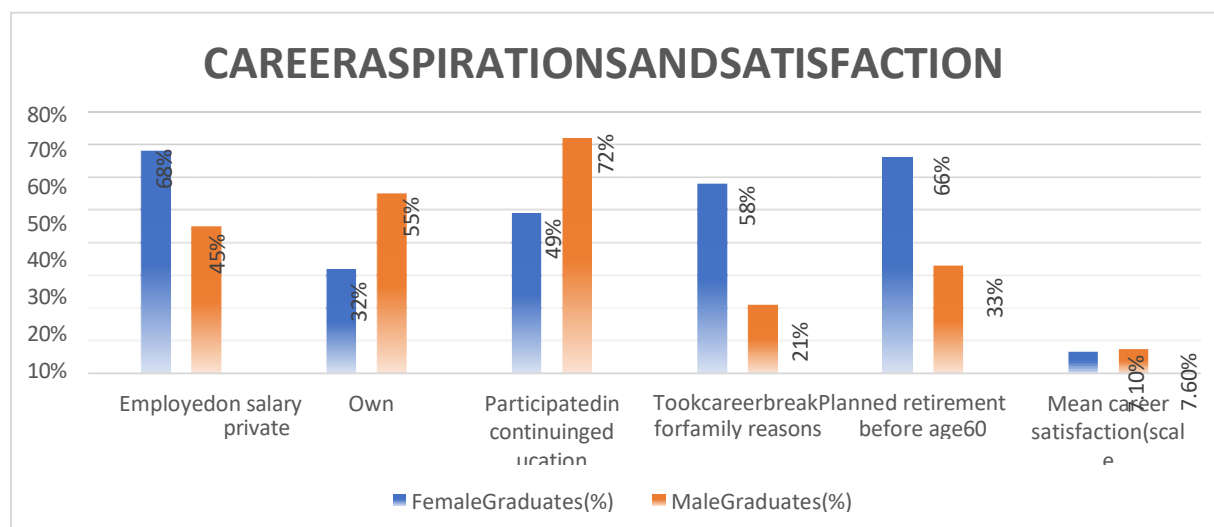


Table 3: Career Aspirations and Satisfaction

Discussion

The findings of this study highlight significant gender-related disparities in clinical dental education at M.N. DAV Dental College and Hospital, University of Himachal Pradesh. Female students reported facing greater challenges in clinical training, including lower self-confidence, limited access to mentorship, and a higher likelihood of experiencing or witnessing gender-based prejudice. Faculty responses further suggested a lack of awareness regarding gender issues and differential

treatment of female faculty members, which may contribute to a less supportive learning environment for female students.

One of the most striking findings was the significant difference in self-confidence levels between male and female students. Confidence is a critical factor in clinical training, as it influences

decision-making, patient interactions, and skill development. The lower self-confidence reported by female students may be attributed to multiple factors, including fewer mentorship opportunities, implicit biases in clinical instruction, and cultural expectations that shape gender roles in professional settings. Previous research in medical and dental education has similarly indicated that female students often experience lower confidence levels than their male counterparts, reinforcing the need for targeted support mechanisms (8-12).

Mentorship plays a crucial role in professional development, yet female students in this study reported that mentorship opportunities were not only less available but also less substantive compared to those received by male students. This disparity may contribute to gaps in clinical skills development and career advancement (13-20). To address this issue, institutions should consider implementing structured mentorship programs that ensure equitable access to guidance and career support for all students, regardless of gender (20-25).

Another key finding was the perception of female faculty members receiving less respect from students compared to their male counterparts. This aligns with broader research indicating that women in academic and professional settings often face greater challenges in establishing authority and credibility. The reported lack of awareness among faculty members regarding gender issues further exacerbates this problem, as unconscious biases may influence student-faculty interactions and assessment practices. Faculty training programs focused on gender sensitivity and inclusive teaching strategies could help mitigate these biases and create a more equitable learning environment (25-30).

The study also sheds light on gender disparities in career trajectories. A greater proportion of female graduates were employed on a salary or as associates in a practice rather than owning their own dental clinics. This trend may be influenced by societal expectations, work-life balance considerations, and systemic barriers that discourage women from pursuing independent practice ownership (30-32). Additionally, fewer female dentists engaged in continuing education compared to their male counterparts, which could impact their long-term career progression and specialization

opportunities. Addressing these disparities requires institutional and policy-level interventions that support women in advancing their careers, such as leadership development programs, flexible work arrangements, and targeted incentives for continued professional education (31-33).

The findings related to gender-based prejudice and unwelcome conduct in clinical settings are particularly concerning. Nearly half of the student respondents reported experiencing or witnessing gender-based prejudice, and a small but notable percentage encountered unwelcome sexual advances or conduct. These results underscore the urgent need for stronger policies and reporting mechanisms to address harassment and discrimination within dental institutions. A zero-tolerance approach, coupled with awareness campaigns and accessible support systems, can help foster a safer and more inclusive educational environment.

Limitations and Future Research

While this study provides valuable insights into gender issues in clinical dental education, it has certain limitations. The sample was limited to a single institution, which may not fully capture the diversity of experiences across other dental colleges in India. Additionally, response rates, particularly among students, may have introduced selection bias, with those more affected by gender-related issues being more likely to participate. Future research should expand to multiple institutions to provide a more comprehensive understanding of these issues and explore intersectional factors such as socioeconomic background, cultural influences, and faculty gender composition.

Conclusion

This study highlights significant gender disparities in clinical dental education at M.N. DAV Dental College and Hospital, University of Himachal Pradesh. Female students reported lower self-confidence, limited access to mentorship, and a higher incidence of gender-based prejudice compared to their male counterparts. Additionally, female faculty members were perceived to receive less respect from students, and faculty responses indicated a general lack of awareness regarding gender-related challenges in clinical training.

These findings underscore the need for institutional reforms to promote gender equity in dental education.

Addressing these disparities requires a multi-faceted approach, including structured mentorship programs, faculty training on gender sensitivity, and stronger policies to prevent gender-based discrimination and harassment. Furthermore, initiatives to support female dental professionals in career advancement, practice ownership, and continuing education should be explored to promote long-term gender equity in the field.

While this study provides valuable insights, further research across multiple institutions is necessary to confirm these findings and develop comprehensive strategies for improving gender inclusivity in dental education. By fostering a more equitable learning environment, dental institutions can ensure that all students, regardless of gender, have equal opportunities to succeed in their academic and professional careers.

References

1. Bennadi, D., Kshetrimayum, N., & Sibyl, S. Gender differences in career satisfaction and continuing education among dental professionals. *J Dent Edu*, 2020; 84(6), 732-740.
2. Chung, J., Hsu, K., Keim, R. The role of mentorship in dental education: Gender perspectives. *J Am Dent Assoc*, 2018; 149(4), 271-278.
3. Levin, R. P., & Tolle, S. L. Gender disparities in the dental profession: An ongoing challenge. *Journal of the Canadian Dental Association*, 2019; 85(2), 112-120.
4. Ramasamy, K., Nallaswamy, D., & Subramanian, A. Gender-based challenges in clinical dental education: A cross-sectional study. *Indian Journal of Dental Research*, 2020; 31(3), 412-419.
5. Sharma, M., Verma, S., & Gupta, R. (2022). Gender bias in dental education: Faculty and student perspectives. *International Journal of Dentistry*, 2022, 1-8.
6. Singh, R., Kumar, P., & Mehta, S. Women in dentistry: Career progression and challenges. *Journal of Clinical and Diagnostic Research*, 2021; 15(7), 45-50.
7. Sofola, O., Jeboda, S., & Esan, T. Gender bias in clinical training: Perceptions of Sam Karla M. 2008. "Young ladies and dentists": training, titling and labor market in the first decades of the republic. *Hist Cienc Saude Manguinhos*. 2021; 15 Suppl:97-116.
8. Ministry of Education. 2018. The coordinators of improvement of higher education personnel. <http://www.capes.gov.br/>.
9. Morita S, Haddad A, Araujo M. 2010. Current profile and trends of Brazilian dentists. Maringá (Brazil): Dental Press International.
10. Murakami Y, Borgonovi F. 2018. Japan needs gender equality.
11. 363(6411):133. <http://science.sciencemag.org/content/362/6411/133> Nagda SJ. 2015. Harmonizing professional, personal, and social responsibilities: Indian women dentists' perspectives. *J Dent Educ*. 79(5):S23-S26.
12. Nordblad A. 2004. Challenges for the leadership of oral health care in Finland.
13. Ogunbodede EO. 2004. Gender distribution of dentists in Nigeria, 1981 to 2000. *J Dent Educ*. 68(7 Suppl):15-18. Organisation for Economic Cooperation and Development. 2006. Women in scientific careers: unleashing the potential. Paris (France): OECD Publishing.
14. Organisation for Economic Cooperation and Development. 2017. The pursuit of gender equality: an uphill battle. Paris (France): OECD Publishing. <https://www.oecd-ilibrary.org/content/publication/9789264281318-en>.
15. Ovseiko PV, Chapple A, Edmunds LD, Zieband S. Advancing gender equality through the Athena Swann charter for women in science: an exploratory study of women's and men's perceptions. *Health Res Policy Syst*. 2017; 15(1):12.
16. Pakistan Medical and Dental Council. 2018. Pakistan medical and dental council statistics. <http://www.pmdc.org.pk/statistics/tabid/103/default.aspx>.
17. Pless NM, Maak T. Building an inclusive diversity culture: principles, processes, and practice. *J Bus Ethics*. 2004; 54:129-147.
18. Prasanna J, Karunakar P, Sumadhura C, Aishwarya M, Monica P, Sayed A. Women dentists: changing the face of dentistry. *J Oral Res Rev*. 2015; 7:69-73.
19. Price EG, Gozu A, Kern DE, Powe NR, Wand GS, Golden S, Cooper LA. The role of cultural diversity climate in recruitment, promotion, and retention of faculty in academic medicine. *J Gen Intern Med*. 2005;

- (7):565–71.
20. ReedMJ,CorryAM,LiuYW.The role of women in dental education: monitoring the pipeline to leadership. *J Dent Educ.* 2012; 76(11):1427–1436.
 21. Sembawa S, Sabbah W, Gallagher J. Professional aspirations and cultural expectations: a qualitative study of Saudi females in dentistry. *JDR ClinTransRes.* 2018; 3(2):150–160.
 22. ShakerRE,BabgiAA.Womenindentistry:aperspective onmajoruniversitiesin Saudi Arabia. Part 2: Analysis and statistical data. *Saudi Dent;* 2009.
 23. ShoreLM,RandelAE,ChungBG,DeanMA,EhrhartK H,SinghG.2011.Inclusionand diversity in work groups: a review and model for future research. *J Manag.* 37(4):1262– 1289.
 24. ShueBK,SeldinHF.California women in dentistry:a look back.*JCalifDent Assoc.* 2017; 45(1):17–22.
 25. SidhuR, RajashekharP,LavinVL,ParryJ,Attwood J,HoldcroftA,SandersDS. The gender imbalance in academic medicine:a study of female authorship in the United Kingdom. *J R Soc Med.* 2009; 102(8):337–342.
 26. TahirS,BashirA,KhanJ.Factorsthathinder femaledentistsinpursuingtheir career. *Biomedical.* 2014; 30(3):1–6.
 27. TandonS.2004.Challenges totheoralhealthworkforceinIndia.*J Dent Educ.*
 28. TandonS,KohliA,BhallaS.Barriers to leadership positions for Indian women in academic dentistry. *Int Dent J.* 2007; 57(5):331–337.
 29. UnitedNationsEducational,ScientificandCulturalOrg anization.2015.UNESCO science report: towards 2030. UNESCO Publishing; <http://unesdoc.unesco.org/images/0023/002354/235406e.pdf>.
 30. Watson N,Tang P,KnightE.2017. Surveyof dental clinical academicstaff-ing levels: a reportbytheDentalSchoolsCouncil.<https://www.dental-schoolscouncil.ac.uk/academic-dentistry/clinical-academic-staff-survey/section-3-demographics/>
 31. WheltonH,WardmanMJ.Thelandscapeforwomenlea dersindentaeducation, research, and practice. *J Dent Educ.* 2015; 79(5):S7–S12.
 32. World Dental Federation. 2015. The challenge of oral disease—a call for global action. In:*The Oral Health Atlas.* 2nded. Geneva(Switzerland):FDIWorldDentalFederation. https://www.fdiworlddental.org/sites/default/files/media/documents/complete_oh_atlas.pdf.
 33. Yuan JC, Lee DJ, Kongkiatkamon S, Ross S, Prasad S, Koerber A, Sukotjo C. Gender trends in dental leadership and academics: a twenty-two-year observation. *JDent Educ.* 2010; 74(4):372–380