

ORIGINAL ARTICLE

Open Access



Women in otorhinolaryngology; their challenges and perspective: a cross-sectional study

Eman H. Salem^{1*} , Ahmed Y. Khafagy⁴, Michael Fadel⁵, Waleed Moneir¹, Mohamed Mostafa Abd El-Tawwab², Tamer Abou-Elsaad³ and Yasser W. Khafagy¹

Abstract

Background The present study investigates the representation of women in the Otolaryngology department in a tertiary academic hospital, and the challenges they face during their residencies.

Methods A questionnaire which included demographic information and a series of 54-questions of academic, clinical, social, psychological, and private practice challenges was electronically distributed among female residents registered in the Department of Otolaryngology in the last 10 years (2013–2022) throughout November 2023 to January 2024.

Results Eighty-one female residents out of 103 registered (78.6%) responded to the distributed questionnaire highlighting the challenges they faced during their training period.

Conclusion The current study addresses the barriers confronted by female residents in the department as well as identifying potential solutions that might help future encouragement of women to select otolaryngology as their specialty.

Keywords Female, Women, Otolaryngology, ENT

Background

Historically, the education of women in Egypt was discouraged until the efforts of Qassim Amin, an Egyptian jurist, Islamic Modernist, and one of the Arab world's pioneering feminists in the 1900's. As a result of Amin's

advocacy, Hilana Sedarous became the first Egyptian certified physician obtaining her doctorate in 1930 from England, specializing in obstetrics and gynecology, and subsequently opened a private clinic [1].

Because of the steadily growing numbers of women entering medicine, there has been increasing interest in their impact on different aspects of the medical profession. Although most medical students nowadays are females, it does not explain their overall fewer representation in surgery [2, 3]. Noticeably, the number of influential women in otolaryngology remains limited compared to other surgical specialties like ophthalmology or obstetrics and gynecology [4]. In Egypt, they are more condensed in urban centers such as Cairo and Alexandria.

The present study aims to detect the gender distribution and representation of women in the Department

*Correspondence:

Eman H. Salem
emanhamdy7289@gmail.com

¹ Department of Otolaryngology – Head and Neck Surgery, Mansoura University, Mansoura, Dakahlia 35516, Egypt

² Department of Otolaryngology – Head and Neck Surgery (Audio-vestibular unit), Mansoura University, Mansoura, Egypt

³ Department of Otolaryngology – Head and Neck Surgery (Phoniatrics unit), Mansoura University, Mansoura, Egypt

⁴ Bachelor of Medicine, Faculty of Medicine, Mansoura University, Mansoura, Egypt

⁵ Department of Otolaryngology, Faculty of Medicine, Ain Shams University, Cairo, Egypt

of Otolaryngology-Head and Neck Surgery (including Surgery, Phoniatics, and Audiovestibular units), the challenges they face during their training period, and identifying potential solutions recommended by the participants. To the best of our knowledge, this study is the first to report on the barriers faced by females in the specialty in a developing Eastern country and juxtapose them with those encountered by their counterparts in the Western world.

Methods

A descriptive cross-sectional study was conducted among postgraduate female residents registered for Master's or PhD degree in the Department of Otolaryngology-Head and Neck Surgery, Mansoura University, Egypt (including surgery, Phoniatics, and Audio-vestibular units) in the last 10 years (2013–2022). The period was further stratified into five twos (5×2 years) and the study received an institutional review board approval (code: R.24.02.2490.R1).

The questionnaire (which was developed based on a literature review utilizing keywords such as "women", "females", and "otolaryngology") (<https://drive.google.com/file/d/1GBjHaoAlNIK7Mp23WBxIU-duhFHfq0Vp/view>) included demographic information and responses to a series of 54-questions of challenges graded on a 1-to-5-point Likert scale ("strongly agree," "agree," "neutral," "disagree," or "strongly disagree"). These challenges included academic, clinical, social, psychological, and private practice challenges, as well as an open-ended section for participants to provide additional thoughts and comments.

Email addresses were collected for the purpose of distributing the questionnaire throughout November 2023 to January 2024, which was coded to ensure confidentiality and responses were entered autonomously from a Google-form sheet into an Excel sheet. A small provisional pilot study was conducted ($n=10$) before distribution of the survey to test clarity of the questions and guarantee that the grading scale would adequately return a representative range of responses.

Results

Based on the records review, a total of 103 female residents were registered at our department in the selected duration (2013–2022). Their number was comparable to men (46%) (Fig. 1). The mean age was (33 ± 3.09), (34.3 ± 2.52), and (35.2 ± 1.73) years in surgery, phoniatics, and audiovestibular units respectively. Their representation among surgical field (35%) remains lower than those in other subspecialties (65%); phoniatics ($n=40$), and audio-vestibular ($n=27$) units. However, their representation in surgery is getting higher over the years especially those pursuing master's degrees whereas numbers registered for PhD programs in all specialties witnessed fluctuation over the years (Fig. 2). Eighty-one females (78.6%) responded to the distributed questionnaire.

As regards academic challenges, 42% denied facing difficulty in registration, 55.5% did not have problems with their mentor, however 65.8% agreed that the tuition fees were somewhat unaffordable and 50.6% mentioned difficulty while selecting a research topic, possibly because of research inexperience (59.25%). Almost 43.2% did not face any rejection of the presence of female residents in

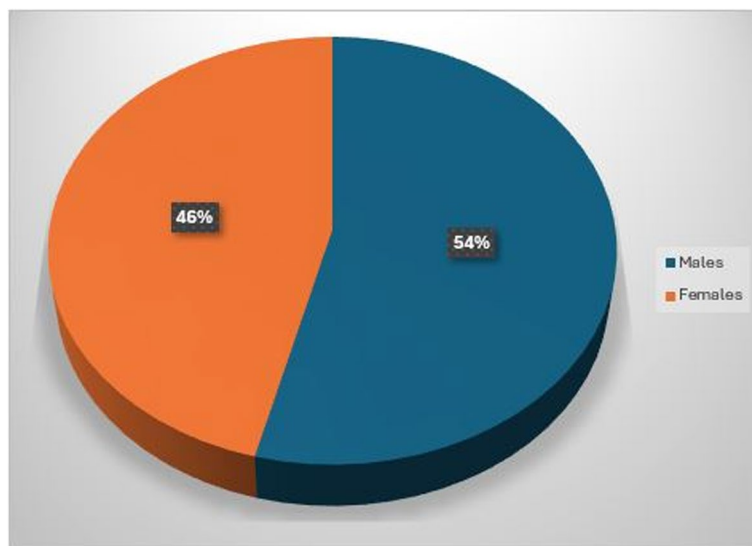


Fig. 1 Pie chart of male to female representation in the department

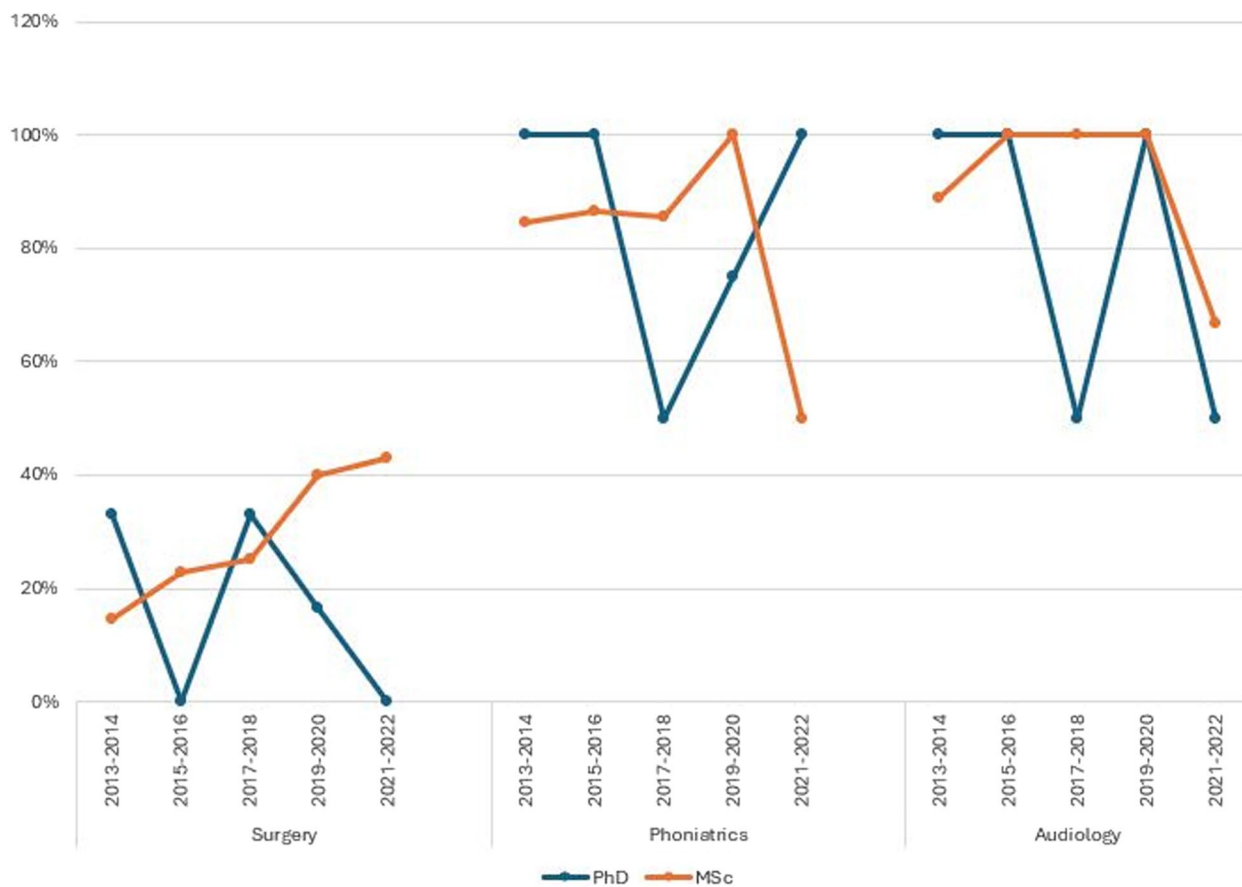


Fig. 2 Distribution of females registered for Master or PhD degree over the years by subspecialty

the department, but 67.9% agreed that absence of female role model/mentor was discouraging (Fig. 3). Although 71.6% mentioned that they have been offered opportunities to publish without gender discrimination, 64.2% stated that work-life imbalance prevented them from venturing further academic life, and 53% claimed that their gender had negative effects on her academic life.

During their training period, 76.5% did have good working relationships with senior physicians, but 64.2% reported problems with their juniors. Compared to their male counterparts, 63.8% reported being offered different number of cases and 75% reported different type of cases however 75.3% said that everyone can take benefit of opportunities (attending conferences, workshop). Only 52.7% had confidence that their surgical abilities are adequate for practice, and 58.3% were satisfied with the program surgical volume. Around 71.6% agreed that men are more successful in branches of medical practice which require active physical strength and 62.9% see that females are more successful in duties requiring passive patience and punctuality. Despite 80% agreeing that work schedule is arranged according to seniority, 67.9% see

that branches with longer work hours and night shifts are more convenient for male doctors.

Around 60.5% were married, 7.4% were divorced, and 32.09% were single with a median of 3 children recorded among married/divorced participants. Noticeably, surgical field included the highest frequency of unmarried females (44.8%) compared to phoniatrics (28.1%) and audiology (20%). Although 92.3% acknowledged maternal leave feasibility, only 38.5% found substantial workplace support in training during their pregnancy, 65.4% could not maintain breastfeeding in the postpartum/on call period or take a breastfeeding breaks attire (46.1%). Despite financial unaffordability of baby daycare for 78.8% of the mothers, 71.1% agreed that its availability would stand as a temporary solution while 34.6% considered birth control during their early career. When both spouses aim at advancing their career, 75% agreed that it is the wife's duty to sacrifice. On the other hand, 66.6% of the divorced females claimed getting divorced because of domestic issues related to career, and 50% preferred to stay single either because of financial satisfaction or having no time to start a family.

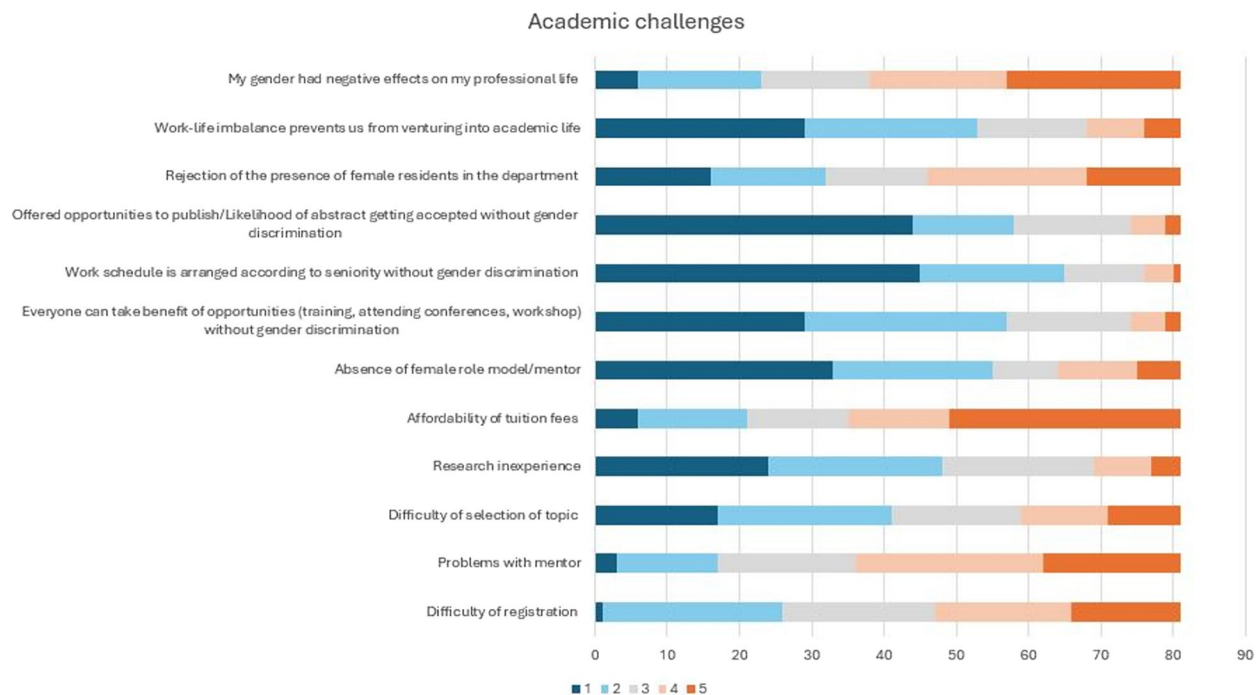


Fig. 3 Bar chart showing the academic challenges where (1 “strongly agree”, 2 “agree”, 3 “neutral”, 4 “disagree”, and 5 “strongly disagree”)

On reporting psychological challenges, 41.9% reported verbal harassment at certain points of their training and none reported physical or sexual harassment. Around 67.9% sensed guilt to patients, 62.9% witnessed depression, 19.7% had suicidal ideations/thoughts sometime during their career, but none experienced suicidal attempts, or considered drug abuse because of the stress related to career. Furthermore, 75.3% said that career interfered with social life by having less free time for daily social activities (71.6%). Females were not restricted in terms of what to wear at work (77.7%), but 90.12% felt embarrassment to express female problems e.g. menstruation or gynecological diseases and 71.6% said that sick leave, when needed, was feasible.

Regarding private practice, 25.8%, 31.25%, and 45% pursue an additional private practice in surgery, phoniatics, and audiovestibular respectively besides their usual governmental/academic work. The average total monthly income is 12.185 EGP with an average working hour of 48.87 per week. About 48.14% faced difficulty starting their own business possibly due to perceived lack of power of negotiation (39.5%). Almost 61.7% believe that patients still trust male surgeons more, 44.4% thought they are unequally paid compared to their male colleagues in private practice, and only 39.5% reported financial satisfaction.

In the additional comments section, a participant added that “she feels married to medicine by being

obliged to review a candidate thesis, work on a research article, or prepare a presentation in her off days” hindering her from enjoying a social life. Around 51.8% of phoniatic residents stated that they face competition with other non-medical specialties and speech therapists. However, they added that being specialized in a semi-surgical branch offered them the opportunity to choose between practicing phonosurgery or focusing solely on the medical aspects of their profession. Because of the obstacles faced while selecting a topic, research inexperience, or high tuition fees, a participant added she would have preferred to apply for the Egyptian fellowship that does not include a research work. Another resident suggested implementing a time-sharing policy as a feasible solution to address the cost of expensive equipment needed to establish a private practice.

Despite all the abovementioned challenges, only 12.3% thought of leaving the job or doing a career shift. Of surgical females, only 16.6% would choose a nonsurgical career if they had to do it over again. Overall, 80.3% would recommend their specialty to a younger female, and 60.5% testified job satisfaction.

Discussion

It is no secret that women have historically struggled because of the gender gap in many fields. Although they have made tremendous progress towards increasing their participation in higher education, they are still

under-represented in most fields of science, according to the United Nations (UN) [5–7].

Although the number of practicing otolaryngologists worldwide is not well documented, the global shortage of qualified otolaryngologists is well-known [8, 9]. For that reason, the American Academy of Otolaryngology—Head and Neck Surgery supported the development of the Women in Otolaryngology (WIO) Section in 2010, which includes more than 1900 individuals, to provide a source of mentorship for women as they pursue career development in otolaryngology [10].

The otorhinolaryngology in Egypt holds a quiet number of female role models including Professor Nadia Kamal, Medical Audiologist at Ain Shams University, and her struggle to implement the newborn hearing screening into the national program. Professor Lobna Alfeky, the first female otorhinolaryngology surgeon affiliated to Ain Shams University and her academic contribution, is another example. About 67.9% in the current study believed that lack of female role models was discouraging. Since its establishment in 1962, our Faculty of Medicine witnessed 2 female Deans out of 18 (11.1%) throughout the years. Hülya showed that female otolaryngologists had been exposed to gender discrimination during their residency training especially in the departments with lesser or no female faculty members [9].

The reason behind a smaller number of women in academic positions may be the limited availability of academic careers especially in surgical subspecialties and the extra burden of research work. However, our study demonstrated that the numbers registering for master's degree are getting higher and this could be attributed to the rise in numbers of medical students in general. Some studies have compared academic contributions of women to those of men. Eloy et al. studied gender disparities and scholarly productivity in otolaryngology [11]. Bergeron et al. report that analysis of publications in otolaryngology since 1978 show significant and steady increases in female authorships [12].

In the present study, 63.8% and 75% mentioned that they were not offered the same number or type of operative cases as their male counterparts, and only 58.3% were satisfied with the program surgical volume. In a survey of Norwegian house officers, female residents self-reported achieving fewer surgical skills than their male counterparts [13]. Seeman et al. stressed that female surgeons had to work much harder than their male colleagues to gain the same privileges or respect [14, 15].

Women reported being actively excluded from certain cases such as head and neck cases in favor of their male counterparts [8]. Grandis et al. declared that the type of fellowship differed by gender, women more likely preferred pediatric otolaryngology and laryngology while

male counterparts more often obtained plastic surgery or head and neck oncology. Gender preference was equal in otology [2].

Lind et al. found that female students on a surgical rotation tended to underestimate their performance compared with male students who overrate their capabilities [16]. Our study shows that only 52.7% had confidence that their surgical abilities are adequate for practice probably because assessment of surgical skills is subjective and females generally tend to imposter themselves.

Our study revealed that 60.5% were married and having an urge to start a family and raise children was a valid justification for women to prefer non-surgical fields. Unlike the national data that reports a shocking increase in divorce rates (279,000 cases in 2022%), only 7.4% of the respondents were divorced (of whom, 66.6% claimed getting divorced because of domestic disturbances related to career). Moreover, women in surgery were more likely to stay unmarried (44.8%) compared to other subspecialties. One study surveyed members of the American Academy of Otolaryngology—Head and Neck Surgery, revealed that a similar proportion of men and women in otolaryngology were married with a similar number of children, but women were more likely than their male counterparts to be divorced. However, both men and women reported equal happiness with family, marriage, and health [10].

The fact that a maternity leave is unpaid persuaded most of the mothers to return to work after the 4-months labor leave seeking a family member support or a child daycare. Overall, 71.1% agreed that availability of a trusted baby daycare, despite unaffordability (78.8), could stand as a temporary solution while others (34.6%) considered birth control during their early career. Coping with the norms of a conservative society, 75% agreed that it is primarily the wife's duty to sacrifice putting most of her time in raising children for the sake of constructing a tightly bound community. According to a Turkish survey, pursuing a career as a female surgeon delayed the age of maternity from 25 to 30 years [9]. Female residents and consultants reported physical, psychological, emotional stressors related to pregnancy, guilt relating to overburdening colleagues, and inflexibility in the maternity leave policy to account for unplanned complications [8, 17, 18].

Noteworthy are the psychological drawbacks they reported since 67.9% felt guilty to patients or family, 62.9% witnessed depression, 19.7% had suicidal ideations/thoughts at a certain point during their career shedding the light to what has been recently termed in the literature as the "second victim syndrome". A second victim can be described as a health-care professional who is deeply affected or traumatized because of an adverse medical event causing intense and long-lasting consequences to both personal and professional life. Emotional

reactions and psychological distress, feelings of guilt, fear, shame, sadness, isolation with symptoms associated with post-traumatic stress disorder (PTSD), have been reported by a variety of health-care professionals, including surgeons, physicians and registered nurses [19–21].

Obviously, because of the economic burden and financial needs, women were pushed towards having a private practice. However, they must weigh the benefit versus the risk of needing a hand to help with her family and domestic demands. The average total monthly income was 12.185 EGP with an average working hour of 48.87 per week. Comparison with men in terms of percentage pursuing a private practice, average income and working hours limited our capability to give a conclusive estimate of gender pay inequity. A study stated that men consistently reported higher income (averaging \$40,000 per year more than women), but also reported working > 60 h per week and more time spent in the operating room. By way of contrast, women were far more likely to run the home and spend greater than 20 h per week on home care work [17].

Additional solutions for a paradigm shift towards gender equity could be concluded as follows: both genders should be offered same training opportunities and surgical volume, women having enough mentors and role models, allowing for adjusted work schedule to optimize family time for working parents, availability of affordable trusted childcare, time share clinics for private practice that are fully equipped at a reasonable price, overcoming the public prejudices and stigma about gender roles and capabilities, and adoption of strategies to address gender pay equity. We believe that conducting a nationwide survey would result in a more diverse representation of females in the field of otolaryngology. This would encompass individuals with various circumstances, challenges, and lifestyles, ultimately leading to more generalizable and externally valid conclusions that accurately reflect the broader spectrum of experiences within the profession.

Conclusion

This current survey represents a crucial step towards achieving equity, equality, and increasing diversity in the field of otolaryngology through addressing the barriers females face and seeking convenient solutions.

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s43163-024-00654-w>.

Supplementary Material 1

Acknowledgements

Not applicable.

Authors' contributions

EHS; original conception, study design, data collection, interpretation and analysis, AYK, MF; data interpretation and manuscript drafting, WM; MMAET, manuscript drafting and revision, study design and data interpretation, TAE; YWK, original conception, study design, final approval, and agreement to be accountable for all aspects of the work.

Funding

The authors did not receive support from any organization for the submitted work. The topic has been submitted as an abstract for oral presentation in the AAO-HNSF 2023 Annual Meeting & OTO Experience.

Availability of data and materials

The datasets used and/or analyzed during the current study are saved with the primary investigator to protect confidentiality of participants and available upon reasonable request.

Declarations

Ethical approval and consent to participate

The study was approved by the Mansoura university institutional review board (IRB) (code: R.24.02.2490.R1).

Consent for publication

Informed written consent was obtained from all participants included in the study.

Competing interests

Dr Yasser Khafagy is a co-author of this study and a co-editor of the journal. He has not been involved in handling this manuscript during the review process. The rest of the authors have no conflict of interest to declare.

Received: 23 May 2024 Accepted: 6 August 2024

Published online: 14 August 2024

References

- Amin, Q. (2000). the Liberation of Women. In *Contemporary Debates in Islam: An Anthology of Modernist and Fundamentalist Thought*. New York, Palgrave Macmillan US, p 163-181
- Grandis JR, Gooding WE, Zamboni BA et al (2004) The gender gap in a surgical subspecialty: analysis of career and lifestyle factors. *Arch Otolaryngol Neck Surg* 130(6):695–702
- Lawlor C, Kawai K, Tracy L, Sobin L, Kenna M (2021) Women in otolaryngology: experiences of being female in the specialty. *Laryngoscope* 131(2):E380–E387
- Sulibhavi A, Kaufmann MR, Shetty KR, Wulu JA, Tracy LF, Levi JR (2021) Factors associated with distribution of female otolaryngology residents in United States. *Laryngoscope* 131(2):E367–E372
- Salmon A (2015) A complex formula: girls and women in science, technology, engineering and mathematics in Asia. UNESCO Bangkok. Published online
- Ferguson BJ, Grandis JR (2006) Women in otolaryngology: closing the gender gap. *Curr Opin Otolaryngol Head Neck Surg* 14(3):159–163
- UNICEF. (2023). *Gender Equality: Global Annual Results Report 2022*
- Ali HM, Lee SYH, Jashek-Ahmed F et al (2023) Gender disparities in otolaryngology: a case report reflecting global perspectives. *Laryngoscope* 133(3):547–551
- Eyigör H, Can İH, İncesulu A, Şenol Y (2020) Women in otolaryngology in Turkey: insight of gender equality, career development and work-life balance. *Am J Otolaryngol* 41(1):102305
- O'Connell Ferster AP, Hu A (2017) Women in otolaryngology. *Otolaryngol Neck Surg* 157(2):173–174

11. Eloy JA, Svider PF, Kovalerchik O, Baredes S, Kalyoussef E, Chandrasekhar SS (2013) Gender differences in successful NIH grant funding in otolaryngology. *Otolaryngol Neck Surg* 149(1):77–83
12. Bergeron JL, Wilken R, Miller ME, Shapiro NL, Bhattacharyya N (2012) Measurable progress in female authorship in otolaryngology. *Otolaryngol Neck Surg* 147(1):40–43
13. Falck G, Brattebø G (1996) Young female doctors report achieving fewer surgical skills than young male doctors. *BMJ Br Med J* 313(7062):944
14. Seemann NM, Webster F, Holden HA et al (2016) Women in academic surgery: why is the playing field still not level?. *Am J Surg* 211(2):343–349
15. Lindsay R (2021) Gender-based pay discrimination in otolaryngology. *Laryngoscope* 131(5):989–995
16. Lind DS, Rekkas S, Bui V, Lam T, Beierle E, Copeland Iii EM (2002) Competency-based student self-assessment on a surgery rotation. *J Surg Res* 105(1):31–34
17. Johnson JT (2014) Women in otolaryngology. *J Otolaryngol Neck Surg* 43:1–2
18. Tang AL, Miller A, Hauff S et al (2019) Maternity and paternity leave in otolaryngology residency training in the United States. *Laryngoscope* 129(5):1093–1099
19. Petryszyn KR, Young JP, Neil ER, Benedict JE, Eberman LE (2023) Second victim syndrome and organizational support for healthcare providers: a scoping review. *Internet J Allied Heal Sci Pract* 21(3):21
20. Whalen A, Collins C (2024) Unmasking the silent struggle: Second Victim Syndrome among surgeons. *The American Journal of Surgery* 229:3–4
21. Nydoo P, Pillay BJ, Naicker T, Moodley J (2020) The second victim phenomenon in health care: a literature review. *Scand J Public Health* 48(6):629–637

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.