The Invisible Cost of Being a Women: A Systematic Review of the Experiences of Women in Ophthalmology from Training to Practice

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Introduction
Despite equalising rates of acceptance to, and matriculation from, medical schools among men and women in high-income countries (HIC), major disparities in the proportion of women within surgical residency programs and practice persist.5 The gender gap within surgical specialties including neurosurgery, orthopaedics, and urology is well-reported, with commonalities in barriers cited across the board.6,7 Negative experiences such as micro- and macro-aggressions starting in preclinical years and extending throughout practice. The following are often cited as key contributors to this gender gap.8

Objectives
This study’s purpose is to characterise the experiences of women in ophthalmology in high-income countries. The following were the main outcomes:
1. Prevalence of women in ophthalmology over time and across career stages in HIC.
2. Issues and barriers for women in ophthalmology within HIC.
3. Interventions to address identified barriers facing women in ophthalmology.

Methods
Design: Systematic Review
Search: All English-language studies relating to women in ophthalmology, with no limitations on date.
Databases: PubMed, MEDLINE, Embase
Quality Assessment Tool: Scale modified from the Oxford Centre for Evidence-based Medicine.

Inclusion Criteria
1. Articles available in English
2. Articles reporting on women’s experiences in ophthalmology in HIC, as defined by the World Bank
3. Articles addressing the prevalence of women in ophthalmology in HIC
4. Articles discussing interventions to address issues faced by women in ophthalmology in HIC

Exclusion Criteria
1. Articles reporting personal experiences
2. Articles that are historical perspectives, editorials, opinion pieces, letters, textbook chapters, and news pieces
3. Articles addressing other surgical specialties without ophthalmology-specific results
4. Articles reporting women’s outcomes of ophthalmic procedures or conditions

Results

Stage Results

Search
- Lack of same-gender role models often cited as a reason not to pursue ophthalmology (US, 2016)
- Women medical students are advised by their surgical mentors that ophthalmology is an inappropriate specialty for women (Global, 2020)
- 22% of female residents said they were reluctant to pursue urology (Global, 2014)

Identify
- Letters for women were determined to be more “authentic” than true stories characterized by bias and negativity.
- Women were more likely to receive lower evaluations than their male counterparts (US, 2009)
- Women residents had marginally higher evaluations than men, but were more likely to receive lower evaluations from male faculty (US, 2009)

Eligibility
- Women ophthalmologists tended to more frequently serve women, younger patients, and ethnically diverse populations (US, 2017)
- Ophthalmology women report fewer hours and have lower clinic and surgical volumes compared to their male counterparts (Global, 2021)
- There were no gender differences in the number of articles among peer-reviewed surgical specialties (Global, 2021)
- Compared to women, men were more likely to be married in a stable relationship, more likely to have children, and soar in their careers (US, 2007)

Practice
- Ophthalmologists reporting greater difficulty in finding mentors than their male counterparts (Canada, 2017)
- Women ophthalmologists earn less than men (adjusting for clinical activity, practice characteristics, and provider characteristic) (Global, 2021)
- Compared to other surgical specialties, ophthalmology has the third highest gender disparities (Global, 2017)

Publications
- Women ophthalmologists less than men (adjusting for clinical activity, practice characteristics, and provider characteristic) literature (Global, 2022)
- Women ophthalmologists earn less than men (adjusting for clinical activity, practice characteristics, and provider characteristic) literature (Global, 2022)
- When controlling for publication experience, women in 31 to 40 years publication experience demonstrated scholarly impact equivalent to men (Global, 2022)

Conclusions
To the best of our knowledge, this is the largest systematic review on the experiences of women in ophthalmology to date. Although women are entering ophthalmology at increasing rates, we find that gender disparities persist across all domains. With this, it is important to ensure women are supported throughout their training and careers.

1. Institutional Strategies: The impact of women in leadership positions and mentorship is frequently cited as crucial mitigating factors to gender disparities. Gender disparities in ophthalmology must be met with evidence-based interventions embedded into institutions.

2. Individual Strategies: Each individual is encouraged to evaluate their implicit bias and how it may impact their perceptions and actions. Interventions including bystander training and billing and leadership workshops should be explored.

We found that much of the literature was focused on publications and leadership. More research is required in other domains, including recruitment, surgical training programs, and sexual harassment.

References

Table 1 - Key Results from Included Studies

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