



GENDER DISCRIMINATION AS AN OPHTHALMIC SURGEON: AN EMPIRICAL INVESTIGATION AT EYE DEPARTMENT OF MAYO HOSPITAL, LAHORE, PAKISTAN

Hafiza Sadia Imtiaz^{1*}, Zahid Kamal Siddiqui², Shujah-Ur-Rehman³, Memoona Rafique⁴,
Muhammad Sharjeel⁵

^{1*}Senior Registrar/Fellow of Orbit and Oculoplastic, Mayo Hospital, Lahore – Pakistan, Email: sadiaimtiaz69@gmail.com

²Professor/Head of Department, Mayo Hospital, Lahore - Pakistan, Email: zahidkamal@hotmail.com

³PGR, Eye Unit 3, Mayo Hospital, Lahore – Pakistan, Email: shujah36@gmail.com

⁴PGR, Eye Unit 3, Mayo Hospital, Lahore – Pakistan, Email: memoonarafique0001@gmail.com

⁵Assistant Professor, Gomal Medical College, D.I.Khan – Pakistan, Email: dr.sharjeel@gmail.com

***Corresponding Author:** Hafiza Sadia Imtiaz

*Senior Registrar/Fellow of Orbit and Oculoplastic, Mayo Hospital, Lahore, Pakistan
Email: sadiaimtiaz69@gmail.com

Abstract

Objective: To determine gender preferences of medical personnel when selecting ophthalmologists for routine check-up and ophthalmic surgeries and also to determine the factors responsible for this gender-discrimination while selecting a surgeon.

Material and Methods: After getting ERB approval and taking informed consent from every participant, a cross-sectional study was conducted at Eye unit 3, Mayo Hospital, for a duration of 3 months using convenience sampling. The 100 participants of either gender, of age 18 years or above, who are medical personnel working in Eye department of Mayo Hospital, including doctors and non- doctors' staff were included in this study. Data was recorded on specially designed questionnaire and further analyzed in SPSS version 25.0.

Results: The 100 participants were enrolled in this study, out of which 62% were male and 38% were female. Mean age recorded was 32±2.4 years. Majority of participants didn't have any preference (50.2%) in total and among them the highest level of no preference was for regular checkups (66%) and for Emergency cases (55%). While for elective surgical procedures, majority have male preference for vitreoretinal cases (50%) and for complicated cases (48%). While female surgeons were preferred compared to males only in pediatric ophthalmology cases (33% versus 21%). Among the positive characteristics of a female surgeon, mostly agreed that females are more detail oriented, have patient centered communication style, more empathetic, and understand the psychological factors better and are well-qualified. Mostly agreed that male surgeons are more confident, have strong decision power, better in dealing with complex cases and intra-operative complications and also performing in emergency situation.

Conclusion: In conclusion, almost half of participants didn't show any preference and among remaining participants, male surgeons were preferred over female surgeons. Male surgeons were preferred for being more confident, fearless, more experienced, competent in dealing with complicated cases, more decisive, and having better professional skill.

Keywords: Gender Discrimination, Ophthalmology, Surgeon, Gender Preferences

INTRODUCTION

Males have primarily dominated the medical field, and this long-standing unequal gender order has resulted in institutional barriers that prevent women from progressing in the medical field.¹ Reports show that about 67% of female surgeons still face discrimination, despite the fact that more women are graduating from medical school, more women are represented in leadership roles, and more people are aware of gender bias in surgery.²⁻⁴ In the surgical profession, implicit gender bias is very prevalent.⁵

Discrimination against female surgeons has been a contributing factor to a decrease in the number of females entering the field of surgery.⁶ As a result, there is an under-representation of females in surgery, which compromises quality mentorship and creates a hostile situation that further instills barriers to entry.⁷ Attrition among female surgical residents is around 25% greater than among male residents because of gender bias.⁸ Shortage of surgeons leads to an increase in burnout and medical errors.⁹ Dropout rate for female surgeons is also alarming, as these surgeons have valuable features such as higher surgical outcomes due to greater physician-patient communication and more patient-centered care.^{10,11}

Various studies have been carried out to determine the patients' preference for surgeon in various medical fields based on the gender. A study done by Hoffman et al. in the USA reported that up to 17% of patients who need colorectal surgery choose their surgeon based on the gender of the surgeon. Female patients were 1.47 times more likely than male patients to request a surgeon based on gender.¹²

Barriers to the advancement of female surgeons persist despite the serious implications for the general well-being framework. To provide optimal patient-centered treatment, greater research into the factors that contribute to the gender differences in ophthalmic surgery need to be explored. Gender bias in surgery can be better understood by examining the preferences of medical personnel rather than just relying on one perspective.

RESEARCH OBJECTIVE

This study is aimed to assess gender preferences of medical personnel when selecting surgeons for consultation and surgeries in Ophthalmology and also to determine the factors responsible for this gender-discrimination as an ophthalmic surgeon.

MATERIALS AND METHODS

After getting approval from Ethical Review Board and getting informed consent from every participant according to the Declaration of Helsinki, a descriptive cross-sectional study was conducted at Eye unit III, Institute of Ophthalmology, Mayo Hospital, Lahore for a duration of 3 months using convenience sampling. 100 participants of either gender, of age 18 years or above, who are medical personnel working in Eye department of Mayo Hospital, including doctors and non-doctors' staff. The exclusion criteria was of medical personnel of grade below 9 and who have no exposure working in operation theatre or dealing with patients.

Participants giving the consent and fulfilling the inclusion criteria were enrolled in this study. A specially designed questionnaire was used to collect the relevant information from every participant. 1st part of questionnaire was about Socio-demographic data. 2nd part was about gender preference in various sub-specialties of eye like vitreo-retina, oculoplastics, pediatric ophthalmology etc. Response in 2nd part had 3 options; No preference, male surgeon, female surgeon and had numerical values from 0-2 respectively. 3rd part of questionnaire was about characteristics of female surgeon and last part was about the attributes of male surgeon, both these parts had 5 options from strongly disagree, disagree, neutral, agree, and strongly agree and had numerical values from 0-4 respectively.

All data was then recorded on SPSS software version 25 and processed for analysis. Categorical variables were represented in the form of frequencies and percentages using suitable tables and figures. Continuous variables were presented using mean and standard deviation.

RESULTS

The 100 participants were enrolled in this study, out of which 62% were male and 38% were female. Mean age recorded was 32 ± 2.4 years with range of 18-58 years of age.

Table 1: Demographic Variables

Age group	Males	Females	Total
18-28 years	13	9	22 (22%)
29-38 years	26	12	38 (38%)
39-48 years	12	10	22 (22%)
49-58 years	11	7	18 (18%)

In our study, we enquired about the participant's preference for various ophthalmic procedures and checkups. Majority of participants didn't have any preference (50.2%) in total and among them the highest level of no preference was for regular checkups (66%) and for Emergency cases (55%). While for elective surgical procedures, majority have male preference for vitreoretinal cases (50%) and for complicated cases (48%). While female surgeons were preferred compared to males only in pediatric ophthalmology cases (33% versus 21%).

Table 2: Participants' preferences in various ophthalmic settings

Ophthalmologists preferred for	Males	Females	No preference
Regular check-up	19%	15%	66%
Cataract surgery	41%	09%	50%
Orbit and Oculoplastic surgery	30.4%	16.2%	44.4%
Vitreo-retinal surgery	50%	08%	42%
Pediatric Ophthalmology cases	21%	33%	46%
Emergency cases	39%	06%	55%
Complicated cases	48%	03%	49%

In our study, we enquired about the positive and negative aspects of female surgeon to determine the actual determinants of this discrimination. Among the positive characteristics, mostly agreed that females are more detail oriented, have patient centered communication style, more empathetic, understand the psychological factors better and are well-qualified. And among the negative aspects, mostly agreed that its harder for females to command authority, they need to work hard for their rapport building at workplace and neutral response was shown for their delicate work expertise. (Fig.1)

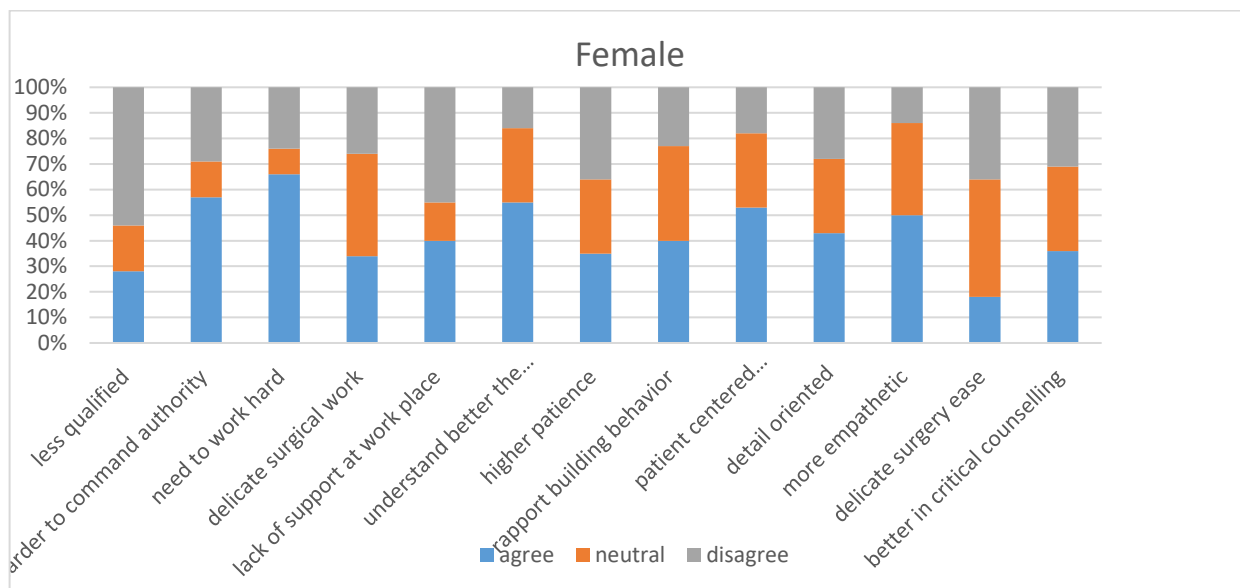


Fig 1: Column chart showing various characteristics of female surgeon

Male surgeon characteristics were also being studied in our research. Mostly agreed that male surgeons are more confident, have strong decision power, better in dealing with complex cases and intra-operative complications and also performing in emergency situations. Most participants showed a neutral response about their credibility, competency and professionalism. (Fig. 2)

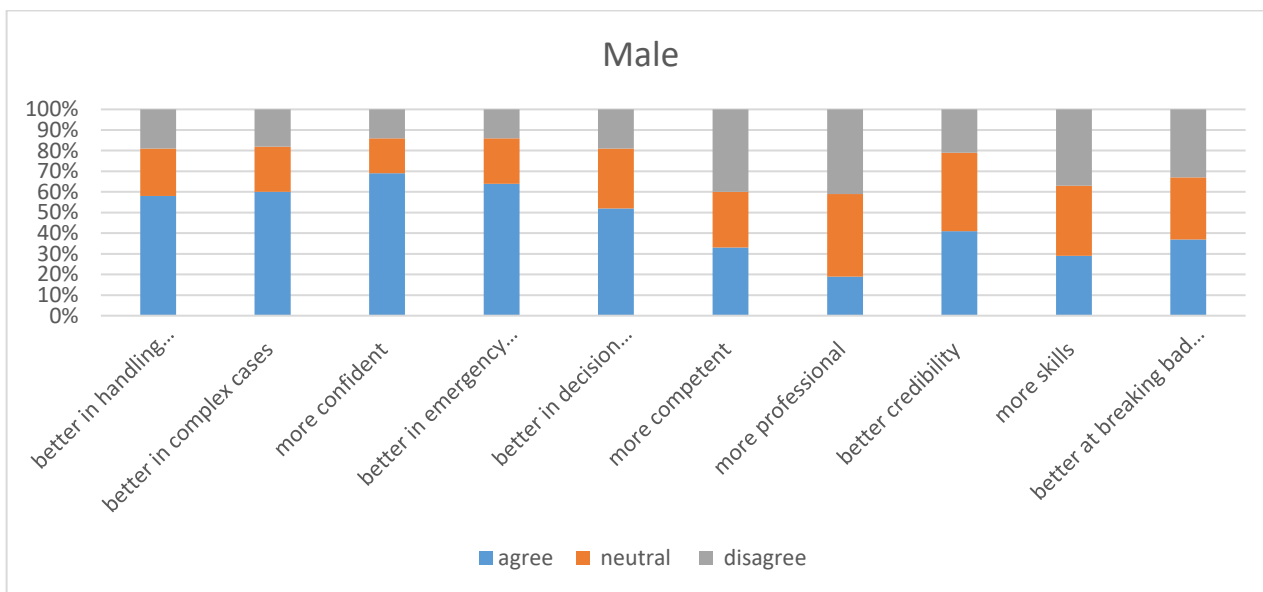


Fig 2: Column chart showing characteristics of male surgeons

DISCUSSIONS

Healthcare systems in both developed and developing countries is facing gender discrimination in all fields that have a serious impact on health outcomes. The main source of this discrimination is the patient and their families as reported by 49.2% participants in a study.¹³ The main purpose of this survey was to assess gender preferences of medical personnel as patients or attendants while selecting ophthalmic surgeons for regular medical check-up or surgery and to highlight the factors responsible for this discrimination. The findings of our study are no more different from the previous studies while considering basic knowledge, surgical skill, communication style and patient doctor relationship in selecting gender of surgeon and physician in field of ophthalmology.

For regular medical check-ups and for various types of ophthalmic surgeries, major proportion of participants have no gender preference (about 50.2%) which means people have started accepting the reality that it's the doctor which matters not the gender. However, in remaining participants who selected a preference and that was for males in majority (35.5%). Cataract surgery is most commonly performed surgical procedure in ophthalmology and for that, almost 41% participants had preference for male surgeons. According to Cai CX et al, male surgeons on average performs 276 cataract surgeries while female surgeons perform 140 cataract cases per year.¹⁴ Its mostly because of general perception of males being more skillful and having more practice in their career. This supports the male surgeon preferences for oculoplastic and vitreoretinal surgeries (39.4% and 50% respectively). For emergency cases 39% of the participants and for complicated cases 48% of them prefer male surgeons owing to their surgical expertise and attributes like being stronger and fearless. It was only for pediatric ophthalmology cases that female surgeons were preferred over male surgeons (33% versus 21%) and this was probably due to more females in pediatric ophthalmology and also that females are more affectionate and better dealing with kids. Wallis J D et al. exhibited that female surgeons have less postoperative complication (difference of 0.43%) because they performed surgeries on young patients with less comorbidities and most of the surgeries are elective in nature.¹⁵

Findings in our survey regarding attributes of female surgeons are consistent with previous researches. Alyaha et al. analyzed that females are better at understanding patient psychological factors (60%), good listener, exhibit rapport building behavior, and are cooperative with patients.¹⁶ Patient satisfaction is generally predicted by communication style and comprehension of problem from biopsychosocial aspect. 41.9% participants preferred female surgeons due to this attribute in another survey¹⁷ that is consistent with 44% in our survey. Lim et al.¹⁸ showed that 45% of participants think females are not less qualified than males which is comparable to our study finding (54%). Furthermore about 48.5 % agree that females face difficulty in commanding authority, 29% thinks females have to work harder to establish their legitimacy and 36% believes in less workplace support to them. It is mainly due to trust of patients and hospital staff in male surgeons. This lack of respect can make them less passionate in their work and they have to work more masculine in male determined surgical field.¹⁹

In our study, male surgeons were preferred for being more confident, fearless, more experienced (52%), competent (50.5%), have better professional skill (56.1%), more decisive, have better credibility than females and similar results were shown by another study by Alkhaldi et al.²⁰ Owing to these qualities, male ophthalmologist are preferred for clinical practice more while females are likely to be employed by academic institutions (42.8 % vs 30%).²¹ Another justified reason for giving the preference to male surgeons is because females are easily burn out at workplace because they have to keep balance between family life and professional life and also they usually face lack of support at workplace.^{22,23}

In the light of above discussions, this study provides us valuable information regarding gender discrimination of ophthalmic surgeons and participants in our study are actually medical personnel who have sufficient surgical insight and working experience with ophthalmic surgeons. Thus, the data inferred from our study is more logical and reality based considering our effective sample population rather than patients who don't have this much insight and their perceptions are more based on social believes.

The limitation of our study is that our study is based on single center and single specialty. Our future recommendations are multi-centered study involving multiple surgical fields and sample population being medical personnel as well as general population for more holistic approach towards this concept.

CONCLUSION

In conclusion, almost half of participants didn't show any preference while selecting ophthalmologist for routine check-up and for various ophthalmic surgeries. And among remaining

participants, male surgeons were preferred over female surgeons. Male surgeons were preferred for being more confident, fearless, more experienced, competent in dealing with complicated cases, more decisive, and have better professional skill. And positive attributes of female surgeon are patient-centered communication style, more empathetic nature, well-qualified, understand the psychological factors better, and are more detail-oriented.

REFERENCES

1. De Simone S, Scano C: Discourses of sameness, unbalance and influence: dominant gender order in medicine. *J Gend Stud.* 2018, 27:914-27. 10.1080/09589236.2017.1357541
2. Hu YY, Ellis RJ, Hewitt DB, et al.: Discrimination, abuse, harassment, and burnout in surgical residency training. *N Engl J Med.* 2019, 381:1741-52. 10.1056/NEJMsa1903759
3. Ceppa DP, Dolejs SC, Boden N, et al.: Sexual harassment and cardiothoracic surgery: #UsToo?. *Ann Thorac Surg.* 2020, 109:1283-8. 10.1016/j.athoracsur.2019.07.009 2022 Alkhalidi et al. *Cureus* 14(8): e28017. DOI 10.7759/cureus.28017 8 of 10
4. Baptiste D, Fecher AM, Dolejs SC, Yoder J, Schmidt CM, Couch ME, Ceppa DP: Gender differences in academic surgery, work-life balance, and satisfaction. *J Surg Res.* 2017, 218:99-107. 10.1016/j.jss.2017.05.075
5. Salles A, Awad M, Goldin L, Krus K, Lee JV, Schwabe MT, Lai CK: Estimating implicit and explicit gender bias among health care professionals and surgeons. *JAMA Netw Open.* 2019, 2:e196545. 10.1001/jamanetworkopen.2019.6545
6. Bruce AN, Battista A, Plankey MW, Johnson LB, Marshall MB: Perceptions of gender-based discrimination during surgical training and practice. *Med Educ Online.* 2015, 20:25923. 10.3402/meo.v20.25923
7. Yaow CYL, Mok HT, Ng CH, Devi MK, Iyer S, Chong CS: Difficulties faced by general surgery residents. A qualitative systematic review. *J Surg Educ.* 2020, 77:1396-406. 10.1016/j.jsurg.2020.06.003
8. Khoushhal Z, Hussain MA, Greco E, et al.: Prevalence and causes of attrition among surgical residents: a systematic review and meta-analysis. *JAMA Surg.* 2017, 152:265-72. 10.1001/jamasurg.2016.4086
9. Wallis CJ, Ravi B, Coburn N, Nam RK, Detsky AS, Satkunasivam R: Comparison of postoperative outcomes among patients treated by male and female surgeons: a population based matched cohort study. *BMJ.* 2017, 359:j4366. 10.1136/bmj.j4366
10. Janssen SM, Lagro-Janssen AL: Physician's gender, communication style, patient preferences and patient satisfaction in gynecology and obstetrics: a systematic review. *Patient Educ Couns.* 2012, 89:221-6. 10.1016/j.pec.2012.06.034
11. Cil TD, Easson AM: The role of gender in patient preference for breast surgical care - a comment on equality. *Isr J Health Policy Res.* 2018, 7:37. 10.1186/s13584-018-0231-2
12. Hoffman RL, Bauer PS, Chan T, et al.: Patient-provider gender preference in colorectal surgery. *Am J Surg.* 2020, 220:1253-7. 10.1016/j.amjsurg.2020.06.051
13. 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.
14. Cai CX, Janek Klawe, Ahmad S, Zeger SL, Wang J, Sun G, et al. Geographic variations in gender differences in cataract surgery volume among a national cohort of ophthalmologists. *Journal of Cataract and Refractive Surgery.* 2022 Mar 18;48(9):1023–30.
15. Wallis CJD, Jerath A, Coburn N, et al. Association of Surgeon-Patient Sex Concordance With Postoperative Outcomes. *JAMA Surg.* 2022;157(2):146-156. doi:10.1001/jamasurg.2021.6339
16. Alyahya G, Almohanna H, Alyahya A, Aldosari M, Mathkour L, Aldhibaib A, et al. Does physicians' gender have any influence on patients' choice of their treating physicians? *Journal of Nature and Science of Medicine.* 2019;2(1):29.

17. Janssen SM, Lagro-Janssen ALM. Physician's gender, communication style, patient preferences and patient satisfaction in gynecology and obstetrics: A systematic review. *Patient Education and Counseling*. 2012 Nov;89(2):221–6.
18. Lim WH, Wong C, Jain SR, Ng CH, Tai CH, Devi MK, et al. (2021) The unspoken reality of gender bias in surgery: A qualitative systematic review. *PLoS ONE* 16(2): e0246420. <https://doi.org/10.1371/journal.pone.0246420>
19. Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA network open*, 3(3), e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
20. Alkhalidi L M, Alsulaimani A I, Altalhi W A, et al. (August 14, 2022) Population Preference of Surgeon's Gender for Surgical Care and Their Attitudes Toward Female Surgeons in Taif, Saudi Arabia. *Cureus* 14(8): e28017
21. Jia JS, Lazzaro A, Lidder AK, et al. Gender Compensation Gap for Ophthalmologists in the First Year of Clinical Practice. *Ophthalmology*. 2021;128(7):971-980. doi:10.1016/j.ophtha.2020.11.022
22. Hu YY, Ellis RJ, Hewitt DB, et al. Discrimination, Abuse, Harassment, and Burnout in Surgical Residency Training. *N Engl J Med*. 2019;381(18):1741-1752. doi:10.1056/NEJMsa1903759
23. Stephens EH, Heisler CA, Temkin SM, Miller P. The Current Status of Women in Surgery: How to Affect the Future. *JAMA Surg*. 2020;155(9):876-885. doi:10.1001/jamasurg.2020.0312